Natural Causes

Essays in Ecological Marxism

James O'Connor

PREFACE

Natural Causes is divided into three parts. The aim of Part I, "History and Nature:' is to contribute to a Marxist materialist and dialectical method of thinking about humankind's interactions with nature. I try to steer dear of the fake scientific claims of Stalinist "dialectical materialism," on the one hand, and the chaos of postmodern relativism, on the other. Also, I have tried to make the method developed in these essays at once more comprehensive and more practical than the thinking that normally governs the academic divisions of labor between the natural and the social sciences and humanities, and (within the social sciences) between economics, sociology, and politics.

The goal of Part II, "Capitalism and Nature" is to study the contradictions between present-day world capitalism and the "integrity" of both the natural and social worlds through the lenses of Marx's theory of capital and Polanyi's theory of society. I use Marxist theory to scrutinize the relationships between capitalist production, distribution, exchange, and consumption; capitalist accumulation through crisis; technology; energy; spatial development; and so on, on the one hand, and capital's exploitation of nature as tap and sink, on the other. (Nature is a tap in the sense that the means and objects of production and reproduction [i.e., all human material products] are appropriated in various forms from the earth. Nature is a sink in that ultimately all human products, including unwanted byproducts of the immediate process of production, are returned in different forms to the earth, including energy, subject to the law of entropy.) I employ Polanyi's theory of the "fictitious" commodities land and labor to investigate the contradictions between capitalist relations and forces of production and what Marx called "conditions of production." Throughout Part II, I try to focus on the use value as well as the exchange value side of things, for example, on the biological as well as the economic exploitation of the worker and on the external physical and social barriers to capitalist accumulation as well as on the internal economic barriers discovered long ago by Marx and elaborated by generations of Marxists.

The aim of Part III, "Socialism and Nature:' is to theorize the "new social

movements" in general and environmental/ecology movements in particular in terms of the contradictions of capital identified in Part II. I focus especially on those contradictions that have contributed in significant ways to the world ecological crisis and on those social movements that may have radical or "red green" political possibilities.

A brief discussion of the central premise of this work might be helpful to the reader. This is my belief that radical green (and green radical) movements today are born

from what is arguably *the* basic contradiction of world capitalism of the end of the 20th century. “Human beings and the natural world are on a collision course,” according to a warning in 1992 by 1,700 scientists from 69 countries, including 99 of the 196 living Nobel laureates. On the one hand, environmental and social problems during the past two or three decades have multiplied beyond any reasonable calculation, on the other hand, during the same period of time, older forms of political, economic, and social regulation of capital and capitalism have been in part or in whole dismantled by neoliberal governments (and com-munities) eager to share in the spoils of the new global economy (and to avoid disinvestment, capital flight, and other blows to local economies). Just of the historical moment when the state (and society) need to regulate capital more firmly and intelligently—most particularly with respect to the viability of ecological systems and community collective social skills and norms that are the basis of social solidarity—the state’s steering capacities (and society’s regulatory capabilities) are becoming increasingly threatened and ineffective. Established forms of regulation and control have given way to the “free market” (“freedom of capital”) and “democracy” (“neoliberal ideolog-y and politics”) at a time when more ecological and social issues of greater import are asserting themselves more forcefully. In sum, social production and reproduction have become more eco-nomically and geographically more complex—as events of different types in different places increasingly affect other kinds of events in other places more quickly and decisively—while political and social regulation have become more simple (and simpleminded).

A political vacuum (I believe) has thus been created into which all kinds of populist (left, right, center, ethnic, etc.) and localist politics have rushed in. All imaginable types of local organization and action have arisen to deal with all kinds of socioecological and ecosocial issues the origins of which are regional, national, and international—and systemic—in character. However, in this vacuum, as well, have appeared new radical green and green radical politics, which, as we will see, function as critiques of *both* global capital/neoliberalism *and* the many forms and styles of localism. That’s the good news.

The fundamental (if that is indeed what it is) contradiction noted above has come about because of three major economic, social, and political changes in the last two or three decades of the 20th century.

The first change is the failure of the most important models of political economic regulation that emerged in the first three-quarters of the century: first, the weakening of class compromise, social democracy, and Keynesian welfare

states in the West; second, the self-destruction (with a big push from Western imperialism) of “real socialism” in the East; and, third, the decline or demise of semiautarkic models of nationalist socioeconomic development and regulation that emerged from the Great Depression and World War II in the South (the old

underdeveloped “third world”).

The second important change, fatefully linked to the first, is the regionalization and globalization of capital and the spread of capital’s political/ideological twin, neoliberalism. The main contours of globalization and neoliberalism are now well known (and their negative effects on human society and community and nature’s well-being are increasingly felt by more and more tens of millions of people). These contours (or aspects) include (among others): the partial displacement of national economies by regional and global markets; the growing dependence of these economies on exports (and imports); the hegemony of finance capital; the privatization and deregulation of industry; the fragmented and as yet incomplete appropriation of the power of nation-states by international bodies controlled or powerfully influenced by global capital; growing inequalities of all kinds; and social marginalization.

As noted above, the decline of the three “classic” models of regulation and the rise of globalization and neoliberalism, together with an exponential increase in environmental/ecological and social/political problems of all kinds, underlies the third and (from the standpoint of the future of the globe) most important structural change. This is the well-known development of the new social movements—especially environmental and ecological movements—together with the expansion of labor movements into spheres of life hitherto played down or ignored (struggles for green belts, ecological diversity, cleanup of toxic waste dumps, etc.).

In sum, the dialectics of change noted above has weakened both national capitalist interests and national labor. They have accelerated the development of an international ruling class and the rudiments of an international political elite and capitalist state. They have multiplied global social and environmental/eco-logical problems and have also stimulated a new internationalism of labor, environmentalism and ecology, feminism, urban movements, and, last but not least, human rights movements (among others). They have delegitimated and partly defanged national states once capable of effective social and environmental/eco-logical regulation at a time when more effective regulatory and control mechanisms are essential to the health of the planet and those who people it. Last (and hopefully not least), they have led to new theories of society and social change, one of which is ecological Marxism, and new sociomaterial practices, one of which is ecological socialism.

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ecology/ecological left theory and practice. Some of these essays began their lives as lectures in two courses that I taught at UCSC from the early 1980s to the early 1990s. One was an undergraduate lecture course called Capitalism and Nature; the second was a graduate seminar on Sociology of the Environment. Other essays were originally conceived as lectures, and either presented at scholarly conferences and universities here and in Europe or given at the invitation of various environmental and social justice groups.

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INTRODUCTION

What is ecological Marxism? Why ecological Marxism? What is the use of any kind of Marxism these days, ecological or not? My answer is a trope of one of Hegel's most famous lines. "The Owl of Minerva," I say, "folds her wings at daybreak." This means that just at the moment when world economy simulates the model (not *only* this model) that Marx developed in *Capital,* Marxism is dismissed as fatally flawed, a failed enterprise, like the ex-really existing socialism of the ex-Soviet Union. It's the old story of the baby and the bathwater, like rejecting Christianity because some popes ordered wicked and cruel inquisitions against those who they regarded as enemies of the Catholic Church (there are other reasons to reject organized religion). Before skeptics whose minds remain open will consider the view that there is (or can be) something called ecological Marxism, one would be well served to establish the credibility of Marxism per se.

This preliminary task is much easier to carry out in the late 1990s than at any other time since World War II. While the globalization of the circuits of capital (especially the productive circuit and finance) and the communications revolution have created both human and commercial possibilities unimaginable in the 19th (and in most of the 20th) century, the fact is that the main contours of world economy today can be practically read off the theoretical lines found in Marx's classic text (the same thing can't be said of Adam Smith's *The Wealth of Nations,* which has great symbolic worth but little practical value for neoliberalism).

Place of pride in Marxism belongs to the notion (and fact) of class struggle, which means first and foremost capital's struggle to impose labor on the working class on the former's terms. All the identity politics and politics of place in the world cannot conceal the fact that global labor is being battered by an unprecedented attack on living standards, hard won by a century or two of labor and national struggles. Nor is the assault on national welfare states—from state social-ism to social democracy—a big secret. Today's hypercapitalist world economy—and the process of what Marx called global accumulation through crisis—have made this war of capital on labor a life-and-death necessity for the world's ruling classes. That labor has not yet found a way to successfully fight back proves only

that the modes and forms of organization, strategy, and tactics required to resist the power of global capital (and the form in which capital is organized: transnational banks and

corporations) have yet to be discovered and put into practice. If he *were* alive, Marx would predict that world labor and the composition of social classes will one day be so constituted as to remedy this situation. Early examples are the gathering international struggles against the World Bank, the International Monetary Fund (IMF), General Agreement by Tariffs and Trade (GATT), North American Free Trade Agreement (NAFTA), and other manifestations of the emerging global capitalist state dominated by the United States (a world state that, of course, has yet to add environmental, women, education, welfare, housing and urban ministries).

This is not to discount the barriers facing labor and the popular classes generally, which are very great and sometimes obvious, sometimes subtle and nuanced. The point is that one could anticipate most if not all of these barriers from a study of Marx's (and the Marxist) theory of capital. The extreme poles of wealth and poverty are one barrier; more complex international specialization and divisions of labor are another. The proletarianization of the world's peasantries and the explosion of the global reserve army of labor are still other barriers to organizational and ideological unity. So, too, are the acceleration of the concentration and centralization of capital, the revival of inter-imperialist (neo-mercantilist) rivalries, and the increasing hegemony of finance capital and normalization of financial speculation. As Marxists have foreseen, there are multiple, overlapping tendencies toward fiscal and financial crises, and political and cultural crises, among other expressions of the deep contradictions of capital and capitalist politics, culture, and society. There is also a powerful economic mechanism at work today that systematically lowers the cost of reproducing labor power on a global scale, as Marx said there would be.

Those who concern themselves about these matters are even more skeptical of any wedding (or even engagement) between ecology and Marxism. Until recently, Marxism and ecology have not often been associated with each other except as opposite and seif-canceling terms. "Ecologists are not anthropocentric; Marx is. . . . Marx does not *like* nature' declares one critic of Marxism.[1] Other critics have scoffed at Marx's (and Engels's) anthropocentric views and want of any specifically ecological vision. This charge is only half fair. Marx *did* have a vision of society in which humankind ceases to be alienated from nature, one in which the appropriation of nature is not based on the logic of capitalist accumulation but rather on direct individual and social need, on the one hand, and what we would today call "ecologically rational" production, on the other. This vision, however, did *not* include an ecological society in which nature is not merely a productive force but also is valued as an end in and of itself. The charge that Marx lacked sensitivity to the connectedness, diversity, and mutual interdependence in nature is also only half correct. On the one side, he was very aware of what are today called "ecological regulatory" ("ecoregulatory") processes that combine with human labor processes in production in general and the production of

commodities in particular; on the other side, Marx was also interested in arguably the key ecological problem of his (Jay, namely, the issue of soil quality and quantity in agriculture (as famously investigated by Justus Liebig). Here, too, however, Marx was mainly interested in the conditions of an ecologically rational agriculture, for example, attempts to build up soil nutrients both to restore and to increase agricultural productivity in the face of rapid urbanization hence dramatic increases in the demand for foodstuffs and industrial raw materials.

Some green critics of Marxism claim that Marx's anthropocentrism was so extreme that he denied the obvious fact that nature (combined with human labor) is the source of material wealth, to which Marx would reply, nature (with labor) *is* the source of wealth defined as use values. In *capitalist* societies, however nature is *not* the source of wealth defined in terms of exchange value. The simple fact that capitalists fail to price nature's bounty (but rather consider it a "free good") proves that in capitalist practice nature is not regarded as productive of wealth (exchange value).

Our critic might add: Didn't Marx attack Malthus and the doctrine of natural scarcity and turn a deaf ear to Podolinski, who urged Engels to reconstruct the theory of value in terms of energy flows and transformations?[2] And haven't most Marxists privileged the development of the "productive forces" in their theory of historical change—the same forces that threaten to destroy the earth? There is the argument that Marx's laserlike focus on the animating power of science and technology reflected capital's obsession with the constant expansion of productivity and production. Yet Marx unquestionably failed to systematically problematize (i.e., evaluate in terms of their real utility to individuals and society) capitalist productive forces (and use values generally) in *Capital* or in any other work. He saw capitalist productive forces as potentially freeing humanity from the bondage of nature, which he believed simultaneously enables and constrains human material production. And, further, doesn't Marxist crisis theory pivot on the internal contradiction of capitalism (which some ecological Marxists call the "first contra-diction") rather than on external barriers to capitalist accumulation, such as the health and well-being of workers and communities, limited resources, and spatial constraints, whether these are self-imposed by capital's disregard for its "conditions of production" or not? For Marx, the "barriers that existed to the fall realization of resource potential were imposed by property relations and legal obligations rather than [by] resource endowments," according to Michael Redclift (a claim that we will have occasion to inspect in Chapter 8 of this book).[3]

The attack continues: While we can grant that Marx understood nature as thoroughly modified by human action, did he anticipate that this "second nature" would come to so dominate the concerns of humankind in the late 20th century? No. Didn't "Marxism-Leninism" in the USSR put industrialization first and environmental protection a very distant second? While the governing ideology of the USSR for two decades held that ecology was the "basis of economic planning"[4] this was more show than real. Aren't the pull of the land, earth-centered ethics, and the survival of indigenous peoples and the peasantry of the South,

which are central concerns of political ecology, missing in Marxist theory and practice? The answer is yes, yes, and yes. However, as we will see, despite these and other silences, Marx and Engels and a number of Marxist theorists viewed (and today view) human history and natural history as dialectically interconnected; understood (and understand) the anti-ecological nature of capitalism and the need for a theory that articulates the contradictory relationship between exchange value and use value; and had (and have) at least a latent ecological socialist vision.

"History and Nature' Part I of this book, is about this dialectical relationship between human history and natural history, or human economy and nature's economy. I present an interpretation of the Marxist method, called the materialist conception of history, and suggest some ways in which this traditional account may be strengthened by incorporating both natural and cultural "environmental" factors. The rest of Part I focuses on environmental history. I try to apply an historical materialist approach to the discipline of environmental history itself, and also to the ecological/environmental history of the region where I live and work, as well as (in a very brief and derivative form) of the cities of Chicago and Los Angeles. The animating force behind these chapters is my own need or desire for a method of study that is at once theoretically sound (more or less) and also practically useful in radical environmental politics.

As we will see in Chapter 1, the absence of a full-bodied ecological sensibility in Marxist thought is strongly exemplified by the standard account of historical materialism. While the materialist conception of history is a vast improvement over pre-Marxist idealistic views, because of its two-sidedness, or its insistence that "empirical reality" is always ambiguous, expressing as it does the tension between social relations and material-technical relations, "hismat" (historical materialism) makes too little room for nature's economy and too much for human economy. In the classical accounts, the relationship between material production and nature depends too much on the mode of production—or mode of exploitation of labor—and too little on environmental conditions and ecological processes. While Marxism has succeeded in demonstrating how the concept of nature is "socially constructed" in different modes of production, the irreducible autonomy of nature, as enabling and constraining human projects, tends to be neglected or marginalized (although not by Marx himself, who clearly stated that production is mediated by "natural processes independent of man").

In the capitalist mode of exploitation, most Marxists believe that socially organized material life has two effects. The first is to change the forms of nature in ways that "humanize nature" or create a "second nature." "Man... can work only as Nature does, that is by changing the form of matter."[5] Urbanization, commercial agriculture, forestry, and the greenhouse effect are obvious examples. Ecological imperialism and the worldwide distribution of European plant species are less obvious ones.[6] The second effect of material life is to change the forms of human consciousness in ways that "naturalize human beings," that is, master the

"laws" of nature in ways that permit the discovery and development of new forms of material wealth. The "disenchantment of nature"—the near-universal development of a scientific consciousness – is the main example.[7]

Put another way, *social labor* mediates between human and natural history; labor is the material interface between society and nature. Labor is organized as a division of specialized functions or tasks, including a division between mental and manual activity and mental and manual laborers. Social labor has objective and subjective moments: socially organized (and symbolically mediated) labor creates the objective world in which we live and work; it also helps to produce the subjective world of consciousness, which both limits and provides opportunities for new and different kinds of material activity. Seen this way, the "human impact" on nature turns on the ways that social labor is organized, its aims or ends, on the distribution and use of the social product, and on human knowledge of, and attitudes toward, nature.

This theoretical and practical starting point of "standard Marxism" has been more or less ignored by ecologists. For their part, Marxists have not paid much attention to ecological science nor what appears to be an emerging global ecological sensibility. Standard historical materialism has stressed the human transformation of nature more than nature's self-transformations, and also more than the ways that the latter transform human history. The capitalist cycle and the exploitation of labor are privileged over the life cycle of organisms or cycles of energy use and the "exploitation" of nature. Is it then possible to save historical materialism simply by substituting "ecological science" for "science" in the classic formulation that human beings naturalize themselves through social labor? This is an indispensable move for the reformation and extension of "hismat" in light of both the findings of the science of ecology and of ecological struggles of all kinds. The key problem, however, remains: How much does nature get its due? How dose to the center of both natural history and historical materialism do we put what Richard Lewontin and Richard Levins call the "weakly determining forces" of nature's economy? Is it enough to assert that "as long as men exist the history of nature and the history of men mutually determine each other?"[8] Or should we add that one link between the history of the exploitation of nature and class struggles *is* natural history, and vice versa? The answer would seem to be yes, in light of the literature on the importance of ecological factors in social and historical change—"very different from the technological determinism of Engels, but not incompatible with a Marxist point of view."[9]

Anna Bramwell, among others, has dismissed attempts to identify Marx's dialectics of man and nature with the ecologists' sense of human-nature relation-ship on the grounds that Marx and Engels gave human beings too active (and nature itself too passive) a role.[10] Nature's laws are by no means as "regular" as the founders of Marxism (and others in the 19th century generally) seemed to think. Not only does "chance *seem* to reign" in nature but also over a wide range of problems chance *in fact* "reigns."[11] The history of 20th-century science and its

principles of indeterminacy and uncertainty confirm this judgment. Nature trans-forms itself in unpredictable ways at the same time it is being transformed by human material activity.[12]

Nature is an active partner in the material life of the human species, hence in human history and the evolution of human consciousness. The rise and development of ecological science and sensibilities are themselves strong evidence of this. The natural changes wrought by human beings, in turn, help to determine the possibilities and limits of human history. Forest successions, cycles of soil formation, population growth patterns of particular species, and changes in the weather are obvious examples of the sometimes "weakly lawful," sometimes lawless, relative, and absolute autonomy of nature.

Historical materialism therefore needs to be extended outward into physical nature in the sense that the natural history of both "first" and "second" nature may influence human history as much as vice versa, depending on the time frame and on circumstances. This can be done without falling into the trap of climatic or geographic determinism and the racist interpretations of social and political change that have been associated with this kind of thinking. As many ecologists and historians insist, open-ended processes should be seen as "directing," in problematic ways, both natural and human history.

Historical materialism also needs to be extended inward in the sense that human biological changes and socially organized processes of species reproduction, however much these are socially mediated or socially constructed,[13] may influence both human history and natural history as much as the other way around, again depending on the time frame and on circumstances. This is possible without falling into the trap of biological determinism and the sexist interpretations of social change that have been associated with this kind of determinism. On the one hand, climate changes (human-influenced or not), for example, shape human and natural history, as the history of the Mediterranean basin amply testifies. On the other hand, the grammar of language (hence thought) is innate[14]; the long maturation period of human beings influences the scope and limit of the organization of society; and so on. Aging populations shape natural and human history in different ways than do youthful populations. *Part* of the difference between the cultural and natural landscapes of Dade County, Florida, and Mexico City can be explained by the different age compositions of the populations in the two cities.

It is not enough for Marxism and ecology to simply nod politely in each other's direction.[15] The emerging ecosystems on the abandoned apple orchards in the Pajaro River watershed (in Santa Cruz County, California) are good examples of nature reclaiming itself; indigenous species drive out nearly all introduced species, thus re-creating an "original nature" for present-day developers to use or overcome.[16] This fact should be of interest to Marxists. In Fall Creek (Felton, California), redwood, Douglas fir, bay, wax myrtle, and other tree and plant species live together in ways that are indecipherable without an account of the forms of wage labor and technology introduced

in the area in the 19th century to

exploit the lumber and lime deposits in the Fall Creek watershed.[17] This fact should be of interest to ecologists. How important facts such as these are, and how much historical materialism needs to be extended into the realm of biological and physical nature, would seem to be empirical questions. Concrete historical and natural analyses of concrete situations are required to overcome and transcend (sublate) the dualism between historical and geographical/biological theories and hypotheses. That this project remains in its infancy suggests that most Marxists have paid little attention to nature and that most ecologists and geographers have paid even less attention to Marxism.[18]

Even the best accounts of the dialectics of history and nature (and most of these remain to be written) fail to answer the normative question: What, if anything, do Marxists believe that nature *should be?*[19] This is closely related to the question, What should *social labor* be? Put another way, What is it possible for nature to be? What it is? What it is becoming? What it is likely that human beings will make it? In ecosystems that humans have settled in the past and subsequently abandoned, should the ivy and vinca, introduced by lonely souls to civilize some wild corner of the earth, and which often grow unchecked at the expense of indigenous species, be rooted out altogether? Be cut back and con-trolled? Or be left alone? This is a trivial example, yet its very simplicity exemplifies the normative question in a way that more complex examples cannot do. In labor processes that human beings have established in the past to expand social productivity, should particular techniques of production and forms of specialization of work that have damaged both the natural environment and the laborers and their communities be "rooted out," be scaled back and controlled, or be left untouched? This is certainly not a trivial question and its complexity highlights the importance of the normative issue in ways that a simple example cannot.

Finally, the most profound difference between Marxism and ecology is not that the first worships science while the second does not, as is sometimes claimed. Nor is it that ecology gives nature more of its due, or even offers different judgments than Marxism does about what nature should be. The basic difference would seem to pertain to the question, What should *human society* be? Many ecologists believe that the use and conservation of resources is a moral activity, one closely bound up with the survival of the group. Some political ecologists base a model of human society on what they understand to be egalitarian forms of cooperation "found" in nature's economy, which in part may be a form of wish-thinking, or a projection of desirable historical categories on to nature in an effort to check social Darwinist projections of undesirable categories such as "competition" on to the same nature. For their part, most Marxists seem to be content with science's project of uncovering the "laws" of nature in order to use them to further the species development of human beings. However, since human species evolution doubtless includes not only a dependency on, but also an appreciation of, the diversity

and fecundity of life, it might be that Marxism to be true to itself must become "ecological."

8 INTRODUCTION

Part II ("Capitalism and Nature") of this book addresses some key issues pertaining to the political economy (with some bows to political sociology and economic sociology) of ecology in the capitalist mode of production. My focus is on the ways that capitalist production relationships (property relations, competition, world market, etc.) degrade or destroy the *conditions* of production, including and especially the environment. Between capitalist production relations and nature are a number of mediations: technology, of course, and fossil fuel energy, work relations, the mechanisms of self-expanding capital, and, last but not least, the state. These mediations are discussed in some detail, mainly from the vantage point of crisis theory. I also focus on some spatial manifestations of capital, using the theme of uneven and combined development, with some special attention to the politics (including the war politics) of oil, the commodity that has powered capitalism for well over a century. Finally, some threads of the general argument are brought together in the last chapter in Part II, "Is Sustainable Capitalism Possible?"

Few will dispute the proposition that the North (the old "first world") has enjoyed an unprecedented growth of material well-being during the past 200 years. On the other hand, most will agree that this growth has resulted in an indiscriminate degradation of natural resources and pollution of all kinds during the same two centuries[20]; and also that the South (the old "third world") is the worst victim of what Mustafa Tolba, executive director of the United Nations Environmental Program, has called "global genocide"; the result of centuries of ecological plunder by the imperialist North and its junior partners in the South.[21] Economic growth and material abundance in the North are thus contradictory in the sense that capital has overcome scarcity while degrading the environment in the North and South. The North owes a major if unknown part of its living standards to the depletion of nonrenewable resources, the degradation of renew-able resources, and the despoilment of the global commons.

The North's commodity wealth has resulted in nature's poverty and the poverty of the South (and the "internal colonies" of the North) since the beginning of the Industrial Revolution of the 18th century. In England, the home of industrial capitalism, the most important manufactures were cotton textiles. The center of textiles was Lancashire County, which was also a coal mining district. Coal production in Lancashire grew from 35,000 tons in 1750 to 400,000 tons in 1830 (from about 7 percent to 13 percent of total British coal output), expanding to meet the growing demand for energy in the new mechanical textile mills, for the construction of canals and the operation of canal barges, and, in the coal industry itself, to power the mine pumps.

Until 1769, when James Watt patented his famous steam engine, the engine most in use was the Newcomen engine. This engine burned only anthracite and had almost

complete combustion, hence was relatively clean. But Newcomen's engine was technically inefficient in that combustion clogged the engine mechanism. Watt tinkered with the Newcomen engine and hit on the idea of condensing steam in a separate chamber, then of adding an air pump to bring steam into the

chamber. Watt's engine could run on cheaper, more sulphuric bituminous coal, which did not combust completely. The result was an engine that did not clog, and, for this reason, a machine that was highly polluting.

Watt and his partner Mathew Boulton set up one of the most important businesses in the early history of capitalism. The Watt engine and its imitations were sold all over the world. Lancashire, where hundreds of engines were used to run a variety of machines in the cotton mills and also used to pump out coal mines, was soon shrouded in a smoky squalor. The sulphur dioxide produced by burning coal turned to sulphuric acid when it oxidized, a process facilitated by Britain's humid climate. Coal smoke subsequently reduced agricultural productivity and eliminated many varieties of plant life. What Robert Smith would call acid rain (in his Air *and Rain,* published in 1872) reduced soil productivity generally. Coal smoke also obscured the passage of sunlight, creating an epidemic of rickets, or abnormal bone growth, a childhood disease caused by a lack of vitamin D.

Besides the deadly mixture of gases and particles produced by Watt's steam engine, mine drainage resulted in terrible water pollution. The famous "Lancashire system" of coal mining was designed to get as much coal out of the ground as quickly (i.e., as profitably) as possible. Coal seams were worked near the surface; hundreds of shallow pits were sunk, then filled in and abandoned. Runoff from the mines polluted rivers and streams with acids, particulates, fron and fron compounds, and heavy metal concentrations—a combination that was highly toxic to plants and animals. The fish population was decimated, which increased plant biomass, decreasing oxygen for other forms of life. Watt's engine was as much an ecological disaster as it was an economic triumph.[22]

While coal and steam powered economic development in Britain (and later, in western Europe and the United States), industry in the North had disastrous results for environmental and material and social conditions of life. Especially after 1760, foreign trade became the engine of British industrial growth, and cotton textiles were the engine of foreign trade. Until the abolition of the slave trade, cotton goods were exchanged for African slaves who, forcibly "exported" to the New World, produced sugar, coffee, tobacco, and other consumer products (or drugs) for England and Europe, as well as raw cotton for the Lancashire mills. The result was an unprecedented ecological and human tragedy in both Africa and the raw-material-supplying regions of the New World.

In the United States, in the latter part of the same historical period, grain farmers in New England and the East who fed urban dwellers were eroding the soil in search of

more income. By 1850, soil quality was so poor that farmers were unable to feed even their own neighbors, the new residents of the "borderlands," or what we call today the "suburbs." The early suburbanites thus bought their food in the cities where they worked. The effect was to expand the role of the cities as agricultural market centers. Meanwhile, the cities themselves were being built out of stone and brick—New York City, for example, from quarries and brickyards in Westchester County. Eventually, airborne poison in the dew, rain, and fog over the entire Hudson River Valley caused leaves to wilt, unripened fruit to fall, and trees

to die. Grain crops, vegetables, and forests also suffered.[23] The urban population, partly the creation of the degradation of nature, thus lived at nature's expense. So, too, did, ironically, suburban residents who wanted to escape the City and return to more natural surroundings.

These stories could be multiplied a hundred times over. They are examples of the general contradiction between capitalism and nature, or the contradiction between seif-expanding capital and seif-limiting nature.

On the one hand, capitalism is a seif-expanding system of economic growth. Its aim is limitless growth, or money in search of more of itself. Profit is the means of expansion, and also the goal of expansion. Every capitalist institution and cultural practice is organized for profit and capital accumulation. Economic growth is also regarded as the great social solvent, as the "solution" to poverty, unemployment, unequal wealth and income distribution. New tax revenues come from capital accumulation, so few politicians dare to oppose the seif-expansion of capital. Companies not oriented to growth are severely disciplined by bankers, the stock market, and competitors. Workers unwilling or unable to change skills and places of residence in accordance with the logic of accumulation are left behind, at best, unemployed, at worst, homeless, or imprisoned.

On the other hand, nature is not seif-expanding: forests reach climax stages; fresh water is limited by geography and climate; fossil fuels and minerals are physically fixed. Nature is far from "stingy" and enables as well as constrains human production, but its rhythms and cycles are governed by a different logic than the rhythms and cycles of capital.

The moral of these stories and the general theoretical line that they illustrate is that there would be no capitalism as we know it today had there been rational and democratic ecological and economic planning for the last two centuries. Such planning, politically impossible to imagine in 1750, 1850, and 1950, and politically implausible *even* in the late 1990s, would have rerouted economic development into ecologically rational directions.

Another moral is that our ancestors have left us a dubious gift. On the one hand, some of us live in countries that have developed an enormous industrial capacity and an abundance of commodity wealth. On the other hand, we are *faced* with a degraded nature,

congested cities, and a population that feels isolated, alienated, and exploited. We have suffered the results of a pact our forebears made with the devil, and if nothing changes our children will suffer a worse fate. 1f we look at the problem this way, the key question becomes "What kind of relationship do we want to have with billions of people yet unborn who have no say in the market' and counsels of government today?" A neo-Malthusian answer is "Make sure that they are not born." A key element of an ecological socialist answer is to make sure that those who are born are not materially and environmentally impoverished.

There is another way to look at the problem and another question that we can ask. We suffer the consequences of the actions not only of the dead but also of the living—at least some of the living. These are the men in charge of deciding

investment and technological priorities, capital flows, international lending, and government budget policy. This question, then, is, What kind of relationship do we want to have with the industrialists; merchants; directors of the transnational corporations and banks, the World Bank, and the IMF; and high executives of the state?

If Part 1 of this book is a kind of "search for a method" and Part II is an elaboration and application of this method to the problem of capitalism and nature, Part III is another kind of search and application: a search for (and evaluation of) radical tendencies within the ecology and related movements and an application of some principles of political sociology and political theory to strategic problems facing these movements. I begin by examining the ways that socialism and ecology have been discussed by Greens and others. I then focus on what I believe to be radical tendencies or themes within the environmental movement (very broadly defined) in the United States. Next I show one practical way to combine identity and place politics, or multiculturalism and bioregionalism, in the San Francisco Bay Area; and then a way to think critically about the famous green slogan "Think Globally, Act Locally" After a brief excursion into the linkages between new social movements and the state, two chapters on the differences and similarities between traditional socialism and what might be called ecological socialism complete this work. Throughout, my focus is on radical green (and related) tendencies in the United States, with occasional glances at other countries in the overdeveloped world and also in the South.

In these chapters, I begin with the observation that there are today hundreds of millions of people around the world who are unemployed or who work in unhealthy and unsafe workplaces for little pay; who live in polluted and congested cities or in impoverished villages with little land, potable water, fuel, or fodder; and who are oppressed and exploited by any definition of these words. Women and children in particular bear the largest brunt of the economic and ecological catastrophes that characterize so much of the South, where "resources" become ever scarcer, first and foremost because of the structures of property and power, maldistribution of land and

other productive necessities, and poverty generally. The result: In the past two or three decades, tens of millions of people have begun to critically scrutinize the roles of local bosses and bureaucracies, landowners and ranchers, bankers, transnational corporations, and other foci of power, with many questioning government monetary, tax, spending, investment, technology, and export policies. Tens of thousands of Non-Governmental Organizations (NGOs) and countless informal groupings are pledged to environmental and social justice.

In the South, there has appeared what ecological economist Juan Martinez-Alier has called the "environmentalism of the poor" (or "Narodnik socialism"), while in the North, until the relatively recent rise of environmental justice and toxic movements, the main issues have had less to do with economic survival than with environmental amenities. Some writers have developed a model of environmental movements in the South and North, corresponding to capital's

use of nature as a tap and also as a sink: in the former, problems of resource exhaustion and depletion predominate (even though urban pollution, e.g., in the cities of the South far exceeds that in most cities of the North); in the latter, problems of pollution are most important (although agricultural, forestry, fishing, and related practices in the North leave much to be desired from an ecological perspective).

One key question today is how to make ecological struggles productive of radical socioeconomic change—and this at a time when the three basic statist models of development (state socialism in the East, social democracy in the West, and nationalist development in the South) have been destroyed or are under sharp attack by global capital and its agents. Perhaps some reference to post-Marxist thought and its objects of study, "postindustrial society," "alternative movements" or "new social movements," and "radical democracy" is a good place to start to address this question.[24] Post-Marxists no longer see the traditional working class as the privileged agent of historical transformation. There is no longer a struggle *for* socialism (it is thought), but rather *against* all "isms." Today there is the fight for "radical democracy" by "new social movements" in "postindustrial society" (in the North).

These post-Marxist postulates deserve dose scrutiny, especially given post-modernist readings of Marx and Marxism, and the political implications therein.[25] Here, 1 want only to point out that in ecological Marxist theory, the struggle over what Marx called "production conditions" (roughly speaking, laborpower, infrastructure, and nature, i.e., everything that is treated as if it is a commodity, even though it is not produced as a commodity) has redefined and broadened the class struggle beyond any seif-recognition as such—at least until now. This means that capitalist threats to the reproduction of production conditions are not only threats to profits and accumulation, but also to the viability of the social and natural environment as *means of life and life itself.* The struggle between capital and new social movements, in which the most basic concepts of "cost"

and "efficiency" are contended, has two basic "moments." The first is the popular and nearly universal struggle to *protect* the conditions of production (or, better, the means of life) from further destruction resulting from capital's own inherent recklessness and excesses. This includes the need and demand for the reduction of risks in all forms. This struggle pertains to the form in which "nature" is appropriated, as means of reproduction of capital versus means of reproduction of civil society and human and other species life. The second is the struggle over the programs and policies of capital and state to *restructure* the production conditions, that is, struggles over the form and content of changes in these conditions. "New social struggles" are confronted with both the impairment and the crisis-induced restructuring of production conditions at the same time. Both "moments" of struggle occur outside the state and also within and against the state. Seen this way, the demand for radical democracy is the *de*-mand to democratize the provision and reconstruction of production condi-

tions, which in the last analysis is the demand to democratize the state, or the administration of the division of social labor.[26]

In post-Marxist thought, great stress is placed on "site-specificity" and the "integrity" of the individual's body, a particular meadow or species life, or a specific urban place. According to Carlo Carboni,

> the challenge of specificity is propelled by all new social actors in advanced capitalist societies. It is an outcome of the complex network of policies, planning, and so on which are implemented by both capital and the state in order to integrate people while changing production conditions. On the one hand, this specificity (difference) represents the breakage of collective and class solidarity. On the other hand, it reveals both new micro-webs of social solidarity and the universalistic network of solidarity based on social citizenship.[27]

The word "difference" has become post-Marxism's mantra, which (it is thought) expels the word "unity," which in the post-Marxist mind is often another way to spell "totalitarian." In well-thought-out versions of post-Marxist thought, the "site-specificity" that new social movements base themselves on is considered to make any *universal* demands impossible,[28] at least any universal political demand beyond the demand for the universal recognition of site-specificity. This is contrasted with the bourgeois revolution which universalized the demand for rights against privilege, and the old working-class struggle which universalized the demand for public property in the means of production against capitalist property. However, throughout this book, our discussion of production conditions and the contradictions therein will show that there is a universal political demand implicit or latent in new social struggles, namely, the demand to democratize the state, as well as to democratize the family and community. In fact, no way exists for diverse social struggles defending the integrity of particular sites to universalize

themselves, that is, to win politically, and, at the same time, retain their diversity, excepting through struggles for a democratic state, or "popular bureaucracy" as some call it, meanwhile uniting with the labor movement on the basis of the recognition of what we have in common—cooperative labor— thereby permitting us to theorize the unity of social labor.[29]

Moreover, post-Marxism, influenced by the "free rider problem" and problems of "rational choice" and "social choice" (all problems that presuppose methodological individualism), states or implies that struggles over production conditions are different than traditional wage, hours, and working conditions struggles because conditions of production are to a large degree "commons," clean air being an obvious example, urban space and educational facilities being somewhat less obvious ones. The argument is that struggles against air pollution (or capitalist urban renewal or racist tracking in the schools) do not have an immediate "pay off" for the individuals involved—hence (in Claus Offe's account)

the phenomenon of cycles of social passivity and outrage owing to the impossibility of combining individual and collective action around goals that benefit both the individual and the group. Again, one might begin a critique of this view with an account of how the process of social struggle itself changes seif-definitions of "individuality." It needs to be said, however, that labor unions, if they are anything, are disciplinary mechanisms against "free riders" (e.g., individual workers who try to offer their laborpower at less than the union wage are the object of discipline and punishment by the union); further, that the "free rider" problem exists in struggles to protect the "commons" only insofar as these struggles are ends in and of themselves, not also means to the specifically political (and universal) end of establishing a democratic state.

Also in relation to the problem of the "commons," and beyond the issue of the relation *between* the individual and the group, there is the problem of the relationship between groups and classes. Specifically, the struggles of new social movements over conditions of production are generally regarded in the self-de-fined post-Marxist universe as either non-class issues or as multi-class issues. "Transformative processes that no doubt go on in our societies are very likely not class conflicts . . . but non-class issues."[30] Especially in struggles over production conditions (compared with production itself), it is understandable that these appear as non-class issues, and that agents define themselves as non-class actors. This is so not only because the issues (e.g., clean air, congestion) cut across class lines, but also because of the site-specificity and "people"-specificity of the struggles, that is, because the fight is to determine *what kind of use values production conditions will in fact be.* But there is a class dimension to all of these types of struggles, for example, tracking in the schools, urban renewal as "poor people removal," toxic waste dumps in oppressed minority and poor districts and communities, the inability of the unemployed and poor to conveniently access "wilderness areas," and so on. Most

problems of the natural and social environments are bigger problems from the standpoint of the poor, especially oppressed minorities, than for the salariat and the well-to-do.

In short, issues pertaining to production conditions are class issues (and are also *more* than class issues). This becomes immediately obvious when we ask, Who opposes popular struggles over the content of these conditions? The answer is, typically, capital, which fights against massive public health programs, emancipatory education, controls on investments to protect nature, adequate social expenditures on child care, and demands for autonomy or substantive participation in the planning and organization of socioeconomic life. What new social movements and their demands does capital support? Few, if any. What new social movements does labor oppose? Certainly, those that threaten ideologies of male supremacy or white race supremacy, in many instances, as well as those that threaten wages and jobs. Hence, the struggle over conditions is not only a class struggle, but a struggle against such ideologies and their practices. This is why it might be said that struggles over conditions of production (conditions of life and life itself) are not less but more than class issues. And that to the degree that this

is true, the struggle for "radical democracy" is that much more a struggle to democratize the state, a struggle for democracy within state agencies charged with regulating the provision of production conditions. In the absence of this kind of perspective, new social movements will probably remain at the level of local or single-issue struggles, which are bound to self-destruct themselves in the course of their attempts to "deconstruct" Marxism.

In conclusion, this book of essays aims to theoretically assist those who believe that a partnership between labor and new social movements not only can but must be made to work, or those who think that neither the economism of the traditional labor movement nor the "zero-sum struggles" of the new social movements, *by themselves,* can produce radical change. In the absence of such a partnership, the "IMFs of ecology" will impose authoritarian solutions to the manifold problems of the global environment, the global "urban' and the global labor force.

I don't think that a "red green" project is completely idealistic, although I realize that much idealism is needed to make it work. Hundreds of thousands, perhaps millions, of people have embarked on the journey in many places in the world. Germany had (and doubtless will have again) an exciting mixture of red green possibilities in the 1980s. In Britain, laborism to this day defends time-worn formulae that have little or nothing to do with ecology (natural, urban, or otherwise), and the British Greens are rightly suspicious of the Labour Party. Yet red green theory and practice is evolving in the home of industrial capitalism. In Italy, green voters have been abandoning the political center-right, as well as traditional communism, dividing themselves into new left-right configuration. Greens and reds in France, the Low Countries, Spain, Portugal, and Scandinavia are caught in a bewildering array of confusing (to the outsider) green red and

red green political groups. In some countries in the South, where ecological issues are related more to economic survival than they are in the North, the prospects of left ecology, or "the environmentalism of the poor," seem to be most favorable. Thousands of groups (formal and informal) and dozens of political parties in Africa, Asia, and Latin America are evolving programs that include elements drawn from both the old political Left and ecology. Clearly, radical ecology is becoming a force to reckon with, and to work with, and to defend and advance.

NOTES

[1] Anna Bramwell, *Ecology in the 20th Century: A History* (New Haven, Conn.: Yale University Press, 1989), p. 33.

[2] Joan Martinez Alier, *Ecological Economics: Energy, Environment, and Society* (Oxford: Basil Blackwell, 1987), p. 62. "Marx did not formulate this question [studying the flow of energy and materials] in terms of human ecology and in any case his particular interest was in showing how the conditions of existence would *vary,* that is, how they adopted different social forms in history. For instance, direct appropriation from nature in primitive society... or consumption of commodities bought with wages earned by selling labour, in capitalism. The ecological view of the conditions of human existence *could* have been easily connected with Marxism through an adequate definition of productive forces or productive powers. This was *not* done by Marx. Despite the superficial similarity between an ecological approach and an approach in terms of 'reproduction' of social systems, there has been a long-standing divorce between Marxism and ecology. Of all Marxist concepts, that which fits better with the main theme of this book is commodity fetishism, or . . . the fiction of commensurability; in Nuerath's example, the fact that we cannot compare kilograms of coal and hours of human labour in the same units" (p. 5). See letters 182 and 183, Engels to Marx, on the "Podolinski business" (Karl Marx and Frederick Engels, *Selected Correspondence, 1846-1895* [New York: International Publishers, 1942], vol. 29, pp. 409-411. See also Bramwell, op cit., p. 86.

[3] Michael Redclift, *Development and the Environmental Crisis: Red and Green Alternatives* (London and New York: Methuen, 1984), pp. 7-8. The exception is Marx% theoretical musings about the effect of raw material scarcity on the rate of profit and economic stability, of which more will be said later.

[4] E.g., Grigorii Khozon, *The Biosphere and Politics* (Moscow: Progress Publishers, 1979), chap. 2.

[5] *Capital 1* (New York: Random House Modern Library, 1936, p. 50). See also Neil Smith, "The Production of Nature:' in *Uneven Development: Nature, Capital, and the Production of Space* (Oxford, U.K., and Cambridge, Mass.: Blackwell, 1984); Michael Dunford and Diane Perrons, "The Concept of Nature' in *The Arena of Capital* (New York: St. Martins Press, 1983); and Margaret FitzSimmons, "The Matter of Nature;' *Antipode, 21,* 2, 1989. In *The German Ideology (Collected Works* [London: International Publishers, 1976]), vol. 5, pp. 39-40, Marx and Engels clearly state that the natural world is a historical product, the forms of which are created by human labor.

[6] Alfred Crosby, *Ecological Imperialism: The Biological Expansion of Europe, 900-1900* (Cambridge, U.K., and New York: Cambridge University Press, 1986).

[7] John Desmond Bernal, *Science in History* (Cambridge, Mass.: MIT Press, 1977).

[8] Marcel Prenant, *Biology and Marxism* (London: Lawrence 8c Wishart, 1938), p. 44, quoting *The German Ideology.*

[9] K. P. Mosley, personal correspondence, 22 June 1989. Mosley also mentions the cultural materialism of Marvin Harris and the Marxist anthropological school, which attempts to take an ecological approach to social change. Leslie White's work must be especially mentioned in this connection. A real account of ecology and historical materialism would have to sift through this and related literature with care and respect—task beyond the scope of this Introduction. Works such as Vernon Gilt Carter and Tom Dale's *Topsoil and Civilization* (Norman: University of Oklahoma Press, 1974), which deals with ecological problems of the decline of civilizations, and Richard Wilkinson's *Poverty and Progress: An Ecological Model of Economic Development* (London: Methuen, 1973), which brings an ecological analysis of history into the 20th century, are among the most important.

[10] Bramwell, op cit., criticizing Howard L. Parsons, ed., *Marx and Engels on Ecology* (Westport, Conn.: Greenwood Press, 1977).
[11] Ibid., p. 33, quoting Engels (italics added).
[12] Martin O'Connor, "Codependency and Indeterminacy: A Critique of the Theory of Production." *Capitalism, Nature, Socialism,* 3,1989.
[13] E.g., Phillipe Aries, *Centuries of Childhood* (New York: Knopf, 1962). See Carolyn Merchant, *Ecological Revolutions: Nature, Gender, and Science in New England* (Chapel Hill: University of North Carolina Press, 1989), for an ecological history that attempts to marry theories of production and reproduction. For an account of the social, seif-constituting character of human nature see Richard Lichtman, "The Production of Human Nature by Means of Human Nature." *CNS,* 4,1990.
[14] Noam Chomsky, *Language and Mind (New* York: Harcourt, Brace, Jovanovich, 1972).
[15] Bramwell accuses some of the essayists in Joe Weston, ed., *Red and Green: A New Politics of the Environment* (London: Pluto Press, 1986) of trying to take over ecology for Marxism. I think this is an unfair charge.
[16] Burton Gordon, *Monterey Bay Area: Natura! History and Cultural Imprints* (Pacific Grove, Calif.: Boxwood Press, 1979), pp. 100-114.
[17] Barbara Laurence, "The Construction of Nature and Nature of Construction: A Study of the Historical Ecology of Fall Creek, Felton, California, 1960-1988" (Paper delivered at the Annual Conference of the Environmental History Association, Olympia, Washington, April 1989).
[18] The innovative group of radical geographers associated with the journal *Antipode* is a major exception.
[19] John Ely, "Lukäcs' Construction of Nature' *CNS,* 1, Fall 1988, p. 116.
[20] Much noncommunicable human disease is also associated with changes in life conditions for which human genes are not adapted, which in turn are the result of industrial economic development (see Thomas McKeown, *The Origins of Human Disease* [Oxford, U.K., and New York: Basil Blackwell, 1988]).
[21] Quoted in Jon Stewart, "UN's Dire Environmental Diagnosis:' *San Francisco Chronicle,* 6 June 1990.
[22] Mathew Osborn, "Origins of an Industrial Wasteland: Coal Mining and Use in Late 18th Century and Early 19th Century Lancaster" (unpublished manuscript, 11 June 1990).
[23] John R. Stilgoe, *Borderland: Origins of the American Suburb, 1820-1939* (New Haven, Conn.: Yale University Press, 1988), pp. 73-74.
[24] The most sophisticated post-Marxist text is Ernesto Laclau and Chantal Mouffe, *Hegemony and Socialist Strategy: Towards a Radical Democratic Politics* (London: Verso, 1985). A home-grown example is Michael Albert et al., *Liberating Theory* (Boston: South End Press, 1986). Probably the best known "Marxist turned post-Marxist" is Rudolf Bahro, who has written: "From scientific socialism I have returned to utopian socialism, and politically I have moved from a class-dimensional to a populist orientation. . . . Class struggle has little or nothing to do with escaping ecological disaster because it is essentially a battle within the industrial social project" (Michael Clow, "Bahro on Ecology," *Studies in Political Economy,* 20, Summer 1986, p. 172). Clow comments: "Bahro is not alone in these views. Indeed they are reflective of the bulk of the environmental movement" (p. 179).
[25] E.g., Laclau and Mouffe's discussion of what they call Marxist "essentialism" violates both the spirit and substance of Marx's theory of capital and historical change.
[26] James O'Connor, "The Democratic Movement in the United States:' *Kapitalistate,7,* 1978. It should be noted that in the entire post-Marxist literature it is impossible for me to find any reference to the division of *social* labor, so obsessed are the "theorists" with the division of industrial labor and the division of labor within the family. Thi$_s$ absence or silence suggests that post-Marxism is at least in part recycled anarchism, populist-anarchism, communitarianism, or libertarianism.
[27] Communication with the author, October 1987.
[28] This and the following point were made by Claus Offe in conversation with the author.
[29] "The issue in dispute is the post-Marxist claim that we have multiple social identities against the present claim that there exists a theoretical unity in these identities in the unity of the conditions of production and capital production and realization. On the level of appearances, it is true that we have multiple identities, but in essence the unity of our identity stems from capitalism as a mode of production. The trick is to make the theoretical unity a reality. An environmental struggle may be an unintentional barrier to capital in the realm of accumulation while not being ideologically anti-capitalist. The question is how to make environmentalists

conscious of the fact that they are making the reproduction of the conditions of production more social. The post-Marxists do not want to find a unity in the fragmented social identities we have. But even to build alliances between social movements some unity must be con-structed. In the absence of an agreed upon telos of struggle, or any common definitions, dialogue cannot take place. 1f we are unable to agree on any terms and objects of struggle in what sense can we say new social movements are over what socialism means; but in some sense we are required to struggle for a common language which will necessarily obscure particular differences. As capitalism abstracts out the social nature of labor in the exchange of commodities, it obscures what we have in common, cooperative labor, thereby fragmenting our identity. What is disturbing is the lack of any move on the part of the post-Marxists to theorize the unity of social labor" (David Peerla, communication with the author, November 1989).

[30] Claus Offe, "Panel Discussion:' *Scandinavian Political Studies, 10,* 3, 1987, p. 234.

PART I

HISTORY AND NATURE

> In truth, the environmental issue defines and dramatizes the need for a radical consciousness in a total fashion.
> —William Appleman Williams
>
> These who insist that [environmental destruction] has nothing to do with Marxism merely ensure that what they choose to call Marxism will have nothing to do with what happens in the world.
> —Aiden Foster-Carter

Popular books with "nature" in their tides are sometimes stocked with pictures of particular natural objects, lakes, species of fish, and habitats. The photos or drawings are usually accompanied by word pictures or descriptions meant to evoke the image of particular objects. Because pictures by themselves are barren of any syntax, they make no contentions and construct no arguments about the objects that they represent. A picture of a shore bird encased in oil tar may or may not be an argument against offshore oil drilling. Depending on the moral understanding and aesthetics of the viewer, the picture may represent the tragic or the merely unfortunate, evoke anger or a shrug of the shoulders, constitute an "argument" against any offshore all drilling or for safer offshore drilling. or be met with plain indifference. To take another example, if I see a picture of a dying fish, I don't know whether to feel good or bad until I read something like "This fish is dying because of toxic waste spills from XYZ chemical company." If I read instead "This fish is dying because it is old," I will feel differently. By themselves, then, pictures do not argue with the world or anyone in it.

Whether "real" pictures illustrate a text or whether the text merely clarifies the pictures, real pictures and word pictures alike silently and powerfully make a single demand: they want recognition. The picture states "Here is a particular tree;

You'll recognize it. Or if you don't, the picture will help you recognize a tree like it, if and when you ever see one." The picture might be worth a thousand words when

describing a particular tree or species of tree, but it is worth little in terms of understanding that there is a category of things in nature called "trees" – a category that exists in our minds independent of any *particular* real tree or species of trees.

This categorical understanding is premised on the power of abstraction, and abstraction presupposes a language that is not merely a good or poor substitute for a photograph but rather demands to be understood and argued with, that is, that represents the world not as an object but as an idea. Language depends on syntax, hence is necessary for reasoning and argumentation; pictures, by contrast, usually aid recognition much better than language does.

Part I of this book is about an idea of nature; it does not focus on how it "really is." It is about "trees" as a category of things, not about representations of some particular tree or some species of tree standing somewhere in the woods. It is about "capital" and "labor." In Part II, particular human beings are seen mainly as personifications of industrial capital, landed capital, labor, and so on. It is about the symbols we use to converse with ourselves about nature (and capital, labor, the social relationships of production). We have "so enveloped [ourselves] in linguistic forms, in artistic images, in mythical symbols or religious rites that we cannot see or know anything except by the interposition of [an] artificial medium."[1] The artificial medium employed here is the language and metaphor of Marxist method and theory. The words arid metaphors that make up Marxist theory as a category of thought are "carriers of meaning," contentions, arguments, and self-rebuttals.

The ways that we (most of us Americans?) think about or imagine nature have their roots in the origin of capitalism itself. To understand our conceptions of nature we need to understand how capitalism came into being.

Webster's New World Dictionary offers various definitions of "nature" organized according to the order in which they have appeared in history. "Nature" comes from the Latin word *nasci*, "be born." The first definition is "the essential quality of a thing" or its "essence." Examples include the "essence of an argument" or the "essence of a person." This pre-Aristotelian definition of nature, however, has a flaw. If we ask, 'What is the essence of nature itself, the answer is "nature" which is tautological. Aristotle spotted this tautology and redefined nature to mean "the inherent tendencies of a person, or process." The Aristotelian definition conceives or nature as "something within a thing that is the source of its behavior." A thing's "nature" is its *telos*, destiny, or imminence. Nature is not what a thing is but what it is becoming, its possibilities.

The third and fourth definitions are "kind" or "type" and "the entire physical universe" (or the power or force that seems to regulate the universe). These are the modern bourgeois scientific or Enlightenment senses of nature. They have many expressions, including "what exists," "all the things that exist," "the sum total of all material things" and "the material world itself." In this general concept,

nature is a collection of facts, or something that can be taken apart and reassembled in new forms, for example, in the form of a commodity. In Europe, during the long transition to industrial capitalism that went on from the 15th to the 18th centuries, this definition of nature became increasingly dominant. Nature was seen more and more as passive, inert, "the aggregate of things," or nature as empirically defined. At the limit, nature was regarded as a "thing" or as a "machine." Leonardo da Vinci thought that he could create a flying machine simply by making a mechanical version of a bird's wings. The Copernican universe was often likened to a dock; Harvey, the medical scientist who discovered the laws governing the circulation of blood, likened the heart to a mechanical pump; Galileo wrote that "the book of the universe is written in the language of mathematics."

This revolution in the concept of "the book of the universe' was consistent with an instrumental sense of nature in which nature was regarded as something that exists for the benefit of human beings. Nature has value insofar as it can be made *useful*; Philip Gagliardi, an ex-cabinet minister in the Canadian government, said in 1987, "Those trees weren't put there by God to be praised, they were put there to be chopped down."[2]

The final senses of nature appearing in Webster's New World Dictionary are "the primitive state of man" and "natural scenery," concepts that appeared in the 18th century and flourished in the 19th century, They emerged as key concepts of the Romantic movement, which partly defined itself against instrumental Enlightenment concepts of human beings and nature. Not the knowledge of but the experience of nature was stressed; not thought but feelings; not mind but body. The Enlightenment privileged mind over body ("I think, therefore I am"), Romanticism emotions over thought ("I feel, therefore I am"). Romanticism was a literary and artistic movement; it increasingly informed social sensibilities in the 19th century and permeates popular consciousness today—at least on weekends and during vacations.

The "natural" came to be defined as "wilderness", "savage," "peasant," and "child." The common thread in these associations is that nature is seen as un-spoiled, untouched by human hands, distant from the urban. This sense of nature is associated with the growth of cities, a denouncement of urban life, and a yearning to return to the imagined pristine life of the countryside. The works of Henry David Thoreau and John Muir and Wendell Berry, and the idea of wilderness are all expressive of Romantic sensibilities.

Some writers attempt to combine Enlightenment and Romantic concepts of nature. Ralph 'Waldo Emerson wrote that "our Copernican globe is a real factory or shop of power, with its rotating constellations, times, and tides." The operative term here is "shop of power." There was in the Romantic idiom what has been called the "romance of energy," energy being regarded in both the mechanical/scientific and Aristotelian senses. Finally, in the Romantic conception, there is a deep sense of the unity of people and nature; for example, the philosophers of deep ecology regard human beings as part of a total field, not separate from the

rest of nature. It is important to note, however, that this sense of the universal or unity is idealistic (originally a conception of poets, artists, and philosophers), not practical or materialist.[3]

These two concepts of nature need to be discussed not only in terms of Webster's New World Dictionary, but also of the dictionary of the history capitalism in Western Europe.

First, with the early development of capitalism (c. 1500-1800), the dominant idea of nature dramatically changed. Concepts of nature as an organic whole were replaced by the concept of nature as the "aggregate of things." Nature was increasingly seen as a mechanistic structure that (like any mechanism) could be disaggregated or taken apart and then rebuilt in various ways. Nature was defined in terms of the separate elements of which it was made. This new, scientific concept signaled what we might call the theoretical separation of the elements of nonhuman (or external) nature.

Second, external nature and human nature were rigorously separated in the dominant thinking of the times. We think of this separation today as nature versus culture, nature versus history, rural versus urban, and nonhuman matter versus human mind—paired opposites that in general reflect a split between material existence and culture. The growth of cities and urban bourgeois culture played the decisive role in the evolution of this dualism.

There was a third dualism in Western thought. The individual's own human nature was separated into mind and body, mind and feelings, thought and emotion. Today, this dualism is expressed in many forms: biology and psychology, art and science, arid philosophy and psychoanalysis are three of the most important.

A final dualism pertains to the social nature of human beings, which was also divided or separated. Society came to be defined as the individuals who made it up, which in the social sciences is called "methodological individualism." By contrast, in feudal Europe 'individual" meant "indivisible," that is, was defined in terms of group or social relations. Under capitalism, the dominant meaning of "individual" became "independent entity"; the individual Person was abstracted from his or her social being (raising the sociological issue of the 'constitution of the subject").

These theoretical separations (or ideological dualisms) occurred in science, political theory, psychology, and other fields of thought. They remain dominant today, and shape the way in which we think about and experience nature: nonhuman nature in terms of the parts that male it up arid as separated from human beings; human nature in terms of the split between mind and body and also between the individuals who "make up" society (but also of course whom society constitutes)—separated from nonhuman nature as well as from the rest of society.

Ideologically, these conceptualizations were associated with the development of commodity markets, the commodification of land and labor, the isolation of physical/biological objects from their environment and of the individual in the labor

market, and the idea of individual workers as “factors of production.” By contrast, the Romantic notion of nature, the main oppositional idea, remained

alive mainly at the theoretical level, at the level of concepts, not that of material practice, excluding aspects of recreation or leisure time.

It is now possible to connect the revolution in the idea of nature with the revolution in the sociomaterial practices of capitalist everyday life. These dualistic notions or separations or fragmentations were caused by and helped to cause, real material and social changes. Accompanying the changes in the conception of nature were practical changes, which Marx called “primitive” or original accumulation. original accumulation was the separation of human and nonhuman nature, and the separation of the elements of both, *in fact* – he breakup or enclosure of common lands and common property; the seizure of the commons by the well-to-do, and New World slavery, hence the real separation of nature or land and human beings. This forcible change violently divided human from nonhuman nature, helping to transform land into a commodity. By making many of the direct producers propertyless, original accumulation helped to break up their communities and forced them (and more importantly historically, their offspring) to sell their laborpower in order to survive. The creation of a labor market separated human beings from one another, increasingly atomizing society, The, in the capitalist factories, there occurred the separation of mind labor from manual. labor, and mind workers from manual workers, and both from emotion or affect, which was now expected to be produced by women in the domestic sphere. Also, in the factories, the elements of nonhuman nature (as well as the capacities of individual workers) were separated from each another, disaggregated, recombined in new and changing ways in order to produce commodities for an impersonal market.

The commodification and capitalization of nature resulting from “primitive accumulation,” and, later, competitive accumulation, removed traditional socio-economic and cultural constraints on land use, hence created the potential for ecologically destructive production methods. This was so because the same process of original accumulation freed human beings not only from their land and other means of production but also from social constraints developed in medieval times. Just as the removal of social constraints on the use of nature led to potentials for environmental destruction, so did the removal of constraints on the use of human laborpower lead to potentials for the destruction of human health and well-being. So, too, did original accumulation create, finally, the objective conditions for the rise of labor and environmental movements struggling to resist the exploitation and degradation of laborpower and nature.

In sum the revolutionary change in the idea of nature brought about by Descartes, Bacon, and science generally; and by Hobbes., Locke, and political philosophy generally; and by Adam Smith and the economists (the “great minds” from 1500 to 1800) went hand in hand with the revolutionary changes in the actual material and social practices of

capitalism, namely, the commodification and capitalization of nature, including human nature. Land and labor increasingly became "fictitious commodities" with "fictitious prices"—rent and wages—and, finally, particular forms of capital. Meanwhile, the expressive Romantic sense of

nature developed in opposition to the instrumental or Enlightenment concept of nature. Rapid industrialization, urbanization, and the commodification of land and labor resulted in both a human separation from nature and in a (seemingly paradoxically) greater or more universal interest in preserving nature, that is, the Romantic sentimentalization of nature presupposed the real or material alienation from the natural world.

The concept of "environment" has a more specific meaning than that of "nature." The Oxford English Dictionary (OED) defines "environment" as "the set of circumstances or conditions, especially physical conditions, in which a person or community lives, works, develops, etc., or a thing exists or operates; the external conditions affecting the life of a plant or animal. Also, physical conditions viewed in relation to the possibility of life." The key word in this definition is "conditions" which means a thing demanded or required as a prerequisite to the granting or performance of something else." If we define the "performance of something else" as the material production of human beings, the environment is clearly "required as a prerequisite." Human life is dependent an "the external conditions affecting life" namely, the environment or "nature." It follows that some conditions are more suitable for some kinds of labor (and life) than other conditions. A prerequisite to .Monterey Bay's agriculture and tourist industry is the region's climate. There is no real port in the region because there is no deep-water harbor, which is a prerequisite for a port.

This definition of environment is very static; in fact, the environment is always changing. Natural forces such as wind and rain, erosion, the action of microorganisms in the soil, and changes in the distribution of plant species exemplify changes in the conditions of human life. One result of the big flood of the San Lorenzo River (in Santa Cruz, California) in 1955 was the present levee, which protects the river's flood plain, and which also expanded the amount of developable real estate on that plain.

This is but one side of the story. When we human beings appropriate "resources" from the environment for material production , we change the environment; no species, including our own, can use its environment without modifying it.

> A sunlit wilderness of grass and flowers once lay between Eastern forest and Western plain—the tallgrass prairie of the Midwest, nearly gone now. With deep black soils of incredible richness, it was too good to last. In only a few decades, land-hungry settlers transformed the native prairie into the Corn Belt, and today [native prairie] is the rarest of major American ecosystems. Of the original 142 million acres that once covered our heartland, nearly all have been plowed under.

> The "Prairie State" of Illinois has only 1/100th of one percent of its original prairie; the same may be true of the entre Midwest.[4]

The *OED* defines "ecology" as "the branch of biology that deals with organisms' relations to one another and to the physical environment which they live: [and] the study of such relations as they pertain to a particular habitat or a particular species." "Human ecology" is "the branch of knowledge that deals with the interaction of humans with their environment." The *OEDs* distinction between ecology and human ecology seems to be arbitrary. On the one hand, since we modify the environment when we use it, we change the environment's "organisms' relation to one another and to the physical environment in which they live." Seen this way, ecology can be regarded as part of human ecology. On the other hand, when there is a change in "organism's relation to one another" there may be a change in the "interaction of humans with their environment." Viewed this way, human ecology is part of ecology. From one perspective, ecology is subordinate to human ecology; from another, human ecology is subordinate to ecology. This suggests that there is some kind of dialectical relationship at work between human production and nature's production, or human economy and "nature's economy."

Environmental historians try to understand how and why the environment of a particular place or region came to be what it is today (or what it was yesterday). They study changes in human activity and nature's economy, not in isolation, but in terms of their interactions. Natural history and human history are seen as two sides of the same general process; they modify each other and, at the limit, determine each other. It is thus impossible (in many or most, if not all, cases) to draw simple causal arrows between natural and human history, which mutually constitute each other. There is an 'inner connection" between the two; they are both each other's context and content.

Burton Gordon's *Monterey Bay Area: Natural History and Cultural Imprints* provides a good example of the difficulty (at the limit, the impossibility) of distinguishing the effects of nature's economy and human activity in the environment. Up the coast from Santa Cruz, there is a peninsula and island called Año Neuvo, which at one time was the site of an Ohlone Indian village. In the Indian middens archeologists have found few abalone shells, although abalone are abundant in Año Neuvo today. Gordon offers three possible explanations for this seeming anomaly. One is purely historical; the second is purely natural; the third is a combination of the historical and the natural. The historical reason might be that abalone shells were used extensively in Indian long-distance trade, hence were not tossed away with clam, mussel and other shells. The natural reason is the erosion over the centuries has created an island from what was once a contiguous peninsula. More rock outcroppings were formed creating more for abalone to reproduce and increase their numbers. Thus, today's abalone population is much larger than that of the past. The third reason might be that the competition between sea otters (which were abundant in the pre-Spanish period) and Ohlone for abalone was by the former (despite

the fact that Indians hunted sea otters).Whatever the actual combination of factors at work in

Año Nuevo, it is possible (likely?) that historical, natural, and natural-historical processes together explain the relative abundance of abalone today,

I have been using the expressions “human activity,” “human production,” and “human economy” to describe the dependence on, and impact of our species on the rest of nature, More precisely, the interface between history and nature (society and environment) is the material activity (defined in the broadest sense) of human beings. A meadow, field, forest, shoreline, shopping man, mountain canyon, the atmosphere, and the oceans are, in some small or large ways, artifacts of human labor armed with technology, machines or tools, raw materials, social organization, and, last but not least, ambition and purpose. (The other part of course, is natures “labor” as it has changed itself in various ways.) In this materialist sense, human labor mediates or brings together, and also modifies, human culture and nature. Insofar as cultural and natural processes intermesh and interact, labor provides the animation. This is why Marx placed labor or human material at the center of the materialist conception of history.

The history of nature, then, is in some small or large part the history of labor. In most historical modes of production and social formations, labor is exploited; it is organized by owning or ruling classes to produce not only material wealth but also to generate surplus wealth. Thus the history of nature is in certain discoverable ways the history of the exploitation of one group of human beings by another group. Since the history of exploitation is also the history of labor (and other social) struggles, it follows that the history of nature is in part the history of labor (and other) struggles

In all societies or social formations, labor is organized in certain definite principles in accordance with definite forms of property and power. In. the ancient Greco-Roman worlds, labor was slave labor, at least to the degree that an economic surplus was produced to support high culture, politics, and war. In European feudalism, labor was serf labor. In capitalism, the dominant form of labor is wage labor. Labor organized in these three general ways had (has) different ecological effects.

Ancient Rome expanded territorially during the first arid second centuries B.C., and during this expansion obtained a surplus of slaves from defeated armies and conquered populations. These slaves were used mainly as animal herders on huge ranches (latifundia). Meanwhile, much of the free peasantry was dispossessed from the land to become proletarians in the city of Rome. This change in property relations, which was also a change in the form of labor, had enormous consequences for the environment (as did the enserfment of the peasantry after the sack of Rome [A.D. 410], due to a shortage of manpower). Agriculture was changed from a sustainable, mixed, and diversified peasant system to a plantation agriculture, which mined rather than farmed the soil, deforested the hills, and created the downward spiral of flood and drought that has been

the death of more than one culture.

In the European feudal epoch, the serf form of labor produced unique patterns of land use and ecological change. On their own lands, serfs were

relatively good farmers; on the demesne or lord's land, where they were forced to work to produce a surplus to maintain a landed aristocracy and feudal superstructure, more often than not they seemed to have worked poorly, and the demesne suffered ecologically. Over time, many in the serf class developed their own land into integrated cropping systems made agronomically famous by the intensive farming practiced by the French peasantry. There were also lands held in common, mainly for grazing animals. In early feudalism, when meat and grain were produced for local markets or direct consumption, most commons were maintained in a relatively healthy ecological state. With the revival of long-distance markets in the 12th century, and especially with the economic boom driven by the inflow of New World gold and silver in the 16th century, the commons were increasingly turned over to commodity production, which destroyed the integrity of the land and accelerated the enclosure movement. Not overpopulation, but the breakup of ages-old systems of regulation of land and common use, the resulting competition for markets, and proletarianization and wage labor in agriculture were the villains of the piece.

Slave labor gives you one kind of nature; serf labor another kind. This formula, of course, is much too schematic. More typical are combined forms of property relations and forms of labor. Indonesia was for a long time a Dutch colony. Unlike its rival, Great Britain, the Netherlands remained a mercantile (rather than an industrial) power, which was reflected in its colonial policies, one of which was to keep out British manufactured goods. This presupposed Dutch resistance to the monetization of the local economy in Indonesia (in contrast to British practices in their colonies). The Dutch exploited a unique system of labor, resulting in a unique ecology, enabling the colonialists to export raw materials and foodstuffs, which were sold in the world economy of the 19th century, without importing many goods from abroad. In particular, the colonial rulers saw to it that the Indonesians could feed themselves in the most labor-intensive and productive farming system the world had ever seen (Indonesia still has one of the highest rice yields per hectare in the world).

These lines of analysis would seem to open up possibilities for fruitful revisions of both the (Marxist) materialist conception of history and the (non-Marxist and Marxist) study of environmental or ecological history (including the history of cultural landscapes). Yet, in relation to the former, in the past 15 years or so, only one or two serious studies of "hismat" have appeared in English. After a flurry of new works published in the 1970s and early 1980s (by general consensus the most important of which is G. A. Cohen's Karl Marx's Theory of History: A Defense), a silence has fallen on the subject (broken only by Derek Sayer's excellent *The Violence of Abstraction: The*

Analytical Foundations of Historical Materialism, published in 1987).

Today, most scholars regard the materialist view as having exhausted its possibilities, fading away with its presumed real-life counterpart, "really existing socialism." Many viewed "hismat" as quaint or theoretically decrepit even in its heyday of the turbulent 1960s and 1970s. A common opinion in academia is that

mainstream history and social science long ago incorporated what is illuminating and useful in Marxism. In recent years, however, some leading leftist scholars have begun to revise the materialist conception in accordance with contributions from modern anthropology and ecology. Feminists, too, have entered the lists; according to Ariel Salleh, for example, it is women's work, not labor per se, that mediates culture and nature.[5] Ecological Marxism, in particular, far from decaying, is flourishing. The eco-Marxist writings of scholars such as Elmar Altvatar, Enrique Leff, Joan Martinez-Alier, Alain Lipietz, Martin O'Connor, Ted Benton, and Alan Rudy, among others, have been gaining in influence

Chapter 1 of this book, "Culture, Nature, and the Materialist Conception of History" was written as a contribution to an ecological reformation of Marxist thought. Like ecological Marxism, environmental history has come a long way since the 1970s. Chapter 2, "What Is Environmental History? Why Environmental History?" defends the view that environmental history may be interpreted as the culmination of all previous history writing in the capitalist epoch. Chapters 3 and 4, the essay "Three Ways to Look at the Ecological History and Cultural Landscapes of Monterey Bay" and the script for the slideshow/video "The Nature of Construction and the Construction of Nature at Fall Creek, Felton, California, 1860-1990: A Script" (coauthored with Barbara Laurence), issued from the local ecological history project of the Center for Political Ecology (in Santa Cruz), which also produces the journal *Capitalism, Nature, Socialism*. Chapter 5, "The Sales of Two Cities," consists of two reviews, the first of a symposium organized by Antipode, the radical geography journal, devoted to William Cronon's *Nature's Metropolis: Chicago and the Great West*, the second of Mike Davis's *City of Quartz: Excavating the Future in Los Angeles*. These two pieces are worth reprinting, I think, because environmental history includes the comparative history of cultural landscapes, including the shape and contours of cities, and few cities are as disparate and as intrinsically fascinating as Chicago in the late 19th century and Los Angeles in the last half of the 20th century

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[1] Ernst Cassirer, *An Essay on Man: An Introduction to the Philosophy of Human Culture* (Garden City. N.Y.: Doubleday, 1953), p. 43.

[2] Quoted in the *Globe and Mail* (Toronto, Canada), 21 July 1987.

[3] This sense is materialistic in the obvious sense that human beings breathe oxygen manufactured by trees, drink water that is often recycled by nature, and so on, including live by the law of gravity.

[4] John Madison, "In Praise of the Prairie:" *San Francisco Examiner and Chronicle*, 26 July 1992.

[5] Ariel Salleh, "Essentialism' and Eco-Feminism," *Arena*, 94, 1991.

CHAPTER 1

CULTURE, NATURE, AND THE MATERIALIST CONCEPTION OF HISTORY

INTRODUCTION

Marxism was declared dead and buried in 1989, the 200th anniversary of the French Revolution. Ideological currents come and go, but it is astonishing when a world historic doctrine is laid to rest by those who for so long claimed to uphold, and so violently defended, it-those party bureaucrats in ex-socialist countries who called themselves Marxists. Yet this is what happened after 1989. An analogy would be the pope giving last rites to Catholicism, or Alan Greenspan explaining to Congress that the "market system' is more trouble than it is worth, and calling for the nationalization of industry.

There was some deep flaw in the Marxism of these self-excommunicated bureaucrats and policemen. In truth, they were not Marxists at all, so Westerners who equate their fall with the death of Marxism are whistling in the dark. The brute truth is that of all the ex-communist and still-existing communist countries, only Cuba evidenced the necessary (but not sufficient) condition for what Marx and Engels called "proletarian revolution" – namely, the existence of a majority proletariat in the work force. In 1959, when Castro took power, the great majority (at least two-thirds, and probably more) of the Cuban labor force were wage laborers. In Russia in 1917 and in China in 1949, the vast majority of the economically active population were peasants and small producers (in Russia, about twenty-five million families, compared with three or four million workers). Czechoslovakia, next to Cuba the most capitalist country to make the communist turn, was an exception. But this was more a question of geopolitics than of historical logic. The Red Army imposed communism on most of the countries of Eastern Europe, but in Czechoslovakia communists took power by a coup d'état. In other communist countries, "proletarian revolution" meant the long and bloody process of transforming largely peasant societies into industrial economies. Proletarian revolution meant *creating a* wage laboring class. While Marx in

his old age believed that Russia had socialist potential based on its traditions of rural

cooperation and the institution of the *mir* (what Joan Martinez Alier calls "narodnik socialism'), the Leninist, Stalinist, and Maoist revolutions had nothing to do with either the materialist conception of history or the deep normative elements of Marx and Engels's thought.

Marxism was turned into an ideology of rule, which shared important characteristics with other world religions – longevity, however, not being one of them. The Soviet "workers' state" was an extreme form of authoritarian cradle-to-grave welfare state. The working class, finally, was not empowered, but rather taken care of, in more ways than one. This state would inevitably self-destruct in a hostile world, as it lacked legitimacy and administrative rationality and also could not deliver the goods.

Meanwhile, on the other side of the Iron Curtain, Western Marxist intellectuals during the past three-quarters of a century mainly eschewed the problems of class and political power, fastening on themes suppressed in the USSR, such as alienation, reification, and the fetishism of capital. Lukacs made the remarkable discovery that a specifically capitalist *society* (which presupposes the development of capitalist *economy* in the 19th century) was materializing, an insight that critical theorists such as Adorno, Horkheimer, Marcuse, and others adopted as their own. Their critique of reified society and state was a logical follow-up of Marx's critique of commodity and capital fetishism. An interregnum of Marxist structuralism (Althusser) in the 1960s and "analytical Marxism' in the 1980s more or less proved one of the critical theorists' main points, that late capitalism has forced people to adopt a contemplative, passive attitude toward the world. Today, various postmodern, post-structuralist styles of thought, which regard "Marxism' as old hat, flourish. That Derrida would write a book in praise of Marxism in the 1990s, and the insight that it is impossible to identify "totalities" if one doesn't *want to try,* came as a shock to many postmodernists.

One problem is that Marx and Engels nowhere provide a systematic account of their method for studying history. There are no "Ten Commandments" of the materialist conception of history – Marx's eleven theses on Feuerbach notwithstanding. The materialist conception has always seemed to be a method in search of a definition of itself. This is why there have been hundreds of studies of the subject but so little agreement among scholars.

Why the founders of this conception of the past and present failed to develop their method from its crude beginnings in *The Holy Family* and *The German Ideology* is something of a mystery. One can think of a number of possible explanations: they had more pressing things to do; they believed that there was no need for a full account at the time; neither was well read enough in Asian, ancient, and other histories. My favorite explanation is that the historical materials necessary to prove or disprove their main ideas were not available during their lifetimes. Evidence for this view is the English Marxist historian Ronald Meek's account of the method Marx used writing *Capital.* Meek claims that without access to the plethora of historical materials now available to anyone studying the

transition from feudalism to capitalism, Marx was forced to use the dodge of imagining a society made up of independent commodity producers (self-earned property), then asking what would happen logically if capital and wage labor impinged, or were superimposed, on such a society. This is not the method of someone who felt confident that there were sufficient historical studies to make an actual account of this transition, which almost a century and a half later we can identify historically as the independent commodity mode of production (and merchant capitalism) which Marx could only assume.

What is the materialist conception of history? Its object of study is historical continuity and also change and transformation – a journey into the mundane details of material/social life and the glamorous and awful periods of social and political upheaval, revolution, and counterrevolution. The materialist conception is a method for studying historical continuity in change – and change and transformation in continuity. How and why do periods of normality contain within themselves the potential for social and political crisis or breakdown? Of social transformation? Of the painful rebuilding of existing structures of power and privilege? How and why do periods of crisis contain within *themselves* the potential for normality or continuity? This two-sidedness gives the method its dialectical character. Historical continuity is explained in terms of historical ruptures; historical breaks are explained in terms of normality. This is akin to theories of personality development that explain the process of growing up in terms of the crisis of adolescence and the crisis of adolescence in terms of the process of growing up. What are the defining conflicts of adolescence? Of a particular society at a particular time? How are these conflicts resolved, in the sense of one side yielding to the other? How do new social forms, which contain elements of old forms, but which by general agreement are regarded as definitely *new,* appear from the waste or the wreckage of the old?

It is useful to begin to answer these questions with an account of what the materialist conception of history is not. For Marx, neither the continuity nor the change in history are brought about by the unfolding of some universal idea or ideal. The human species is not striving for some universal ethical goal, such as "truth" or "justice." Ideas *do* motivate the living. Social existence must be *meaningful.* Human beings do believe that certain social practices are meaningless. In a particular historical context, some practices are regarded as humane, others as inhumane. Historical actors claim that they are trying to make such and such an ideal real, and it is foolish to question their sincerity. Leaders usually believe what they say, that their actions are governed by one or another grand historical telos or goal.

Such claims *function* to win mass support for a leader on the grounds that he or she merely personifies one or another universal ideal. But no one has ever followed a leader who acted *only* in the name of particular material interests. Even the most hardened business unionists give Labor Day speeches on "worker rights;' in which they undoubtedly sincerely believe. This is why it is often said regarding political and religious leaders that they are "chosen": they "embody"

some universal ideal or aspiration, secular or spiritual. Hence those who succeed appear to be superhuman while those who fail are written off as cranks or complete their appointed task (or spend their lives in jail) before they are forced to face the new contradictions that their own movements created. This includes the contradictions that appear when their movements are institutionalized and bureaucratized. Jesus, Lincoln, Gandhi, and Martin Luther King are revered as martyrs, and regarded as larger than life. This is partly so because they escaped the consequences of their own successes. Caesar and Napoleon weren't so lucky, Hitler still less. These and other notables, good and evil, all faced the same problem.

The personification of an abstract historical category, whether it be one nation dedicated to the proposition that all men are created equal or another nation dedicated to the idea that one nationality is the master race, can have no real subjectivity or free will. He or she is rather borne along on the tide of a universal ideal "whose time has come." The irony is that the subjectivity of those leaders who present themselves as bearers of such an ideal runs amok during periods of social upheaval. Jesus believed not only that a messiah would come to save the world, but also that he was that messiah. Lenin believed that a worker's state was inevitable and that he was the instrument of that inevitability. Lincoln might have botched the Civil War had he not believed that he personified the ideals written into the Declaration of Independence. No one is a martyr who dies in the name of material interests alone. In this sense, all great leaders are living contradictions, and it helps their subsequent reputations, however they are judged, if they are murdered or die young.

Marx's conception of history is first and foremost a critique of *reification,* 'the belief that abstractions have a life independent of the lives of those who adopt them and act in their name.[1] Ideas *do* "live on' – when leaders appropriate them from the past and use them in the present, in the service of an imagined momentous future. The expression "ideas live on," period, is a reified speech act. People live on, bearing ideas from the past ("baggage"; "phantoms that haunt men's brains"). The *meaning* of any aspiration or idea, however, depends on who holds the idea and in what social context. When India became a sub-imperialist power, with the third largest army in the world, Gandhi's pacifism would have appeared quaint. When the American South entered the throes of Reconstruction, a Lincoln presidency might have seemed to be as scabrous as those of Ulysses S. Grant.

Different ideas or categories have different meanings in different historical contexts. In the transition from feudalism to capitalism in Europe, "private property in the means of production' had a Lockean meaning; in developed capitalist society, a Marxian meaning. In liberal democratic societies today, "democracy" means democratic procedures for electing representatives by the citizenry; in ancient Athens, the direct rule of the people or revolution. A "democrat" at the time of the French Revolution meant a "republican." In America today, "democrat" means "liberal" and "republican" means

"conservative" A 19th-century "liberal" is regarded as "conservative" today. A late-20th-century "liberal" is really

a "social democrat." Lenin's Communist Party was originally called "social democratic." The need to separate form and content, appearance and substance, ideology and theory, is obvious. Ideas (or "mind") may appear to be primary, but it is the structure of society that determines the *meaning* of these ideas, or the *meaning of meaning.*

These musings suggest that Marx did not so much dismiss idealism as develop a critical theory of idealist conceptions of history. Who isn't aware that ideas sometimes persist for centuries, and in the case of ethical ideas such as 'justice, "truth," and "beauty", for millennia? Marx's point could have been that those historical actors who have mobilized people or nations in the name of some universal ideal – Roman glory; Christian piety; French liberty, equality, and fraternity; or the American pursuit of happiness – are doomed to fail. The result of idealist conceptions in practice is always disappointing (civil rights) and often horrible (Nazism), when not comedic ("the first time tragedy, the second time farce"). President Bill Clinton supposedly acted in Haiti to "restore democracy," when his real goal was to keep the local ruling class in power, with its police powers not in the hands of General Cedras and his murderous friends but in those of America and its "allies;" and then to "IMF" the country – precisely the opposite goal that Clinton presented to the world to legitimate his actions. What is more tragicomic than the spectacle of a Great Power slipping on the proverbial banana peel?

History is, first, the story of great and not-so-great men striving for universal goals, which are forever beyond their reach, and who are banished to their own special Elbas when they fail – if they manage to survive the assassin's bullet. This is one reason why history appears to be so irrational, subject to unpredictable twists and turns, in which the abnormal seems to be normal. It is also why so-called Marxists who believe that the "economic factor" in history is the determining one have proven to be so wrong. If history has not moved along a path that they expected or predicted, the fault is not Marx and Engels's, but rather that of those cynics who believe that historical actors are insincere, deploying universal ideals *only* as a cover for material ("economic") interests.

Marx's history (among other things) is an explanation of *why* material or mundane interests are fought out in the name of high ideals, which, in turn, are sincerely felt or believed. Boston patriots mobilized hundreds around the issue of a tea tax and Gandhi mobilized millions around that of a salt tax, but both the Sons of Liberty and Gandhi had bigger things in mind. Had they not, their followers would have been few indeed. Only the most reified souls can get passionate about money. The Bosnian Serbs had a legitimate gripe when Western governments recognized Croatia and Bosnia as independent nations. But the horrors of Bosnia would not have occurred in the event that Serb leaders, who themselves resisted the racism of the Nazis and the Croats, failed to mobilize their own brand of racist nationalism. The materialist conception of history

explains why ‘great man’ theories of history are not so much wrong as they are inevitable, when idealist philosophies are claimed to govern revolutionary movements and

transformations. Fidel Castro is a supreme example of a man who led a cold war of national independence that was also a proletarian revolution, the first in the name of national self-determination, the second in that of the creation of “socialist man.” In terms of the former, Castro created in Cuba, for the first time, a real nation; in terms of the latter, he created a mess, either never wanting or being unable (the picture is unclear) to trust the Cuban working class to govern itself.

For Marx, history is not the history of the progressive realization of universal ideals. It is rather the history of struggles for power fought by antagonistic interests in the name of such (felt) ideals, which is perhaps the main reason why history works out badly more often than not, and why so many liberators turn into oppressors. When the black leaders of the Haitian Revolution against French rule succeeded, they tried to reintroduce slavery. In America, for 150 years, labor was denied the pursuit of happiness. Idealist philosophies, however, are passionately believed not only by leaders but also by their followers, who often turn them to purposes or goals that their leaders fail to anticipate. Whether or not these are the main reasons why great men turn out to have feet of clay or why history takes so many seemingly irrational twists and turns, the persistence of idealism means that history is marked by a certain continuity or logic, which unexpectedly explodes into rapid change and social transformation from time to time.[2]

Don’t human beings inherently seek “freedom’ and “justice”? Do not these and other heroic themes reoccur throughout history? Marx would answer Yes, but he would explain this reoccurrence in terms of the persistence of class society and class struggle together with the ruling class’s penchant for universalizing its own self-interested ideals and historical understanding. He might also point out that these are specifically Western themes and that, in Asia, for example, the grand themes have been “order;” “duty, and “respect” more often than not. Further, while Marx never explicitly said as much, he might remind us that exploited and oppressed classes typically appropriate the idealist *form* of ruling class thought, with, of course, a different content. This is obvious in the West, where oppressed minorities, workers, and others have battled in the name of ‘freedom’ and “equality” since early modern times what were originally late feudal and bourgeois ideals. It is also obvious in the South, where national independence movements often adopt the rhetoric and ideals of the colonial powers. It is less obvious, for example, in the years before the establishment of the Roman Republic, when the artisanal class declared a general strike, the proximate cause being material exploitation, the underlying telos being political representation.

Form or ideals, not content (i.e., material, social activity) typically have governed overt political practice in the West from the Age of Athens down to the present. No one

but Samuel Gompers ever said that *all* he wanted was "more." "More" is invariably legitimated by ideals of equality or social justice (when did an exploited group ever demand *more* than that possessed by an exploiting group?). The key point is this: justice and truth and freedom and democracy have different practical meanings in different social structures and also are interpreted in different ways by different social groups in particular social structures or social

formations. Freedom for the English noble once meant freedom from the arbitrary dictates of the king, while freedom for the English serf meant the freedom to acquire and accumulate land. Neither sense of the word has those exact meanings in the West today because the socioeconomic context is so different.

PRODUCTIVE FORCES, PRODUCTION RELATIONS

An ecological Marxist approach to historical change seeks a methodological formula that brings together or unites the themes of culture and nature with the traditional Marxist category of labor or material production. In Marxist thought, "material life" is a two-sided process. One side consists of the technical relations between human beings and the materials afforded by nature, or the appropriation and manipulation of nature by humans for their own use. Examples are the technical processes of making steel, cultivating the soil, and filling up cyberspace. The other side consists of the social relationships within which the technical relations are organized, or the social organization of the appropriation and manipulation of nature. Examples are antebellum slave plantations, Russian village communes, and wage labor, that is, the social relations of exploitation of labor in capitalist societies. In sum, "according to Marx ... man enters into a relation with nature in order to obtain the means of sustaining his life, and he enters into relations with other men in the process of deriving his livelihood from nature."[3]

Marxist writers typically define technical relations, which include technology, machinery and tools, and workers' skills, as "productive forces" Broadly speaking, the productive forces denote the material powers or productive potential of society. The social relations of exploitation are usually called "production relations." Again speaking generally, relations of production are taken to mean the forms of property and power relations in society, including the relations of appropriation of the social product.

Marx's materialism privileges the productive forces (human-nature relationships) in the theory of historical change and development. These forces, especially the level and types of technology, are not explicitly problematized. (Neo-Marxist sociologists and others in the 1960s, working with hints scattered throughout Marx and Engels's work pertaining to work organization and technology as forms of labor control, tried to correct this flaw in standard accounts of historical materialism.) While the development of the productive forces has different causes in different modes of production (or modes of

imposition of labor, extraction of surplus, and distribution and utilization of the surplus by owning or ruling classes), this development is regarded as a historically cumulative process. It is also seen as a process that comes to be based, finally, on the development of science. Society inherits and makes use of the science and productive forces bequeathed by preceding generations, including the accumulation of knowledge about the productive powers of nature itself. In the sweep of history, the productive forces are seen as determining ("in the last instance") the production relations. When

the material content of social life (forces) comes up against the limits of social form in which this content is organized (relations), a crisis ensues. Old production relations are swept away or reformed, or are reconstituted at higher levels of social organization (e.g., university science or conglomerate corporations today). By contrast, the production relations are not regarded as historically cumulative but rather as subject to evolutionary change and periodic revolutionary transformations (although via uneven and combined historical development old forms may be rediscovered and lodged within new contents, e.g., the prevalence of 21st-century technology combined with 19th-century labor relations in some industries in some "developing countries" today).

The more or less standard view of historical change and development sketched above has been challenged in various ways by Marxist and non-Marxist theorists.[4] Some of these challenges and criticisms may be summed up in simple and crude fashion thusly: both "culture" and "nature" are missing (or fail to get their due) from the above conceptualizations of forces and relations of production. In fact (it may be argued), productive forces and relations are simultaneously cultural and natural. Hence the materialist conception of historical change and development needs to be grounded not only in the study of technology, the division of labor, and property and power relationships, but also in that of historically specific forms of culture and nature, which (like productive forces narrowly defined) are also cumulative. Human-made modifications of life forms, landscapes, and so on have their own independent, historical existence. "Second nature" is no less "natural" for being "second." Cultural forms are also cumulative, or display continuity in change. (This is the premise of Habermas's idea of the accumulation of "communicative competence," individuation, universalization of norms and values, and the "unthawing" of cultural, localistic traditions – all associated with modernity.) Historical materialism thus must face the problem of the relationship between historical, cumulative forms of nature and culture, and the way that both may be inscribed in social labor, or the division of labor, hence the way that social labor mediates nature and culture.

On the one hand, it is argued that the materialist conception of history has no theory of culture, or language, intersubjectivity, and ethics, beyond the theory of commodity and capital fetishism in capitalist societies.[5] Yet in all modes of production, including capitalism, both forces and relations of production are infused with cultural

norms. Examples are 19th- and early-20th-century workers who combined craft and cultural skills in ways that in practice were inseparable, and systems of capital ownership and plant management in Japan, which are very different than in the United States (stressing as they do duty, order, and honor, concepts that are relatively foreign to most Americans). Labor is a cultural as well as a material practice. So, too, are the modes of imposition of labor and labor control by the owning or ruling classes. Today, a mix of high unemployment and relatively high wages to impose labor "work" in corporatist Europe; low unemployment and relatively low wages appear to work better in the United States and

other white settler countries, where ideologies of individualism hold sway, hence where labor markets are relatively "free."

Productive forces thus have two sides. They are objective insofar as they consist of the materials provided by nature (or manufactured from nature) and of the means and objects of production. They are subjective in that they include living labor-power in general and different capacities to cooperate or work together in particular ways mediated not only by technical skills but also by cultural practices.

Production relations are also two-sided. They are objective insofar as they develop in accordance with the law of value, competition, concentration and centralization of capital, and other tendential laws of capitalism. In every country or culture in the modern world economy, for example, there is a tendency for the reproduction costs of labor-power to fall (via a decline in the value content of the consumption basket); for big capital to be organized in the form of international, conglomerate corporations; and for the profit rate to fall. Production relations are also subjective in that they include cultural concepts of property and the capacity to organize particular forms of exploitation (e.g., imposition of labor, extraction of surplus labor) in ways mediated by particular cultural practices; a Japanese-style appeal to duty in U.S. companies, for example, would fall largely on deaf ears, just as would an appeal to workers to exercise American-style individual initiative in companies in Japan. Some anthropologists argue that resources themselves are cultural artifacts, since they must first be defined culturally before they can be regarded as valuable or useful.

On the other hand, the materialist conception of history has no (or only a weak) theory of nature in the sense of the autonomy of ecological and physical processes (or "nature's economy") within the labor process. *Marx himself supplied little abstract discussion of nature "in-itself"; although he was very aware of nature's eco-regulatory processes as essential to the production process organized by human beings, he tended to focus on nature as the object of human labor, for example, as in "nature ... assists as a machine."* "The earth's surface, climate, vegetation, fauna, and human beings themselves have infinitely changed, and all this owing to human activity, while the changes of nature in Germany which have occurred in this period of time without human interference are

incalculably small," wrote Engels.[6] This is true as far as it goes, but Engels played down the fact that while human beings transform nature via labor, nature meanwhile changes and transforms itself, that is, there is a combined development of human-made and natural forces within production. The fact is that both productive forces and production relations are infused with the thermodynamics of matter and energy, the working of chemical cycles, and the biology of plants and animals – for example, systems of property in mountainous regions of the world compared with those in alluvial plains, systems of labor control in metal compared with petrochemical industries, and so on.

In sum, social labor defined as a force and a relation of production mediates and is "mediated back" by culture and nature, language/intersubjectivity, and

ecology, including the language of ecology and the ecology of language. (On the one hand, the discourse on ecological science itself changes, e.g., the decline of "successional" theories in favor of "chaos"-type theories of nature's economy, which changes the ecological principles that material production, state policy, etc., are or may be based on; on the other hand, in their different ways, Chomsky, Saussure, Wittgenstein, and others have revolutionized what may be called the "ecology of language."[7]) The forces and relations of production are thus both cultural and natural.

COOPERATION

The main reason that the traditional Marxist account of historical change and development neglects or downplays the concepts of culture and nature may be that the theme of *cooperation is* treated in one-sided ways – when it is treated at all. There may be few if any theories of cultural and natural productive forces and production relations because neither culturally derived forms of cooperation, nor "cooperation" within nature's economy, figure importantly in Marxist method. For example, there are no Marxist accounts of the roles of cultural and ecological changes in the transition from one mode(s) of production to another (others). Cultural changes brought about by the Reformation and the Counter Reformation and ecological change and destruction brought about by medieval methods of agriculture, energy production, and construction are all played down or ignored in Marxist accounts of the transition from feudalism to capitalism in Europe.

One tendency within Marxism, sometimes called "technological determinism," derives the mode of cooperation from "technical necessity." Existing means and objects of production, technical skills, and natural conditions are regarded as determining a particular mode of cooperation. By contrast, writers influenced by Lukacs and Western Marxism (who reject Engels's and Lenin's technological fetishism) typically derive the mode of cooperation from the exigencies of existing "power relations." Engels would say that the division of *labor* and work relations in a steel mill are technologically

determined; Lukacs might say that the division of *laborers* and work relations are determined by the need to "manufacture consent" or legitimation in the workplace. Note that each position is one-sided: the first is concerned with the division and specialization of *labor,* the second with the division and specialization of *laborers.*

One side is looking at cooperation as a productive force, the other at cooperation as a production relation. The law of value and technological necessity stand on one side of the gulf between Engelian and Western Marxism; power stands on the other side. This is arguably the basic difference between Marxism and (Weber-influenced) neo-Marxism.

In fact, any given mode of cooperation can be seen as *both* a force and as a relation of production, hence as indeterminate. It is impossible to specify any given technical relation without knowing the exigencies of power; it is equally

impossible to specify power relations without knowing the exigencies of technology (including technical skills). Different types of domination (personal, legitimate, forced, etc.) are consistent with certain types of technology and divisions of labor; different types of technology and divisions of laborers are consistent with certain types of domination.

Further, and more directly relevant to the present discussion, cooperation is based in small or large degrees on cultural norms and ecological (natural) forms. Richard Biernacki (in *The Fabrication of Labor: Germany and Britain, 1640-1914)* has argued that the nature of labor as a commodity differs in different national cultural contexts. In the Bible Belt, work relations are partly determined by Protestant work ethics; in agriculture, by hydraulic cycles. In both instances, technical necessities and power also codetermine work relations (division of labor and division of laborers). The mode of cooperation is thus not doubly determined, but quadrupally determined. Technology, property, power, cultural norms, and physical, biological, and chemical processes are all ingrained in particular modes of cooperation – in historically specific and contingent ways.

The concept of cooperation is an obvious point of entry to the project of revising the materialist conception of history in ways that help untangle the dialectics of culture, social labor, and nature, where labor is seen as mediating culture and nature. (Deconstructionists or idealists see culture as mediating nature and labor; Greens or deep ecologists see nature as mediating culture and labor.) In such a revision, social labor retains its status as the central category of historical materialism, but it is problematized and enriched by modern anthropological concepts of culture as the norms and values of everyday life and of modern ecological concepts of nature as an autonomous (and often unpredictable) productive force.

COOPERATION AND HISTORICAL CHANGE AND DEVELOPMENT

The traditional formulation of the two-sided nature of material existence neglects

the problem of cooperation. Marx regarded cooperation as the most basic productive force (a "natural force of social labor"), although in his formulations of the materialist conception of history he wrote little or nothing about the subject. In *Capital,* however, he argued that the revolutionary changes in the relations of production introduced by the European proto-industrial bourgeoisie brought about changes in the mode of cooperation in manufacturing. Domestic production (e.g., the putting-out system) changed to workshop production or what Charles Tilly has called "proto-industry." This change left technical relations (tools, skills, raw materials) unchanged, but created a new productive force, namely, cooperation by the direct producers working under one roof, and supervised by the owner or his agent. This is a key example to be found in Marx's writings of the ways in which changes in production relations bring to life new

productive forces, specifically in the form of cooperation in the workplace. In fact, the chapters of *Capital* from "Cooperation" through "Machinery and Large-Scale Industry" are an account of the increasing productive force of labor through cooperation. Over a century later (as anticipated in Marx's *Grundrisse),* exchange value has come to depend on science and technology – which presuppose complex levels and forms of cooperation between scientists, between corporations, between corporations and states, within states, and so on.

The development of new relations of production under the systems of ancient slavery and medieval feudalism similarly brought about changes in the mode of cooperation, hence in the productive forces; in the first case, for example, the cooperation of large-scale slave gangs in the silver mines of Spain; in the second for example, the cooperation of indentured serfs on the demesne, manorial road construction, and the like. Marked changes in the mode of cooperation in material life, which doubtless increased productivity or surplus labor, were ushered in by new production relationships. In this sense, it is a plausible hypothesis that in epochs of social revolution, changes in the relations of production lead to changes in the mode of cooperation (among other things), hence in the productive forces generally. But most historical-theoretical accounts of transformations in the forces and relations of production during periods marked by a revolution in the production relations are silent on this question.

Cooperation has both quantitative and qualitative aspects. The first pertains to the scale of cooperation, for example, the size of work gangs and the extent of international cooperation among scientists today. The second pertains to the form of power that organizes labor and laborers in production in historically specific ways, and the form of resistance to power. The hypothesis that the production relations (partly or wholly) determine the productive forces (mode of cooperation) refers to qualitative not quantitative aspects of work relations. Typically, the scale of cooperation in a Roman silver mine was larger than that on a feudal demesne and the scale on the demesne was often larger than that in capitalist proto-industry. But the power organizing combined

labor, and the resulting relations *between* the direct producers in production, was qualitatively different. The power of cooperation as a productive force would seem to be progressively enhanced (just as is the power of science and technology) over time.

CULTURAL PRODUCTIVE FORCES AND PRODUCTION RELATIONS

One step in any reconstruction of the materialist conception of history is to problematize the relationship between modes of cooperation and work relations and historical change and development. A second step is to develop a method to indicate the ways that culture and nature inform or influence the power of the owning or ruling class to impose and combine labor in production.

Marx himself was pre-anthropological in the sense that he regarded "culture" as part of the superstructure of society, not as interwoven into its base. This "mistake" resulted in incomplete theorizations of the mode of cooperation – and hence of the production relations and forces themselves.

The production relations in any social formation are three-sided: first, the relations between the exploiting and exploited classes; second, the relations within the exploiting classes; and third, the social relations within the exploited classes. Put another way, the first pertains to the mode of imposition of labor and extraction of surplus labor; the second to the mode of distribution and utilization of the surplus product within the exploiting classes, and the third to the mode of cooperation within the exploited class in production.

The Marxist tradition privileges the relationship between exploiting and exploited classes, or the class struggle, in the theory of historical change and development. Relations within the exploiting and the exploited classes were undertheorized by Marx himself and by most writers in the Marxist tradition. With respect to the former, Marx asked why politics, religion, and economics were the passions of the ruling classes under the systems of ancient slavery, feudalism, and capitalism, respectively, without providing a coherent answer. Louis Althusser tried to solve this problem with his (essentialist) theory of determinative versus dominant social activity (the former being the mode of exploitation, the latter being the superstructural form of expression of the determinative activity). With respect to relations within the exploited classes in ancient slavery and feudalism, there is little in the works of Marx or Engels resembling even a descriptive theory.

As for capitalism, Marx claimed that the socializing mechanism of large-scale production would discipline the working class, which would politically strike out at the bourgeoisie and capitalist state during periods of economic crisis or hard times. But it is difficult for the modern reader to disentangle the discipline produced by what Marx regarded as the military-like organization of capitalist work relations from that imposed

by the technical necessity of disciplined coordination in the capitalist factory. In short, Marx conflated the issues of cooperation in production seen as technique as contrasted to domination or social control.

At the same time that the structuralist Althusser (representative of the "Old Left") theorized relations within the exploiting classes, the voluntaristic "New Left" began to theorize relations within the exploited classes. Steven Marglin's justly famous article on "what bosses do" attempted to overcome the neglect of relationships within the exploited classes with a left-Weberian theory of power. He showed that in early capitalism work relations or the mode of cooperation was organized in ways that produced control of labor first and foremost, and technical efficiency only secondarily. David Noble demonstrated that the imposition of labor and domination of workers in capitalism may not be consistent with maximum technical efficiency. Michael Burawoy showed that "manufacturing consent" in the capitalist workplace presupposes that workers relate to one another in ideological (e.g., self-deceptive) ways.

In sum, while Althusser of the Old Left tried to deproblematize social relations within the exploiting classes, the New Left problematized social (work) relations within one exploited class-wage labor. The accomplishments of New Left and neo-Marxist scholars were considerable: no longer is it plausible to conceive of work relations or modes of cooperation as determined by technical necessity alone. Nor is it plausible, however, to conceive of work relations as determined solely by power, precisely because of the existence of increasingly *social* scientific and technical dimensions of the appropriation and manipulation of nature in the workplace. In this respect, the New Left overshot its mark. One might say that while the Old Left modeled society on the (capitalist) factory, the New Left modeled the factory on (class) society.

Seen another way, the New Left's critique of technological determinism was not too bold, but too cautious. Not only are Weberian/Foucaultian forms of domination/power imported into work relations from the "outside" (as it were), but also all kinds of cultural practices transverse work relations and other social relations, including political relations. More, political and cultural practices are imported into the workplace not only from above, but also from below. In this sense, work relations are both the content and the context of political, ideological, and cultural struggle. It can be argued that certain technological possibilities exist (and not others) because of the mutual interactions between the impulse to valorize labor and to politically and ideologically dominate labor, and also to import cultural practices from society as a whole. The determination of work relations (modes of cooperation as productive forces and relations) is thus very indeterminate.

No one can know what extant forms of cooperation (e.g., in capitalism, the type and scope of "internal labor markets, managerial bureaucracies, systems of codetermination, the functions of labor market discipline, etc.) will "take" without

knowing the dominant and liberatory forms of culture, the role of the legal systems, managerial ideologies of control, and so on, and how these are mutually determining, for example, in any comparison between European corporatism, Japanese collectivism, and U.S. individualism. It seems plausible that the capacity of major economies to compete in an age when the productive forces are increasingly social in nature hinges not only on levels of science and technology, but also on the capacity of a given culture to mobilize and use these forces. Japanese collectivist capitalism may be an ideal type for the diffusion or dissemination of new production processes; U.S. individualist capitalism an ideal *type* for the invention and development of new technologies; and European corporate capitalism for the efficient exploitation of new technologies.

These considerations put the question of cooperation or work relations as productive force and relation in an entirely new light. So, too, must the theses of the cumulative technological development and productive force determinism be amended. No wonder that Marx did not and could not theorize work relations, excepting the use of the superficially appealing military metaphor. No wonder that Lenin, following up on Engels's fatally wrong assumption that work relations are technically determined, thought that socialism had use for Taylorism. No

wonder that the best known study of work in the past three decades – Harvey Braverman's *Labor and Monopoly Capital* – did not get much further than Marx's own sociology of work.

The formulation put forth above also casts new light on the "Althusserian" solution to the problem of relations within the exploiting classes. Culture is not something that happens with the surplus product alone; it is also the warp and woof of everyday life, imported into the workplace from the top down (e.g., "youth culture" used to organize certain sectors of the U.S. economy; "corporate culture") and also from the bottom up (e.g., modes of protest and resistance, networking, union culture, carnival). Historically specific and contingent cultural practices are spliced into (as it were) the system of valorization of labor.

Since culture is the thread of history, that is, since we understand history through culture, and since social history is (among other things) the history of culture, it seems fair to conclude that Marx, without benefit of either social history or modern anthropology, was unable to make historical materialism historical enough.

In conclusion: the productive forces are always in part cultural forces. Work relations are overdetermined by cultural practices from above and below, technology and skills, the level of development of means and objects of production, the valorization of labor, and class power. Social forces as a whole are compacted or miniaturized in work relations, which are the richest and most socially "dense" social relations in capitalist society This is perhaps most clear in the worlds of entertainment and sports, where people pay to see the work relations themselves (or one part of them). Here the links

between culture and work are most transparent (e.g., compare the history and culture of baseball versus those of football).

NATURAL PRODUCTION RELATIONS AND PRODUCTIVE FORCES

Marx wrote in a "preanthropological" age in which a specifically capitalist society and hence social history were underdeveloped. This means that his materialist conception of history was not and could not be historical (or cultural) enough, and also that his theorizations of productive forces and relations generally and modes of cooperation specifically were incomplete and flawed.

Historical materialism is also not materialistic enough. Marx wrote before the age of ecology. He was more interested in chemistry than biology and he brushed off Sergei Podolinsky, the first ecosocialist who thought that a specifically physical nature figured in value theory. Ecological and physical relations within nature (nature's economy) and their effects on cooperation in the labor process were not ignored but relatively neglected in Marx's theory of capitalist accumulation, competition, economic crisis, concentration and centralization of capital, and so on. The fact is, however, that modes of cooperation in and between workplaces in the divisions of industrial and social labor (and the various social

divisions of labor) teem with biological, physical, and chemical life. Neither men over a certain age nor women at any age perform in Major League Baseball or in the National Football League. The first exclusion is a natural fact; the second is mostly a natural fact but also a cultural fact.

Nature's economy (climatic and geological forces, chemical reactions, food chains, etc.) is the subject of ecological science, as well as one foundation of contemporary ecological sensibilities, defined in terms of cultural attitudes and practices in nature. The idea of wilderness is no longer threatening and clear-cutting original-growth forests is no longer acceptable in many regions. Nothing in Marx (the theorist of dialectical change and imminence) prepares us to anticipate these (and a host of related) social facts. While the particular forms of nature's economy (including the composition of the atmosphere itself) are often the result of human impacts on nature, the fact is that the chemical, biological, and physical processes constituting nature's economy function independently of human economy. They are autonomous productive forces (as well as conditions of production). Human beings may enhance growing cycles with petrochemical products and control chemical processes by varying the composition of the air in a chemical plant, but these growing cycles and chemical reactions are still based on nature's tendential or "weak" laws.

It is still not sufficiently acknowledged by Marxists and those who use Marxist-type methods that nature's economy is inscribed not only in the productive forces but also

in the production relations. “Natural” production relations mean that certain types of natural conditions or processes (human-influenced or not) offer more possibilities than others for the development of any given social formation and class structure. Ownership of horses or livestock presupposes a certain amount (less over time) of land to feed the animals. Feudal production relations flourished where there was no good inland or coastal water transport, for example, in the interior of France where “money” for a long time meant “taxes; not “prices.” Britain escaped the full force of feudalism not only because of the prevailing culture of individualism (which dates back to the 13th century and even before) but also partly because of the extent of inland and coastal water transport (hence chances for trade). On the Mediterranean and Atlantic littorals, there developed early on merchant capitalist class structures. In Rondonia in Brazil, both small farming and large-scale cattle ranching have failed because of disturbed soil conditions in the tropical rainforest. In early Britain and France, iron foundries were small in scale because they needed to be located next to woods or forests, and because small-scale ownership was common. The U.S. steel industry was heavily capitalized in part because it was located between distant iron ore and coal deposits, and therefore was burdened with high transport costs. When natural resources run out, or are destroyed, existing property relations often change, as do the nature of the productive forces. Logging out original-growth redwoods in Aptos Creek, on California’s Central Coast, ended the relatively highly capitalized forestry industry there. In the regions nearby in the Santa Cruz Mountains, logging literally cleared the way for fruit orchards and vineyards organized by small-scale property owners.

Examples of “natural” production relations abound. On the high seas, a ship’s captain (long ago perhaps part owner of his vessel, now an employee or perhaps a minor stockholder) has (and needs) more or less absolute power. So does the captain of a passenger aircraft. Small-scale property is more important (less so today) in Costa Rica than in other Central American countries partly because of the nature of the terrain. In prerevolutionary Cuba, tobacco and coffee farming were characterized by small-scale ownership, in the first case partly because of the need for skilled hand labor, in the second case partly because of the paucity of good mountain soils. By contrast, sugar cultivation was characterized by middle- and large-scale capitalist ownership partly because sugar is grown in rolling flatlands and partly because – given the nature of the crop – little skilled labor is required. Most cities grew up at river crossings and natural harbors where middle- and long-distance trade was possible; in time these cities became the homes of artisans, craftsmen, merchants, bankers, and so on.

Not only are production relations to one degree or another natural (the electronics revolution has greatly facilitated the centralization of finance capital), so, too, are the productive forces. It is clear that nature’s economy (or natural processes) is inscribed in the mode of cooperation in mining, agriculture, and fishing in ways that required Marx to

amend his concept of the production process. Not only is nature a "partner" in production (as Marx observed many times), it is an autonomous partner (which Marx abstracted from in the first volume of *Capital).* Nature's economy is also inscribed in modes of cooperation within the construction and transportation industries. Buildings require space, which limits the kinds of cooperation (seen as a productive force) possible in construction (the division of labor within and between companies building skyscrapers is a marvel of complexity and timing precisely because of space constraints and gravity). Transport presupposes some kind of rational use of space, including air space. Work relations in manufacturing of all kinds are subject to many different and complex natural processes, from the chemistry of metallurgy to the physics of chip manufacture. Last but not least, the nature of the human body and perhaps soul create certain possibilities for cooperation, limit others, and rule out still others.

NATURE, SOCIAL LABOR, CULTURE

Social labor is inscribed by culture, and vice versa. Human labor is organized not only by class power and the law of value but also by cultural norms and practices, which in turn are shaped by forms of social labor. Household appliances are sold as "efficient" and corporations advertise their workplaces as "empathetic." Only a dialectical approach to the problem of the inner connections between culture and labor can yield interesting theoretical and practical results in the analysis of particular cases.

Social labor is also inscribed by nature, and vice versa. Human labor is

organized not only by class power, valorization, and culture but also by nature's economy, which, in turn, is constantly modified by social labor. Capital splices into natural processes, alters natural laws and probabilistic tendencies, or changes them in the sense *of* creating new forms and relations *of* nature that did not previously exist. An example is the computer wedded to bioengineering to discover an organism that will "eat" toxic wastes.

It seems to follow that culture and nature meet and combine in socially organized social labor. Cultural ecology and ecological culture are expressed in the social relations *of* material production, distribution, exchange, and consumption. The question arises, What is the dialectic *of* nature and culture in material life generally and in work relations specifically? Certain cultural practices combined with certain natural (physical) processes in production in turn combined to produce a Chernobyl and a Bhopal. Cultural practices in both cases were such that physical and chemical laws got out of hand (so to speak). On the other side, physical and chemical laws were such that the culture *of* work relations *also* got out *of* hand. These were natural as well as social disasters, as much as earthquake devastation is a natural and a social disaster in precincts that should never have been built up in the first place.

Indeterminacies in work relations or modes of cooperation are doubly determined by cultural and natural indeterminacies. For example, worker slowdowns and "work-to-rule" vary widely across different ethnic and national cultures, and nature's "surprises" or "mysteries" vary equally widely across different ecological and physical labor processes. As global capital widens and deepens its hold over humanity and nature alike toward the close of the millennium, social labor (the division *of* social labor and social divisions *of* labor) becomes increasingly complex. No one has yet discovered a model *of* global capital similar in explanatory power to the old development/underdevelopment model or the various models *of* imperialism, the complexity *of* the world economy is now so great. What is clear is that cultural relations inscribed in work, work relations, and so on, on the one hand, and physical, chemical, and biological relations inscribed in labor processes, on the other, are becoming more complex, as a result *of* the globalization *of* capital. "Production functions" become more uncertain and "disasters" occur more frequently, with more "causes." Alcoholism in the age of twelve-step programs, command structures on oil tankers, supertanker design flaws, corporate competition in oil production and distribution, and the complexity of natural and physical systems – all seemed to combine to produce the *Exxon Valdez* disaster. "Risk society" theorists step up to front stage. The world seems to be and is more alienated not only from labor and society but also capital generally, and also more reified. Explanations of contemporary nihilism, right-wing populism, and other irrational or subrational ways *of* thinking are thus not hard to find.

Theoretical and practical alternatives require close attention to the inner connections between cultural and natural forms *of* cooperation in work relations. An ecological culture alone leads to pure green politics; a cultural ecology alone to pure red politics, that is, back to the thesis of the humanization ("domination")

of nature. The basic task, it would seem, is to sublate the green and the red, materially and politically.

NOTES

[1] Derek Sayer, *The Violence of Abstraction* (Oxford: Basil Blackwell, 1987), passim.

[2] Marx attacked a second theory of historical continuity and change, namely, the claim that the ups and downs of our species are in some significant way determined by the material opportunities and limits of nature, which we all depend upon for survival and growth. Marx's conception of history is a critique of this "passive materialist" view of history, as well. Sometimes called "environmental determinism;" in the 19th century this belief, which coexisted uneasily with "great man" theories of history, was closely associated with imperialism, colonialism, and racism (people of color who live in the South are lazy because it is so hot or because nature is so abundant). This view is also associated with the green movement today; for example, the idea that people should organize their own material life in accordance with the ecological imperatives of particular bioregions. This is a well-intentioned and practical point of view, although, as sometimes stated, a somewhat absurd one, as people already in some (many) ways organize their lives thusly, and if they didn't they would soon cease to have any lives to organize. Marx and Engels developed their "active materialism' to combat not only idealist,

but also passive materialist, accounts of history.

[3] Ellen M. Wood and Neil Wood, *Class Ideology and Ancient Political Theory* (Oxford: Basil Blackwell, 1978), p. 59.

[4] For example, based on Althusser's structuralism, S. Resnick and R. Wolff (*Knowledge and Class: A Marxian Critique of Political Economy* [Chicago: University of Chicago Press, 1987]) argue that profit and the "laws of motion' of capital are "overdetermined" by natural, political, and cultural conditions.

[5] This claim pertains to the theory of historical change and development. Marxist theories of art, literature, etc., abound. Marxist theories of politics and political culture, based on anticolonial discourse, Lukacs's theory of reification, Gramsci's notion of ideological hegemony, etc., are also plentiful. Althusser alone tries to explain culture (defined as part of a society's superstructure) in terms of the traditional conception of forces and relations of production (see below).

[6] Frederick Engels, *Dialectics of Nature* (Moscow: Foreign Language Publishing House, 1954), p. 306.

[7] Chomsky writes (letter to the author, c.1995): "The dominant view (including much of the left, Marxists particularly) is that there is no human nature but only culture, history, environment, and so on. This is about as sensible a view as the view that the embryo becomes a human or a bird depending on the nutritional input; in short, it is an idea that is completely off the wall. In any area where we understand anything (visual perception, language, a few others) it is known to be wildly false. Logic alone tells us that the extent and complexity of internal programming will determine the richness of the state attained; an 'empty organism would end up by being some kind of shapeless amoeba, capable of nothing. Turning to the study of language, as it progresses it reveals more and more about the innately determined structures and principles that unfold, with minor variations, to give the possible human languages."

CHAPTER TWO

WHAT IS ENVIRONMENTAL HISTORY? WHY ENVIRONMENTAL HISTORY?*

> ...in truth, the environmental issue defines and dramatizes the need for a radical social consciousness in a *total* fashion
>
> — William Appleman Williams

INTRODUCTION

Postmodernists think that there is a logic to the seemingly chaotic tales of high personages, important places, and the accumulation of events called "history." Everyone has his or her own experiences and stories to tell about the present and the past. Historians are professional story tellers who dip into the available stock of narrative forms (the *one* constant in history) and arrange people and events in accordance with the logic of the particular story form chosen. For Marx, Louis Bonaparte was farce; for the French upper class triumph and tragedy. For anti-communist historians, the Cold War was a fight between good and evil; for geopolitical historians, a clash of empires; for the Sandinistas, a Yankee excuse to intervene in Central American revolution. And so on.

Hayden White's book of essays, *The Content of the Form,* is an important postmodern text. To simplify a complex and elegant argument, White suggests that once the historian chooses a narrative form, the content or substance of what he or she writes, how this content is arranged sequentially (e.g., when Act One begins, when Act Three ends), and how much emphasis is placed on certain people, places, and events are all more or less determined. The narrative form helps to decide which of what White calls "real events" get a big play and which do not.

White's concept of a "real event" suggests that postmodernism suffers from an excess of idealism. This expression appears in White's book a number of times, but it is neither defined nor even problematized. "Real events" are dropped into White's narrative like raisins into a pudding. This is so even though he and many other postmodernists would agree that no "real event" (e.g. material or socio-economic event) ever occurs without a corresponding "ideal event" (my expression) – that is, a speech act, a new twist on shared meaning, a fresh perspective on a form of intersubjectivity or the social construction of the "individual," etc. While it is true that linguistic access to the material world is the only access available in

Human discourse and that struggles over the meaning of this world are always linguistic, it is also true that the material world does exist. Put somewhat differently, postmodernists tend to ignore or downplay the way that "real events" articulate with "ideal events" – the ways that material activity is organized socially and that meaning and intersubjectivity mesh with material activity – hence tend to be blind to one of the main problems of historiography. Rather, what is important to postmodernists are the types and structures of particular narratives deployed to "tell history," although no method for explaining changes in narrative conventions is offered

Despite this lacuna, postmodernism "explains" why each generation or historic period rewrites history, and also why in any given period historians dispute what happened in the past (as well as the ways that anyone can know what "really" happened and why). The logic of postmodernism is that it is natural and inevitable that history stories will change over time and also differ at any given time, depending on who is telling the stories. Everyone has her or his own ax to grind and stewpot to simmer because everyone has his or her unique life experience, political and cultural perspective, and personal narrative. Everyone has a sense of what an ax and stewpot "really" are, what they may signify to the user (as words, as physical objects), to the outside observer, to someone in Tibet, to posterity.

However, postmodernism fails on three counts, which leads, finally, to a methodological individualism and subjectivism, and an arbitrariness and relativism, so extreme as to border on nihilism: First, postmodernists are blind to the ways that social structures lay behind both real events and narrative forms, i.e., they neglect the structurally determined or influenced interconnectedness of things (which generates the need for abstraction and levels of analysis). Second, they fail to privilege typical (as contrasted with atypical) stories in which historical data can be interpreted in relevant contexts (which eliminates the multiplicity of possible meanings of things within a chosen context or framework). Third, they disregard any structurally based social psychology, or account of subjectivity and cultures of resistance, which might bridge the gap between structure and process or structure and meaning.

Fortunately, there seems to be at least a partial escape from the postmodernist trap. The writing and rewriting of history — the illumination of previously obscure corners of the past, the sound of voices long forgotten or suppressed, the explanations of fads and fashions, the reassessment of "great men," the ways that subjectivity (or identity) is historically constituted, and so on — follow a certain crude logic, as least as far as the history of capitalism in the past three or four hundred years is concerned.[1]

It is possible to decode the logic of history writing by keying it to the developmental logic of capitalism itself rather than to that of a particular narrative form. Broadly speaking, modern Western history writing begins with political, legal, and constitutional history; moves to economic history in the mid-to-late 19th century; shifts to social and cultural history in the mid-20th century; and

culminates in environmental history in the late 20th century. This family tree of historiography is a logical follow-up to the development of capitalism itself: first, the political, legal and constitutional reforms and revolutions which created the framework for private property, property rights, civil liberties, and formal equality under the law; second, the industrial and technological revolutions of the late 18th and early 19th century, partly set in motion by political reform and revolution, which created the possibility of capitalist economic history (economic conflict, growth of markets, finance, competition, etc.); third, the growth of a specifically capitalist society and culture, which emerged from the commodification of the fictitious commodities land and labor, and of social life and culture; mass society; consumerism and social struggles; and the migration of labor and the development of multi-ethnic society, which inspired social and cultural history; fourth, the capitalization of nature, or the creation of a specifically capitalist nature, and struggles over nature, which developed within the frameworks of evolving capitalist legal systems and economic and social/cultural imperatives, and which have produced environmental history — the latest and (perhaps) last type of history.

In effect, the structural transformations of developing capitalism have written, at least with a crude logic, their own historical narrative, corresponding to changes in politics, the forces and relations of production, and society and culture as a whole, including universal themes of struggles between objective circumstance or necessity and desire or subjective will.

Structural change does not directly give rise to new types of history writing: social conflict and social struggles (of which the new histories are a definite part) mediate the two. Particular structural changes produce particular types of social struggle: political, economic, social and cultural, and environmental, in that order. But while the proximate cause of successively new historical subjects and new critical readings of capitalist history is new types of conflict and struggle, the deep cause is the structural evolution of capitalism itself — the unfolding of capitalism as a way of work, as a way of life, as a way of relating to nature. Any full account of this whole subject would have to explore in detail both the structural changes and also the mediation between these changes — namely, social conflict — and the evolution of new types of historiography.

This is not a lockstep, linear progression. The notion of uneven and combined development applies to historiography just as it does to the world that historians study (the development of industrial capitalism). Thus each type of history (at its best) reworks and sublates, hence radicalizes, previous types. If each stage of capitalist history is marked by particular forms of conflict — political conflict, conflicts between capitals and between capital and labor, social and cultural conflict, and conflicts over nature — the appearance of these conflicts is uneven over space and time. Each country obviously has its own history, as a capitalist social formation. For example, the sense that the

bourgeoisie's hold on power and reason was weak or treacherous, as a result of Opposition movements of all kinds, varied from country to country. The dialectics of development and underdevelopment also produced different national histories; for example, imp-

erialism and empire are parts of the narrative of the major industrial countries but not of most developing countries. Some socialist traditions emerge in a counter-historical or counter-narrative fashion. In the U.S., history "jumps" from political history to the "environmentalist" history of Frederick Jackson Turner, followed by Charles Beard, then William Appleman Williams, who "relaunched the Western history in which the bulk of environmental history has taken place, and set up the contest-and-conquest colonizing scholarship which is in its way at the heart of the environmental history enterprise" in this Country.[2] The "stage theory" historiography sketched above thus abstracts from the uneven and combined forms of the politics, economy, and society of particular countries, as well as the different relations that particular countries have with one another in particular historical periods.

Social struggles also combine in various ways over space and time. Newer struggles tend to progressively sublate older ones. There was no talk about "environment" during the bourgeois political revolutions but there is plenty of talk about politics in contemporary environmental struggles. Labor struggles in the 19th century rarely included environmental concerns; today they increasingly manifest environmental dimensions. Early cultural struggles over ethnicity or gender were more or less silent on the environment. Today there are struggles against environmental racism (for environmental justice) and also ecofeminist struggles which try to sublate the issues of poverty and inequality, class, race, and gender. We thus have a dialog between the concerns and experiences of past and present: past milieus get sedimented in the kind of history that gets written which present history builds on. And the present, because of its concerns and because of hindsight, can see things that the past was blind to, and thus reworks its own history writing. The dialog includes the future as well, since present history writing to some small or large degree changes the wider world. Environmental history, for example, will help shape the kind of nature future historians will inhabit.

Seen in this light, environmental history may be regarded as the culmination of all previously existing histories – assuming we include environmental dimensions of contemporary political, economic, and cultural history, as well as environmental history strictly defined. Far from the marginal subject so many historians still regard it to be, environmental history is (or should be) at the very center of historiography today. As J. Donald Hughes, student of the ecologies of ancient civilizations, puts it: "A historian who has decided to place history within its context, and to 'make sense,' will have to become an environmental historian."[3]

WHAT IS ENVIRONMENTAL HISTORY?

The claim that environmental history is the culmination of all previous history may not be as extravagant as it seems. Many environmental historians define their field in the most inclusive terms imaginable. Environmental history's "prin-

cipal goal," Donald Worster writes, "became one of deepening our understanding of how humans have been affected by their natural environment through time, and, conversely, how they have affected the environment and with what results."[4]

According to Worster, environmental historians face three sets of questions: One is "understanding nature itself, as organized and functioning in past times," including the human organism. The second level "brings in the socioeconomic realm as it interacts with the environment. Here we are concerned with tools and work, with the social relations that grow out of that work, with the various modes people have devised of producing goods from natural resources." The third level is "the purely mental or intellectual, in which perceptions, ethics, laws, myths, and other structures of meaning become part of an individual's or group's dialogue with nature."[5] These "levels" are analytical categories: "...although for the purposes of clarification, we try to distinguish between these three levels of environmental study, in fact they constitute a single dynamic inquiry in which nature, social and economic organization, thought and desire are treated as one whole....this whole changes as nature changes, as people change, forming a dialectic that runs through all of the past down to the present."[6] Another way to put this point: how do human beings affect themselves by modifying, destroying, etc., their environment, and how does the environment affect itself by constraining and enabling in various ways human activity? The question arises, in the triad – nature, labor (tools, work, etc.), culture — what term, if any, should be privileged?

Put somewhat differently, environmental history is the study of how human agency shapes and modifies "nature" and constructs built environments and spatial configurations, and how natural and cultural environments both enable and constrain human material activity, and, conversely, how human activity both enables and constrains cultural development and "nature's economy." Seen in this light, the method of environmental historians tilts toward the only totalizing social science – Marxism. The method of both is an active materialism; environmental historians put a mirror to the world and show the world how it has produced and shaped its own nature, including its own body. The world accomplishes this by *labor* (technology and the divisions of social labor; power and the social divisions of labor), defined as socially organized, symbolically mediated material production, distribution, exchange, and consumption. In the drift of environmental history toward Marxism, "human impact" or "human agency" becomes "human material impact" or "material activity" and labor is seen as the mediation between culture and nature. The history of nature is, thus, in part, the history of

– labor.

So fruitful are these ways of looking at the world – and at history writing – that it is no surprise that environmental history is one of the fastest growing fields of history today. More and better studies of the dialectics of human material agency, culture, and nature appear ever more frequently. More conferences on the environment and more courses on environmental history are held and given every year. Local environmental history is challenging the antiquarian-

ism long characteristic of local history. The interaction between human economy and "nature's economy" – and their mutual interdependencies, asymmetries and contradictions – are studied by ecological economists and theorized by ecological Marxists and critical social scientists. Political theorists have taken up the concept of "nature" in the thought of Hobbes, Rousseau, Jefferson, Paine, and other political philosophers. There are studies of Thoreau, Muir, Pinchot, and other preservationists and conservationists. In the past decade, the subject of "women and nature" has received innumerable and diverse treatments by historians, ecofeminists, anthropologists, and environmental militants in the South and North. There are new "world environmental histories" and new general and detailed studies of the environment in the U.S., Australia, India, Mexico, Brazil, Africa, and many other countries and regions. There are new historical studies of the human body, birth, sickness, pain, and death, of the meanings of "cleanliness" and "diet," and of village and town defined as environments.

The once esoteric field of "human ecology" is now in the mainstream and environmental impact reports, a practical type of environmental history, proliferate. The borderlines between physical and cultural anthropology have long been breached. Social scientists are taking up "nature" defined as tap and sink more seriously and in more systematic ways. The humanities are addressing the problem of how and why various representations and meanings of "nature" are established, conflict, and change. Environmental preservation and the protection and restoration of historic cultural landscapes are flourishing. Economic geography has made an 180-degree turn from the kind of environmental determinism that used to dominate the subject, increasingly adopting the method that Marx called "active materialism." Cultural studies have deconstructed the ways that "nature" has been understood by science, and ecology is one of the most dynamic fields within the natural sciences. Nature writing is increasingly more popular, and general interest in the greenhouse effect, the ozone layer, and the impact of environment on human health and mental well-being grows each year.

The range of methods and subjects of environmental history is enormous, more so than those of political, economic, and social and cultural history. Environmental historians study the history of energy use and depletion; atmospheric, climatic, and even human-assisted geological changes; populations of particular species life and their inorganic "bodies"; bioregions, watersheds, ecosystems, and ecological patches,

boundaries, edges, corridors, and mosaics. They investigate the environment defined as resource, as amenity, as socially constructed space, as mental map. There are histories of cities written in light of their relationship with their hinterlands and vice versa; histories of forests, lakes, rivers, coastlines (preserved or otherwise), and of built landscapes of all kinds. Urban parks, architectural styles, suburban tracts and malls, street patterns, strips, old army bases, industrial parks – all have been scrutinized by environmental historians.[7]

The sounds of children playing in a park, the biological effects of using ecological niches as park space, the calming rumble of traffic up the street from

the park, the noise of large-scale passenger aircraft taking off nearby, the park's meaning in terms of the sense of neighborhood – all belong under the rubric "environmental history." Books have been written about spaces as small and insignificant as the household garden and as awesome as an original growth redwood forest. In principle, it appears, everything is environmental history; the remotest places have been affected by (and affect) in some small or large way human material activity.

Environmental history is, in short, the history of the planet and its people and other species life and inorganic matter insofar as these have been modified by, and have enabled and constrained, the material and mental productions of human beings. The subject is nothing more nor less than the study of the relationships between the human species and its "surroundings" (a dictionary definition of environment). Since these relations are indecipherable without an investigation of the social relations between human beings ("society," "economy"), on the one hand, and nature's own (modified, stunted, enhanced) biological, chemical, and physical relations, on the other, the scope of environmental history is for all practical purposes limitless. The present environment has been changed in many ways by countless generations of human beings. And since political, economic, and cultural structures and processes "decide" how environments are utilized, and with what effects, ideally, environmental history incorporates (and sublates) political, economic, social, and cultural history.

The history of nature presupposes not only biology, soil science, and so on but also political and legal history (e.g., the history of property relations and property boundaries, which are important in determining what kind of nature flourishes and what kind doesn't); economic history (e.g., the history of capital's use of nature as tap and sink); and social and cultural history (e.g., the history of aesthetics, social tastes in particular periods, flora that are regarded as ornamental, what is viewed as "beautiful" and "ugly," and so on). One might add "moral history" here. A century or less ago, sellers of seeds and bulbs for gardens told their customers that a beautiful, well-kept garden was a sign of household morality, cleanliness, respectable living. In principle, environmental history is a totalizing history, the only true "general" or universal history.[8]

Environmental history, however, is also space-bound. It operates at the level of site specificity defined in various ways, e.g., as a watershed, as successional activity or

the dialectics of change between native and exotic species, as changes in agricultural soil, and so on. Environmental historians study particular places during particular periods — the effects of dam construction on the American West in the 1930s, the sources of pollution of North Sea beaches during the 1960s, the antinomies of monoculture on the coastal plains of Central America in the 1970s.

While environmental history is the study of the interrelations among human culture, material life, and nature's economy, it is limited by the peculiarities of the particular place or places studied. Yet since the history of one place,

in the last analysis, is inseparable from the history of other places, in principle every environmental history can be linked to every other history. The cultural "geography of nowhere" (tract homes, malls) is connected with agricultural history (chemical monoculture to expand the production of basic foodstuffs for the residents of "nowhere"); configurations of transport routes (freeways to carry nowhere residents to and from work); conservation biology (the effects of nowhere homes and freeways on wildlife habitats and populations); aesthetics (the shape of suburban development, freeway cover leaves, "Main Streets"); resource depletion (forests to manufacture the lumber for nowhere split levels and ranch houses); air and water pollution (from cars, from sewage).

The peculiarity of environmental history is that it is general and universal history and at the same time specific and concrete local history. Environmental history therefore faces two dangers. The first is the risk of vapid overgeneralization (the "death of nature," the "end of the world," "spaceship earth"). The second is the danger of triviality, of being a mere digest of this or that type of environmental change in this or that place. The risk, then, is that environmental history will become the history of everything hence the history of nothing. Yet both overgeneralization and misguided attention to superfluous detail are risks that many, if not most, environmental historians, cultural anthropologists, geographers, ecological economists, and others regard as worth taking. Otherwise, how could we develop totalizing concepts, on the one hand, and knowledge of the borders, corners, and back alleys of our surroundings, on the other? How would we have any way of thinking about the agglomeration of ecotopolises called "global nature?" The problem of the relation between the particular and the whole, the specific and the concrete, and the concrete and the whole is thus especially important for environmental historians.[9]

Put differently, what Worster has noted as the grand ambitions and totalizing possibilities of environmental history are not matched by a corresponding totalizing method, defined not as the "whole truth and nothing but the truth" but in terms of the interconnectedness between specific historical projects and processes, on the basis of the concrete, or what things have in common; hence how things are related to one another, and how one thing is related to all other things. Environmental history remains a loosely defined field, borrowing, often uncritically, from a variety of natural and social sciences,

and also Marxist-type theories of human material activity which are essential to truly illuminate the "history of nature." The argument here is that all historical relationships are *simultaneously and irreducibly* social; social-material; material-social; and material (natural). Historians have to operate at all levels of abstraction (and their many mediations) to delineate exactly how and why economic and other forces have depended upon the environment; how nature is both enabling and constraining of human material activity; and how changes in the environment modify (and are modified by) political, economic, and cultural/social changes.

A HISTORY OF HISTORIES

To appreciate its full import, we need to situate environmental history in the lineage of capitalist historiography of the past two or three centuries. Sticking to the history of the "West," three major types of history writing preceded environmental history: political, economic, and social/cultural history, in that order.

The first histories of capitalism were political histories, the first modern historians, political historians who studied the rise and consolidation of the nation-state and the related political struggles and constitutional, legal, and other political reforms and revolutions in the Netherlands, Great Britain, France, Germany, and other European countries (and their anti-colonial "inverted" mirror images in the white settler capitalist countries). "In the old days," Donald Worster writes, "everyone knew that the only important subject was politics and the only important terrain was the nation-state. One was supposed to investigate the connivings of presidents and prime ministers, the passing of laws, the struggles between courts and legislature, and the negotiations of diplomats. That old, self-assured history was actually not so old after all — a mere century or two at most."[10]

Many early political historians were also philosophers or political and legal theorists; they did not separate theory and the historical object of study. Thus they not only described but also tried to explain and justify (and often celebrated) the nation-state (which according to Worster reached "a peak of acceptance in the 19th and early 20th centuries") and the political and legal struggles, institutions, and climates which helped to create the nation-state – in which specifically capitalist production relations and productive forces were inserted and flourished.

These new relations of power, defined in the broadest political and legal senses, provided the political framework for the Industrial Revolution and the growth of capitalist economy in the 19th century. The historian-philosophers who documented the new power relations made the emerging economic ruling classes aware of the new and seemingly permanent changes wrought by the reforms and revolutions during the age of absolutism, the beginnings of constitutional monarchy, and, finally, the development of liberal democracy.

The second histories of capitalism were economic histories, studies in the revolution in material production and technology, distribution, and exchange — broadly speaking, of the expansion of the productive forces and of capitalist relations of production. The subject of the first economic histories was "political economy," which originally consisted of attempts to develop an economic conception of the state in the age of mercantilism. Later, the classical political economists, reflecting the struggles between the young bourgeoisie and the forces of mercantalism, wove together economic history and economic theory, hence were in their own way economic historians as well as theorists. Both Adam Smith's *Wealth of Nations* and Karl Marx's *Capital* are theoretical histories of capitalism. As the 19th century wore on, the main subjects taken up by economic historians included the development of the divisions of industrial and social labor;

national and world trade; technological change; and the new categories of industrial capitalism – wages, costs, prices, and profits. There were early histories of labor struggles, too, but these were mainly confined to labor markets and the workplace (the history of labor struggles in the sphere of reproduction, i.e., in the family, community, ethnic groups, and so on, became the object of investigation of social historians, later on).

Economic history was closely related to political history. Nation-states had to evolve and property/legal relations had to be reformed or overthrown (all in the context of the new enclosures of the late 18th and early 19th centuries, of craft production, of the development of manufactures, and so on) before fuller or more robust capitalist material forces could develop and international trade in means and objects of production could evolve. Particularly with the appearance of Marx's *Capital,* the new industrial and financial classes became more conscious of the trend toward permanent revolution in the productive forces, of the growth of competition, of the central importance of international trade, and of the permanent tendency toward the concentration and centralization of capital, all of which both caused and were caused by this revolution. Finally, capitalist economy was "naturalized" or made into "second nature" in the sense of appearing as a power external to human or social self-control (ironically, one of the justifications for both the free market economy of liberal theory *and* the original socialist project).

Next to appear were social and cultural history, studies in the revolution in social and cultural structures and processes – broadly speaking, the rise of consumerism (that is, the generalization of need satisfaction in the commodity form) and mass society (the universalization of the wage form of labor and the appearance of the "mass worker"),[11] The commodification of social and cultural life (the family, community, ethnicity, and so on) or the development of a specifically capitalist mode of social reproduction completed the process begun with the commodification of manufactured goods.

While political and economic history were largely celebratory of capitalism, social and cultural history (and, later, environmental history) were critical. This was because social and cultural struggles (of women, of oppressed minorities, etc.) were "from the bottom up" (while political and economic struggles were organized by propertied interests "from the top down," against the structures of the old regime, mercantilism, state-sanctioned monopoly, and absolutist economic regulation). "Some time back...history as 'past politics' began to lose ground," Donald Worster writes: "Historians lost some of their confidence that the past had been so thoroughly controlled or summed up by a few great men acting in positions of national power. Scholars began uncovering long submerged layers, the lives and thoughts of ordinary people, and tried to reconceive history 'from the bottom up.'"[12] In this passage, Worster skips over the stage of economic history; he also implies that the move from political to social history was a kind of "course correction" made by more enlightened later historians, and reflecting the growth of specifically social struggles (feminism, anti-racism, etc.). This line of thought is right as far as it goes.

However, underneath the social and cultural conflicts of the last half of the 20th century were the new structures of a specifically capitalist society. "History from the bottom up" does reflect the growth of social and cultural struggles, including the deepening of formal democratic forms in daily life and work. But these histories, like the social struggles themselves, of which the former are a part, had deeper roots. The revolution in political/legal relations, and the resulting explosion of the productive forms, market competition, international trade, and the new capitalist relations of production both caused and were caused by the commodification of labor and land. Polanyi called these "pseudo-commodities," Marx "conditions of production" – meaning that while labor and land are treated as if they are commodities, they are not produced as such according to the law of value. Polanyi showed that the generalized commodification of labor and land created a specifically capitalist society. Social values and norms tended to become embedded in, and subject to, market forces. This line of analysis was developed further by the Frankfurt and critical theory schools. Marx, Polanyi, and critical theory thus laid the groundwork for the analysis of capitalist society and culture, but did not fully develop the implications for social and cultural life of the commodification of land and labor, that is, a mode of social reproduction based on the wage form of work and the commodity form of need satisfaction.

Marx and Engels had demonstrated how and why social conflict in capitalism took the form of the struggle between capital and labor (not only in the marketplace but also in production itself), between fractions of capital, between all capitals against all other capitals in the process called "competitive accumulation." Less than a hundred years later, Marxist and other social and cultural historians (for example, feminist historians, gay and lesbian historians, local historians) broadened Marx and Engels' original

conception to include social conflict within and between spheres of social reproduction, community, and cultural life (including the history of "traditional" ways of life in the process of being lost to the wage and commodity forms). Historians and historian-social scientists worked out the logic of the commodification of needs, the consequences of commodification for social and cultural relations and institutions. Focus was, finally, placed on consumerism — the universalization of the auto, the development of suburbs, the extreme separation of places of residence, work, and recreation, and so on. The department store, the shopping mall, mass media and TV, and other major features of late capitalist social and cultural life were subject to close scrutiny by historians, as were themes drawing from ethnic and other cultures of transition, when "all that was solid melted into air." Finally, a basic (albeit unstated) premise of cultural studies today is that the development of, and upheavals in, the growth of wage labor and consumerism are but one aspect of the more general processes of migration and urbanization. Proletarianization was increasingly seen as the same process as out-migration from the countryside and poor regions and countries and in-migration to more developed capitalist centers, particularly cities. Along with the defeat of really existing socialism and social

democracy in the 1980s and 1990s, this proletarianization-migration (which has resulted in a steady increase in the mix of "races" and ethnic and national groups) has multiplied problems of social control and cultural and political identity, today helping to define "identity politics," often combined with the "politics of place."

Situated within this "history of histories," the appearance of "the idea of environmental history...in 1970" (Worster) is not difficult to understand. The proximate cause is the environmental movement, of which environmental history is a part, and the global, multi-faceted environmental crisis which engenders struggles over nature. Underlying the proximate cause is a structural one: capitalist political and legal systems, capital accumulation, and the commodification of social life and culture have produced (or combined in ways that no one has systematically studied) a new nature, a specifically capitalist "second nature." This includes the "division of nature" between means and objects of production and consumption. Like the market in land before it, nature has *been* capitalized and subjected to the discipline of the financial market. Lakes, oceanfronts, forests, biological systems, and so on are "assets"; in the absence of "real prices," a growing corps of economists, ecologists, and engineers calculates "imputed prices" to clean air, fresh water, even entire eco-systems, which become part of a region's or country's "investment portfolio." Further, nature is remade in the image of capital, e.g., via bioengineering, factory forests, and the like. This remaking of nature and its representations would appear to be unimaginable before social and cultural life were commodified (also an ongoing process, one which began in earnest after World War II).

Donald Worster explains the shift from political to social to environmental history in terms of the historians' discovery of "fundamental forces at work over time."[13] In his

schema, first powerful men are seen as controlling history; *then* "hidden layers of class, gender, race, and caste" are revealed; finally, it is the "earth itself (which is) an agent and presence in history." This account seems to ignore the fact that there is a new *object* of historical study – a specifically capitalist nature and environmental crisis. Worster's schema appears to assume that capitalism as such is unchanging while history writing follows some law of progress, whereby historians over time discover ever deeper forces causing historical change. These forces – politics and political leadership, class and social struggles, and "nature's economy" – remain unproblematized in terms of the changes in capitalism itself.

Worster makes the trenchant point that historians were typically confined within national perspectives, creating obstacles to environmental history, which spills across regional, national, and continental borders.[14] This suggests that the globalization of capital is a prime determinant of both environmental change and movements and the new concerns of environmental historians. Yet, while Worster writes elsewhere of the environmental effects of capitalist agriculture (monoculture; dependence on fossil fuels and chemicals), in this passage he seems to ignore the development of capitalist nature. Thus, he explains the appearance

of environmental history in terms of the environmental movements of the 1960s, and their attachment to "cultural assessment and reform" and "moral purpose."[15] Missing is any self-reflexivity, or account of environmental history as *part of* the environmental movement (hence the circular reasoning of anyone trying to explain the former in terms of the latter). Missing, too, is any dialectical account of the development of capitalist nature and the rise of environmental and social movements, placed in the context of the problems of the new global economy of the 1960s through the 1990s. Why certain lands, mineral resources, watercourses, and so on are devoted to petro-chemicals, paper and pulp products, high tech equipment and other manufactures which produce commodities used to produce other commodities; why other lands and resources are used to produce consumer goods; why environmental regulations are more difficult to enforce in capital goods industries; why environmental movements target the industries or patterns of consumption and waste that they do; why financial capital has had severe effects on nature; why the size of the average farm is growing — answers to these and a host of related questions presuppose a theory of capitalist accumulation of a Marxist type.

Environmental historians are discovering not only what capitalist second nature is, but also how and why it came about, when they adopt political economic, political sociological, and sociological economic methods. They are making the economic and political classes (and literate classes generally) conscious of the whys and wherefores of the material impacts of their own economic, political, and social revolutions on the environment, hence creating one essential basis for green resistance movements, movements for environmental justice, and other social movements concerned with

"nature as the body of human beings."[16]

In sum, the conventional account of the appearance of new types of history writing is that these appear when new social struggles force hitherto repressed or invisible issues to the surface of social or public consciousness. History from the bottom up is thus seen as a reflection of the growing democratization of liberal democratic society. And it is true that there is a close correlation between bourgeois revolutions and political history; economic conflicts and economic history; social and cultural struggles and social and cultural history; and environmental struggles and environmental history.[17] The problem with this account of successively newer histories, including the general trend of history writing from the bottom up, is that they (and a bottom up perspective itself) are *part* of these respective social conflicts. Thus the standard account, while having the strong virtue of linking new historiographies to historical struggles, hence of debunking simple myths of progress, social consensus, and so on, in fact explains little. The deep explanation of both social struggles and their constituent part called historiography lies in the developmental logic of capitalism, i.e., in the changes in the structure of society, as politics, economics, social and cultural life, and environment are successively revolutionized, i.e., become more specifically capitalistic.

UNEVEN AND COMBINED DEVELOPMENT

The growth of capitalism is a process of the uneven and combined development of political, economic, social, and environmental structures and processes. The Haitian Revolution was in part politically constructed as the logical climax of the French Revolution, as represented in C.L.R. James' *Black Jacobins.* The U.S. Constitution was copied in the 19th century by many Latin American countries. The first industrial revolution in Britain did not spread evenly around the globe; it was held in check by colonialism and neo-colonialism ("underdevelopment") in the South. The hottest center of software programming today may be in India, not Silicon Valley, and primitive forms of wage labor may be found in the capitalistic metropolis of Los Angeles. So, too, did capitalist society and culture develop unevenly. Capitalist class structures are coming late in much of the South. American pop culture is a universal commodity, perhaps the only one. Old spiritual beliefs and practices that modernism was expected to obliterate reappear in new forms in Tokyo, Miami, Cairo, and other cities and regions.

By the same token, the development of history writing is not linear, but complex and dialectical. Historians did not abandon political history with the emergence of capitalist industrial economy. Political history made new turns with the development of capital and wage labor, the pluralistic politics of liberal democracy, imperialist rivalries between industrial powers, state regulation, welfare systems, public bureaucracies, administrative law, and so on. Nor did economic history disappear with the appearance of capitalist society and culture. Its scope was widened to include the second and third

industrial revolutions (the age of electricity, the age of electronics), mass retailing and mass consumption, the Keynesian revolution in economic policy, and so forth. And social and cultural historians broadened their method and vision with the creation of a specifically capitalist nature, to account for (among other things) new meanings and interpretations of wilderness, conservationism and preservationism, cultural and urban landscapes, and the like.

There is (and always will be) continuity in change in both "real history" ("real events") and history writing. Uneven and combined development means that each type of history writing must be reworked in light of the scope and method of new types appearing at a later time — political history in light of economic, social, and environmental history; economic history in light of social and environmental history (and revised political history);[18] social and cultural history in light of environmental history (and revised political and economic history). Robert Wiebe's *Self-Rule: A Cultural History of American Democracy* (1995), which interprets democracy in the U.S. as (among other things) the way that white men forged solidarity, depends on the insights of cultural history. So does the work of the economic historian, Eric Hobsbawm, who brings to economic history a depth of understanding of capitalist society and culture missing in earlier economic histories. (Conversely, most historians have given more

weight to the "economic factor" in history, since the appearance of Marx's *Capital.*) The importance of English consumerism during the Industrial Revolution has only recently come to light, because of the development of social and cultural historical methods.

Economic history, once narrowly defined (e.g., T.S. Ashton's *The Industrial Revolution),* is enriched today not only by cultural history but also by environmental history. Only recently is there a history of the economically efficient but ecological destructive Watt steam engine. So, too, have contemporary environmental historians begun to rewrite the history of the transition from feudalism to capitalism in Europe. They have underscored the hitherto neglected role of ecological degradation; revised the standard account of industrialization and rapid economic growth in the West (stressing industrial capital's reckless disregard for negative externalities or social costs); and pointed up the antinomies of the development of capitalist society and culture (with the introduction of Polanyi-like themes into standard Marxist historiographies).

History writing thus tends to change direction with the dialectical unfolding of new "stages" of capitalist development. But it is also a cumulative process, which at best incorporates and sublates older histories. Political history today incorporates not only the story of bourgeois political reform and revolution two or three centuries ago but also the political changes brought about by the growing hegemony of the capitalist market, the new symbolic politics associated with the rise of capitalist culture, and the politics of environmentalism. Economic, social/cultural, and environmental history tend to follow a similar path. Environmental history in effect "completes" political, economic, and

social/cultural history, e.g., by broadening political history to include the politics of environmental struggles; by extending economic history to include struggles over resources and environmental amenities; and by radicalizing cultural history to take into account struggles over representations of land and space, mental maps, and the like. Each type of history feeds on both its own past development and also on that of its "rival" fields, with environmental history at the top of the food chain. Each type is also rewritten in accordance with the practical political, economic, and social problems (and dominant ideas and social forces) of the day. One example: The importance of legal changes in the 18th century, which established definite property rights in land and inventions for capitalist development was for a long time ignored or underestimated. While few contemporaries could foresee the economic significance of these laws at the time they were promulgated, today their importance is being reexamined and upgraded in light of global capital's problem of establishing laws governing property, trade, and so on in the ex-socialist countries and the "emerging market economies" of the South.

There is, ideally, an accumulation of history writing, based on a process of accretion and sublation, parallel with the accumulation of capital and its unfolding as a global political-economic-sociological-biological order. Each field of history, again ideally, becomes richer and more complex, more cross- and trans-disciplinary.

As history writing becomes more demanding, historians tend to become more specialized in particular periods or topics. This parallels the growing specialization within capitalist politics, economy, culture, and the uses of nature. Anyone who has attended panels at an annual meeting of the American Historical Association (or regional and topical organizations of historians) knows that most history writing today stops there. The accumulation of specialized knowledge in the hands of experts in this or that period or subject is truly awesome. On the other hand, the best historian's craft within his or her specialty exhibits more multi-layered methodological approaches and deeper understanding of the "real events" which the historian maps and interprets. Two generations ago, C.L.R. James' *Block Jacobins* and Eric Williams' *Capitalism and Slavery,* pathbreaking as they were, did not and could not interpret certain cultural and ecological themes which are now common currency in cultural and ecological history. A useful revealing comparison is Dale Tomich's masterpiece, *Slavery in the Circuit of Sugar,* constructed on a Russian doll model to deal with political, economic, and social/cultural themes (which also implicitly integrates geography and nature). The masterworks of the French Revolution written in the 19th century did not and could not take up certain cultural and environmental (and even economic) themes which a host of lesser studies have worked into their narratives in the past two or three decades. Environmental historians are getting around to decoding the ecological dimensions of the political and cultural thinking of Washington, Jefferson, and Tom Paine, among other figures, and their importance for the American Revolution.

In sum, there is continuity in change in that each type of history incorporates (and often sublates) previous history writing, but there is also change in continuity because "real events" are altered so dramatically with the unfolding of the structures of capitalist economy, society and culture, and nature. Capitalist economy widened the scope of political history; capitalist society extended the limits of economic (and political) history; capitalist nature is revolutionizing social (and political and economic) history.[19]

The uneven development of both history and history writing suggests that political, economic, cultural, and environmental themes may appear "before their time" (as it were). In the capitalist epoch, political and legal history preceded the period of bourgeois political revolutions and economic history was invented before the Industrial Revolution. Cultural histories appeared during the Renaissance and environmental themes figured in many historical works before the "age of the environment."

These histories are anomalies, however, in the sense that they typically were not part of, or integral to, the sequencing of the four types of history writing noted above. The main inspiration for the great political/legal tracts two or three centuries ago was the transition from late feudalism to early industrial capitalism, e.g., the problem of rule in the age of absolutism. Economic history during the past two centuries owes little to contemporary accounts of agricultural economy and mercantilism and much to the Industrial Revolution and its after-

math. Histories of high culture during the early modern period (c. 1500-1800) left almost no mark on modern social and cultural history, which represents the world "from the bottom up." Finally, environmental themes in the 18th century through the early decades of the 20th century had more to do with political and economic concerns than with nature per se. Stanley Jevon's *The Coal Question* (1865) examined the importance of coal for British industry and empire, not for the ecological effects of coal mining and use.

When historians introduced political, economic, social/cultural, and environmental themes "before their time," the latter functioned more as background or stage setting than as autonomous or semi-autonomous historical processes or agents. These themes tended to appear in passive, not active, forms. At one time, politics was seen as the stage on which Great Men acted out their destiny, less a process of conflict and compromise, revolution and reform. Early economic histories did not and could not represent the dynamism inherent in mature industrial capitalism, which did not take on its autonomous, nature-like quality until the 19th century, after the Industrial Revolution in Britain. The first histories of high culture downplayed the autonomy of culture, now one of the ten commandments of cultural studies, because the production of culture depended so much on Church and Crown. The first environmental histories presupposed nature as a determining background, not as dialectically interrelated with human production, distribution, exchange, and consumption. Frederick Jackson Turner's *The Significance of the Frontier in American History* (1893) and Ellen Churchill Semple's

American History and its Geographic Traditions (1903) focused more on the influence of climate and terrain on human habitation than vice versa. Edward Fox's *The Two Frances* is a political history, deeply informed by geography, but silent on environmental themes per se.

Against environmental or geographical determinism, Marc Bloch (*French Rural History*) stressed the role of geography in determining forms of production from the late middle ages to the French Revolution without losing sight of the importance of relations of production and power ("geography limits the kind of environment [people] create") and Braudel argued in favor of geographical possibilism," an important step toward giving nature its full due as an active subject. "Nature as subject" has come to fruition in a number of recent works, for example, Elinor G.K. Melville's A *Plague of Sheep: Environmental Consequences of the Conquest of Mexico* (1994) which incorporates biology and history, economics and politics, and traces of cultural history.[20]

CONCLUSION

Postmodernism does have an important lesson to teach. History writing is story telling. The "content of the form" is, in part, the form of the tale itself. Given the requisite materials, historians can spin many kinds of story about any historical "real event." But just as there is a certain logic inherent in every story form, there

is also a logic inherent in the story of capitalist development. Of course, it is an unfinished story, and is very different depending on whether it is told by a financier, a union agitator, an AIDS sufferer, or a new immigrant from Puerto Rico. In the U.S., particularly, the most multicultural country in the world, there may be as many different stories as there are people. Yet each American story, if halfway plausible, embodies the "deep logic" of capitalist accumulation and development, and, in countless instances, reflects this or that particular form of capital. One need only think of the works of William Appleman Williams, Gabriel Kolko, and Joyce Kolko, among many others. There is no totalizing history, except in the form of all relevant histories regarded as a totality. William Cronon's *Nature's Metropolis* tells the story of Chicago up to the Great Exposition; a totalizing story would include other works about New York, St. Louis, and the West, during the same period — Chicago's history is but one "moment" of the history of U.S. capitalism generally and American cities in particular. "Everything depends on everything else" should be as much of a truism in history as it is in ecology.

Environmental history can be plausibly understood in terms of the development of capitalism and its political, economic, social/cultural, and environmental revolutions—and also of political, economic, social/cultural, and environmental history writing. In this sense, environmental history is the culmination of (or, more modestly, the missing link in) all past history writing in the capitalist epoch.[21] lt is also true that just as

political, economic, and social/cultural historians ignore political science, economics, and sociology and cultural studies, respectively, at their own peril, so, too, do environmental historians neglect not only the ecological sciences but also the social sciences at *their* own peril. A reading of some of the leading environmental historians today—Donald Worster, Richard White, Carolyn Merchant, William Cronon, Stephen Pyne—indicates that environmental history is becoming more suffused with *both* political, economic, and social/cultural history *and* politics, economics, sociology and cultural studies, and ecological science. Environmental history is being placed on a more scientific footing, thereby becoming more radicalized.

Just as Marx sublated political and economic history, and political and economic theory, and as generations of Marxists have tried to sublate political economic and social/cultural history, so are environmental historians incorporating, and sublating the three major earlier types of history and the human sciences. It is not so much that environmental historians are standing on the shoulders of past political, economic, and social historians (they are). More radically, environmental history is turning out *to be* political, economic, and social history — widened, deepened, and made more inclusive. Environmental history, in this sense, is the logical culmination of all past historiography to date.

To close the circle: One can be sure that environmental history will be reinterpreted, even revolutionized, by future generations of historians, in light of new problems, techniques, sources, etc., but also of revolutions in political, economic, and social history themselves, to which environmental history is con-

tributing today. Environmental history is constantly negating and reconstituting itself, as it sublates the other three types of history, which themselves change with advances in environmental history and ecological science. Insofar as this process of negation and sublation can be understood, it is very important that environmental historians try to understand it. If global capital finally triumphs, and if nature is regarded by future generations merely or only as "natural capital" (with humans as "human capital" and community as "community capital"), environmental history will turn out to be the history of capitalist nature, pure and simple. Resistance movements probably will be forgotten. The world will be a history of the growing dependence on, and reification of, technology, which will substitute for human social relations mediated by relations with nature — and vice versa. If greens, red greens, green reds, feminists, indigenous peoples, oppressed minorities, workers, and the "environmentalism of the poor" engaged in struggle with global capital today are actually victorious (a very long shot? a distinct possibility?), environmental history in the future will look very differently. The punch line, of course, is that the future will be the future of capital pure and simple, or not, partly in accordance with how environmental historians (indeed, all historians) understand and practice their art. The more that (human-modified) nature is seen as the history of labor, property,

exploitation, and social struggle, the greater will be the chances of a sustainable, equitable, and socially just future.

NOTES

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[1] A disclaimer: Paul Buhle reminds me that "the emergence of history from an examination of collective myth begins with Vico, and without his attempts to recollect folklore, and Boehme's parallel recuperation of the dialectic, history would be a... dry subject. The general narrative you lay out (political to economic to social to cultural and then ecological history) is a good one. But the idea that it proceeds scientifically, without big injections of myth, romanticism, etc., quite beyond mere class prejudices is itself potentially lacking in dialectical observation" (personal correspondence).

[2] *Ibid.*

[3] J. Donald Hughes, "Ecology and Development as Narrative Themes of World History," *Environmental History Review,* Spring, 1995, p. 9. In Hughes' definition of environmental history, ecology is not seen as one leg of world history, but rather "its major theme" ("The new narrative of world history must have ecological processes as its major theme" *[ibid.])* Another passage: "What is asked for is a world history that adopts ecological process as its organizing principle" *(ibid.,* p. 10).

[4] Donald Worster, ed., *The Ends of the Earth: Perspectives on Modern Environmental History* (Cambridge [U.K.]: Cambridge University Press, 1988), "Appendix: Doing Environmental History," pp. 290-291. This is a *historian's* definition. Two social scientists have defined "political ecology" thusly: "Political ecology...is a historical outgrowth of the central questions asked by the social sciences about the relations between human society, viewed in its bio-cultural-political complexity, and a significantly humanized nature. It develops the common ground where various disciplines intersect" (James Greenberg and Thomas Park, "Political Ecology," *The Journal of Political Ecology,* 1, 1994, p. 1).

[5] Worster, *op. cit.,* p. 293.

[6] *Ibid.* Worster makes a valuable sketch of the different approaches that have been taken by anthropologists and others to this "whole," although I am dubious about his call to "merge the two theories" of Marvin Harns and Karl Marx. Harns' concept of a "techno-environmental system" can not be abstracted (in my view) as a kind of independent variable, from the organization of work and social organization, e.g., forms of property or cultural organization. I think it's possible to "ecologize" Marx but not to "Marxize" Harns. A final comment: in his account of culture (*lbid.,* p. 302 passim), Worster's usually keen formulations of issues gives way to a discursive meandering. I believe that this is so because he doesn't see that culture provides modes of cooperation, normative rules, etc., which are imported into production or labor, in this way becoming productive forces in their own right (*ibid.*). Worster's account does not quite make the transition from an "interactional" to a dialectical mode; a dualism runs through much of his pathbreaking work. See, for example, his "reflection" theory of ideas (p. 303) and his account of Rappaport (pp. 304-305). Nature and culture are separated; the latter permits people to live within the constraints of the former; labor itself drops out of this account, i.e., material activity seems to merely function as a way for humans to "live in equilibrium."

[7] Worster excludes "the built or artifactual environment" from environmental history. While this exclusion "may seem especially arbitrary, and to an extent it is...the distinction [between "nature and artifact"] is worth keeping, for it reminds us that there are different forces at work in the world and not all of them emanate from humans; some remain spontaneous and self-generating. The built environment is wholly expressive of culture....But with such phenomena as the forest and water cycle, we encounter autonomous energies that do not derive from us. Those forces impinge on human life, stimulating some reaction, some defense, some ambition" (*ibid.,* pp. 292-293).

Geographers might question this distinction. Urban space, for example, has unintentional consequences for the lives of human beings, not only is it a human construct, it also helps construct what is human. In a fully active materialist approach, there are certainly "autonomous energies that do not derive from us"; but most of these energies have been modified in small and large ways by human action. The ocean, the atmosphere, the soil have not only "made themselves" over time but also have been made by human activity, again in some (very) small or large part, depending on circumstances.

[8] "...our project of exploring the human past as part of a web of systematic relationships with the natural world offers exciting opportunities for seeing things whole at a time when the historical profession seems desperately in need of such a synthesis" (William Cronon, "The Uses of Environmental History," *Environmental History Review,* Fall, 1993, p. 4). However, Cronin points out that while there are many studies of the idea of nature and also of the economy-nature nexus, there are few if any studies bridging ideas and culture, economy, and nature taken as a whole ("Modes of Prophecy and Production: Placing Nature in History," *Journal of American History,* 76, 4, March, 1990, p. 1124). He is thus skeptical about environmental history as a totalizing method and field, stressing the "particularism of its storytelling." One way to bring in the missing culture-economy nexus is by investigating cultural norms and practices which are imported into the workplace and economic system generally, and valorized as capital. These have been variously called "social capital," "community capital," and "cultural capital." Greenberg and Park write that there are "two major theoretical thrusts that have most influenced the formation of political ecology. These are political economy, with its insistence on the need to link the distribution of power with productive activity and ecological analysis, with its broader version of bio-environmental relationships" (*op. cit.*).

[9] The "particular" is the individual (person, species, etc.), where "individual" is that which is irreducible to a smaller unit of analysis. The "concrete" is what individuals have in common with other individuals, (birth, life, death; class, gender, community, etc.). The "specific" is that which distinguishes one individual from another or others. The "whole" or "totality" is constituted by the "particular" and constitutes the "concrete."

[10] Worster, *op. cit.,* p. 289. Within the social sciences, political science, economics, sociology, and cultural and environmental studies also had their own logic of development which roughly paralleled the development of the four types of history. For example, social science began as "moral science" (the 18th century term for human science) but in the late 19th century economics was separated from other social sciences, indicating that a capitalist economy had been established in fact. "Sociology of culture" developed in the mid and late 20th century; environmental studies in the late 20th century.

[11] James O'Connor, *Accumulation Crisis* (Oxford and New York: Basil Blackwell, 1983).

[12] *Ibid.* In a later passage, however, Worster speaks of "social, economic, and cultural history" (*lbid.,* p. 290), which reverses the order of economic and social change and transformation in the development of capitalism itself.

[13] *Ibid.*

[14] *Ibid.* Stephen Dovers explains the emergence of environmental history in terms of the "rising concern over the ecological sustainability of modern human societies" ("Sustainability and 'Pragmaie Environmental History: A Note from Australia," *Environmental History Review,* Fall, 1994, p. 22). This explanation, which misses the development of a specifically capitalist nature, leads Dovers to a "pragmatic" view of environmental history. "This is a history which...makes a positive and practical contribution to environmental management and the quest for ecological sustainability" *(lbid.,* p. 21). Such an approach guts the profoundly critical content of the best environmental history, turning the field into a handmaiden of capitalist rationalization.

[15] *Ibid.,* p.290

[16] I ignore here the important subject of ecological science, on which ecological history depends, and which, in turn, is informed and modified by ecological history. My belief is that ecological science is the culmination of past science, as environmental history is the culmination of history-writing—in the sense that ecology is the science that must combine methodological individualism or atomism with holism or organicism across all scientific levels of analysis and also must encompass more levels of analysis than other sciences, which are bounded by a particular, specified analytic level. Other sciences may also be dialectical but they are so within more constrained parameters than ecological science, which may be the only truly dialectical science.

About the account above, Alan Rudy writes: "what gets lost is the history of 'natural history,' how 'science' was the study of 'nature's economy' and 'natural history.' This goes back to Gilbert White and Linnaeus in the 18th century and becomes part and parcel of colonialism as 'naturalists' (Humboldt, Darwin, etc.) explored natural history, species diversity, evolution, and geologic relations important to the imperial mission and visions of Europe. As Worster's *Nature's Economy,* Kloppenberg's *First the Seed,* Hecht and Cockburn's *The Fate of the Forest,* and Crosby's *Ecological Imperialism* make clear, colonialism and exploration were as much about eco-agricultural appropriation as they were about the mercantile and industrial exploitation and industrialization of the globe. The processes of political, economic, and social history are written, or inscribed, in the language of natural history — including the natural history of class, gender, racial and social superiority/inferiority" (personal communication).

[17] Jay Moore writes: "Populism and Progressivism 'produce' economic history a la Charles Beard: Depression era union struggles and socialism 'produce' labor history; the Civil Rights Movement and the Sixties 'produce'...political and professional interests in the new social movements manifested first as social, then cultural, and now environmental histories" (personal correspondence).

[18] Geoffrey Elton once said, "When I meet a historian who cannot think that there have been great men, great men moreover in politics, I feel myself in the presence of a bad historian." That historians often neglect "great men" today indicates how far history writing has come, and how dependent it is on social science. Not yet have historians found a way to incorporate "great men" into their economic, social, cultural, and environmental histories, e.g., how important, really, was John Muir in the evolution of environmentalism?

[19] Most of Marx's own important writings focused on politics and economy. In the first half of the 20th century, specifically cultural subjects made their appearance within Marxism (Lukacs, critical theory). Today, environmental subjects are becoming the center of what's living in Marxist thought (the eco-Marxist school). In the 19th century, political history had yet to develop contending theories of the capitalist state that are now common currency in Marxist writings, mainly because of the low coefficient of development of capitalist classes and society a century or so ago. Economic history neglected the theme of consumption and consumerism for the same reason and environmental history could scarcely be said to exist at all. Today, as cultural and environmental themes are rapidly becoming more important within Marxism, economic themes ("the logic of capital") are regarded by many as mere subtexts (a mistake in an age when world economy is simulating the model of economy expounded in *Capital).* The chapter titled "Cooperation" was neglected in the most important readings of *Capital* until recently: today, the study of cultural forms of cooperation and their import for the workplace, and ecological systems ("nature's cooperation") and *their* central role in production, are being taken up by more scholars in the Marxist and other critical traditions.

[20] The "environmental determinism of early 19th- and 20th-centrury geography largely neglected nature as an autonomous "actor." New environmental histories have reintroduced nature as an autonomous force without slipping back into the old environmental determinist view.

[21] Robert Young ("Biography: The Basic Discipline for Human Sciences," *Free Associations,* 11, 1988) makes a similar claim with respect to biography (and much of environmental history is biography of a place, region, or resource).

CHAPTER 3

THREE WAYS TO LOOK AT THE ECOLOGICAL HISTORY AND CULTURAL LANDSCAPES OF MONTEREY BAY

INTRODUCTION

At first sight, the canyons of north Monterey Bay appear so fractured, so serpentine, so isolated from the bay's eastern and southern littoral as to suggest that the region's geology must have shaped its rich cultural history. A glance from the rump side of Ben Lomond Mountain at the broad sweep of the Pajaro and Salinas River flood plains to the southeast, flat as proverbial pancakes, and the granite hill that is called the Monterey Peninsula, might seem to confirm this view. "Nature makes culture" would be shorthand for this estimation.[1]

There is, however, another appraisal, based on the historical fact that many different cultures have been transplanted to the Monterey Bay region: that its history, including its ecological history, is in some important way a cultural product. "Culture makes nature," insofar as the land has been shaped by human beings, is shorthand for *this* belief.[2] I want to scrutinize both of these views, since I believe them to be wrong, as uncritically stated. The reason is that both neglect the key concept in the interpretation of landscapes (ecological systems, environmental amenities, spatial meanings and mental maps, built environments), namely, the material activity of human beings. A certain unity between culture, labor, and nature was common in pre- and semicapitalist societies in Monterey Bay (including Coastanoan, Spanish, Mexican, early North European, Yugoslav, Italian, Chinese, and Japanese settlements). In capitalist societies, however, including present-day Monterey Bay society, capital and wage labor, technology, finance, competition, and the world market both mediate and transform nature and culture, which, in turn, sometimes enable, sometimes constrain, human activity. Since certain political views, including visions of the future, are sometimes associated with both environmental and cultural determinism – green bioregion-

alism and the rainbow politics of multiculturalism, respectively – I also want to make mention of these visions and politics, with the aim of offering an alternative way of thinking about the Monterey Bay region and its possible futures.

NATURE MAKES CULTURE?

The topography and ecology of Monterey Bay are unique. The bay region is a borderland between northern and southern California, a place where redwoods and palm trees rub elbows on the same city block. North Santa Cruz County includes the San Lorenzo River flood plain ("downtown" in cultural terms); six or seven marine terraces, each less distinct than the younger one below; some watersheds draining directly into the ocean on the north coast, others into canyons cut by the San. Lorenzo River and the Soquel and Aptos Creeks; and the dozens of gulches (that lovely name that the Yankees bestowed on small canyons made by lesser creeks and streams). To the southeast, there are flood plains built up by the Pajaro and Salinas Rivers; a century and a half ago these were covered with marshes and lakes, with seemingly boundless aquifers that are now given to agriculture. Castroville calls itself the "artichoke capital of the world," Gilroy is famous for its garlic festival; Watsonville's highest value crop is strawberries; Salinas is the center of the "salad bowl" of California. To the south, there are the great sand dunes of Seaside and the southern shoreline of the Monterey Peninsula, where restored adobe structures, Fisherman's Wharf, and Cannery Row attract tourists seeking a whiff of the good old day.[3]

It doesn't take a professional cartographer to observe that Santa Cruz, the Yankee-dominated town at the top of Monterey Bay, lies well off what the first Europeans from New Spain regarded as the natural north-south route connecting the California Missions, the temples of Spanish imperialism. The Spanish by passed Santa Cruz in their travels up and down California to make converts to God and money, instead following a route down the Salinas or Pajaro Rivers, then veering east to San Jose, on their way north to San Francisco and Sonoma.[4]

The peculiar geography of Monterey Bay, its major flood plains, and its varieties of climate, are often cited as the reasons why Monterey, the Spanish presidio at the bottom of the bay, became the most important outpost of Spanish imperialism in northern California; and why Santa Cruz, at the top of the bay, remained relatively isolated – for two centuries attracting mainly those souls who wished to escape from the fallen world of the city or Old World and Asian poverty to make a new life. Escapism has been valorized for well over a century by the tourist industry, upscale in Monterey, downscale in Santa Cruz (second only to agriculture, tourism is the region's most profitable business today). It may be, too, that Santa Cruz's isolation made it easier for pioneer Yankee and German capitalists in the mid-to-late 19th century to exploit the abundant resources of the Santa Cruz Mountains and of the bay's northern rim more or less free from public scrutiny and state regulation. It has been said that the isolation of the Santa Cruz

Mission, compared with, for example, the Carmel Mission (near Monterey's presidio),

explains the relative autonomy that the former obtained during the time of the Spanish settlement.

There is no disputing that the overall development of Santa Cruz was held back because the first railroad traversing California north-south bypassed the city. Only the business genius and greed of one German immigrant, Frederick Hihn (who in the late 19th century had his hand in more businesses than anyone else in the region), who built the first Santa Cruz-Watsonville railroad, more fully integrated Santa Cruz into the money-making machine of California's pioneer capitalism. This was no unimportant feat, for Santa Cruz lacks a natural harbor, yet was gifted with a wealth of resources to exploit. These included water power, forests, limestone, and aggregate (gravel and sand), on which the lumber, lime, tanning, explosives, concrete, and other industries that flourished in the region from the 1870s through World War I depended.

With but a single difficult land passage over the Santa Cruz Mountains to San Jose (today known as the Old San Jose Road), and having to rely on ocean shipping to move goods in and out of the region, the economic geography of pre-railroad Santa Cruz is clear. The main crossroad was at the intersection of Soquel Drive, Old San Jose Road, and Wharf Road in the town of Soquel. Goods and people gravitated east and west to this crossing, to connect with the overland stage embarking to San Jose, or to go by sea to the markets and delights of San Francisco. Today, it is hard to imagine this corner as a major commercial crossroad: it is filled with working-class housing and small retailers who are inundated when Soquel Creek (one of these serpentine canyons) spills over its channel. This reality suggests that geographic determinism loses much of its explanatory power when capitalism seizes control of land.

Still, you can see how tempting it is to "explain" the region's history by way of physical geography and climate. Many places, for example, Chalk Creek, Camp Chaparral, and Cypress Point, take their names from local geology, fauna, and flora. (But even more places, for instance, Camp Evers, Chinatown, Cowell Ranch, Castroville, Clarks Camp, and Crichton Gulch, are imprinted with the names of particular groups and property owners.[5]) It's easy to believe that marine terraces provide good views, hence upscale housings that coastal river and creek canyons produce redwood, thus lumber and aggregate; that wide stands of tanbark oak give you tanneries; that madrone and other hardwoods generate black powder works, that the San Lorenzo River was destined to be the source of water power; that hundreds of springs and streams ordained a drinking water supply; and that geographic isolation necessitated first one, then a second, then almost a third railroad, and a wharf big enough to accommodate ocean shipping. Who can doubt that cool fog sucked off the bay by the heat of Salinas Valley and warm sun add up to artichokes, lettuce, and brussels sprouts; sand dunes to glass and cement; spectacular landfalls, beaches, climate, sea, and mountains to travelers and tourists? Where else would the Spanish build their presidio than on the granite promontory they called Monterey?

This kind of thinking, in its unalloyed form, may be called "environmental determinism. This expression conveys the idea that geology and climate help or hinder, hence fix in various ways, certain economic and social possibilities, and that we have to look primarily at the region's physical geography to understand the main course of local history, including the history of ecological systems and modified or built landscapes.

The famous American historian Frederick Jackson Turner explained what he imagined to be a renewal of democratic culture in the West, because of its expansiveness and remoteness from the evils of class-divided eastern cities, and because the West was socially on the edge of the country. Turner's thesis has long been debunked, but terrain and climate and the sense of living on or beyond the social borders of America remain especially engraved in the western mind. In Santa Cruz, locals tell one another that they are "going up the coast, when they mean they're driving north on Route 1; "down and around the bay" when they've headed southeast to Monterey; "over the hill"' when they commute via Route 17 to their jobs in San Jose; and "up the valley" when they maneuver their cars around the curves up the San Lorenzo River on Route 9. In Watsonville, near the center of the region, locals say that they are going "over the pass" when they drive northeast on Route 152. In Monterey, "a trip south'" means down the coast to Big Sur.

Most of us who live and work in the Monterey Bay region retain some geographical consciousness (mental maps of hills, canyons, bends in the road, the water's edge), even though home heating, air conditioning, and other modern comforts usually put us at some distance from the climate and changes of season. However, when it rains too much in the winter, stream banks overflow and some who live in converted summer cabins in steep canyons are buried by mud slides. When it rains too little, lawns yellow and neighborhoods begin to look like the desert. When the Pacific Plate suddenly moves a few inches or a foot, there are deaths, injuries, and property damage in town centers built on old river beds. On Santa Cruz's West Cliff Drive or at Monterey's Point Piños Light Station, during a winter storm, the fierce wind and rain forcibly remind us that there are times when we don't control nature; rather it's the other way around. "Forcibly" because, as historian Sandy Lydon reiterates, after the initial shock of earthquake, flood, and fire there is a powerful tendency for locals to delude themselves once again into thinking that human beings exercise real sovereignty over nature.

Some Greens are so enamored of environmental determinism that their intellectual thrust moves from exploring the past and present to planning and modeling our future. They speak of the Santa Cruz Mountains or the Monterey Bay "bioregion. They talk in public meetings about constructing a way of life based on topography and hydraulic cycles, much as they assert that Native Peoples did as long as 10,000 years ago. One man, who may be as familiar with the Santa Cruz Mountains as the original Stone Age peoples, is mapping the entire range. preparing for a bioregional future. But at one time he could not decide whether the western and southwestern slopes of the mountains, which drain into the ocean

north of Monterey Bay, belong in the bioregion or not. Others wonder whether the Pajaro and Salinas Rivers, diverted or otherwise altered a dozen times over the past century and a half, and their flood plains, now ripe with fruit and vegetables, can be rightly called a bioregion, or merely watersheds in a larger, more vaguely defined Northern California bioregion. How we would actually develop a bioregional economy and society (division of labor, science and technology, and existing cultural forms in the Monterey Bay crescent), and how the vast "edges" and "overlaps" between ecological zones would be interpreted and utilized, remain open questions.

CULTURE MAKES NATURE?

There is a second kind of thinking by those who wish to interpret the human and ecological history of the Monterey Bay region (and conceivably base a politics on these interpretations) which is the opposite of the naturalistic account sketched above. This is the view that the determining factor is (and perhaps should be) the region's culture, or, more accurately, cultures, and that the key question is how different cultures put their mark on the landscape.

No one doubts that Monterey Bay has a rich cultural history, as unique in its own way as the peoples lived on configurations of the region's topography and climate. Native peoples who lived on the terraces and hills and flood plains of the bay, constructed complex trade routes across the spines of the Santa Cruz mountain range, made tools from local stone quarries, drew water from springs, and gathered, hunted, and fished. This was the first culture, or cultures – as there were perhaps as many Ohlone cultures as there are watersheds – all of which had profound effects on the ecological landscape, for example, by the burning of meadows.[6] The Spanish Mission culture was the second. The official or church history of the Misions would have it that the cultural drive to convert heathen Indians to the worship of Our Savior, to save their souls, was the decisive force shaping not only social history but the landscape during the Spanish period. The main example here is the effects of thousands of head of cattle brought by the Spanish trampling native grasses, and the consequent introduction and invasion of European annual grasses on the wide and rolling meadows of Santa Cruz and Monterey Counties.[7]

Then there was Mexican, or Californio, culture. Yankee artists represented the men as a kind of vulgarized nobility, spending their lives either on horseback or at fiesta,[8] imitating the caballeros of Mexico or of old Spain. California women are sometimes depicted in old paintings as wearing beautiful shawls and long dresses while sitting and talking in the shade. These stereotypical images, like the colors in an old daguerreotype, are not completely inaccurate. Neither is the view that a degraded ranch culture, once the province of a Spanish ruling class, imported via New Spain into the bay region, shaped the social and ecological landscape in important ways. A cultural interpretation of the lingering effects of the landscapes and built environments of Spanish and Mexican societies is especially popular in

Monterey, which was less an economic than a political center, and where today restored adobes are tourist magnets.

Then came the Yankees – sawyers , tanners, merchants, laborers, and others – whose culture was Promethean, who believed in the myth of the domination of nature, and the reality of hard work and easy profit.[9] This culture dominated Santa Cruz and, to a lesser degree, Watsonville, in the heart of Pajaro Valley, beginning in the 1850s. You can still see the Yankees' hand in downtown Santa Cruz (for Greens, the "flood plain") where Queen Annes and Stick Eastlakes, mock Gothic churches, and Greek Revival schools and commercial structures vie with Art Deco and Mission Revival office buildings. On the southern side of Union Street, between what is today Goodwill Industries and the bluff demarcating the first marine terrace, late-19th- and early-20th-century Yankee homes face north; little sunlight penetrates their living or front rooms. Relatively small windows and dank interiors, artifacts of a wintry New England mind, seemingly designed without a thought to the city's sunshine and mild temperatures, suggest a kind of cultural determinist theory of the built landscape.

The Chinese also entered Monterey Bay during this period, the majority of them men, engaged for the most dangerous work, losing limbs and lives while digging railroad tunnels and laboring at the riskiest jobs in the powder works.[10] The Chinese also ran the sin industries: gambling, opium, and brothels. Protestant religiosity prevented the Yankee s from extracting profits from their own countrymen, who were merely consumers, not producers, of sin. Chinese women, some in effect slaves, worked the brothels, located in the numerous (and geographically shifting) Chinatowns in the area. This, too, is explicable in cultural terms, by white racism and the low status of Chinese workers and the even lower status of women. More significant for the idea of cultural determinism is how the Chinese developed the margins and leftovers of the local resource base, "worked the edges, in Sandy Lydon's words.[11] "Chinese culture stressed "adapting and using every possible way to make a living" and put a high value on commitment, duty, and "pondering (akin to inventiveness). Their cultural values held together their forms of production, helping them to profitably specialize in fishing, dried sea products, peripheral crops, and reclamation.[12] This configuration of cultural and technical skills "on the edges" was also, of course, determined by racism, which marginalized and disenfranchised the Chinese people socially and politically.

Men, women, and children came by ship, wagon, and horseback, from many other Old World and Asian cultures. There were Croatians in the Pajaro Valley and Prunedale district hills, with extended family networks, who cooperated with one another when they planted and harvested their fruit trees and crops. There were the Dust Bowl immigrants (the majority probably Scots-Irish), fiercely individualistic, who farmed some of these apple orchards, and turned them into subsistence farms, a material form of life suited to their desire for isolation and sense of separateness.[13] There were the Irish, who, among

others, sought quick money supplying the first gold miners, and planted potatoes; French, steeped in traditions of wine making, who were the first to commercialize the industry; Sicilians skilled

in the use of the lampara net and "a level of teamwork difficult for the uninitiated to envision who were masters of the Monterey sardine fishing industry"[14]; Japanese, skilled in garden farming, the cultivation of berries, ocean diving, and processing and selling fish; Filipino and Mexican farm workers, whose cultures of resistance undergirded major strikes in agriculture; New England, Portuguese (from the Azores), and Norwegian whalers, each with their own unique ways of life and work; and many others. Each had their own more or less distinctive ways of doing things, which they superimposed on the local environment, which resembled closely or in broad outline their respective natures back home.[15]

Different nationalities thus sought out forms of nature that were familiar to them, transplanted their cultures to the bay region, and put their distinctive marks on the landscape. From the perspective of cultural history, these national and ethnic constellations literally made the environmental and social history of Monterey Bay And just as some environmental determinists, reading local history from the topography and climate of the region, advocate bioregionalism or the politics of place, some cultural determinists read the same history as the result of ethnic values, norms, manners, and struggles – and emphasize the relativity of cultural truths, the need to deconstruct the "monological power of the dominant north European male culture, identity politics, and the virtues of multiculturalism.

The politics implicit in these two ways (here admittedly overdrawn) of looking at local history are clear. One stresses the power of nature, the other the nature of power. Some believers of the first propagandize for a politics of place, some supporters of the second support an ascriptive politics grounded in culture and ethnicity. Bioregionalism is the preference of many white male Greens; cultural nationalism or multiculturalism, the politics of choice of many local Mexicans and others whose voices historically have been suppressed by North Europeans.[16]

CAPITAL AND CLASS AS MEDIATIONS

Those who defend the politics of place and the politics of identity seek, each in their own way, fundamental economic and social change. The irony is that both suppress or censor a politics based on socioeconomic class, just at the time when local landscapes, ecological systems, and cultural practices are becoming increasingly subject to the rule of global capital and financial markets. There seems to be a kind of compensatory social law at work. As capital delinks technical skills and the division of labor from older cultural forms, ethnic or identity politics asserts itself more forcefully. Similarly, as nature is

humanized and production depends less on unspoiled gifts of God and more on technology, chemical fertilizers, imported water, and the like, the politics of place declares *itself* more vigorously

Just when culture, labor, and nature are molded and twisted by the laws of motion of capital – and when capitalist class structures are reproduced locally on

an expanded scale – it is harder for class politics to get a serious hearing. The idea of the "old ways," both ecological and cultural, seems to be more popular in proportion that the *reality* fades, or, more accurately, reappears in the idealized form of nature and culture "preservationism."[17] By dodging the issues of capital and economic class, by confining their respective discourses to the "natural" and "cultural" both politics preclude what they so ardently seek: "real change" as progressive local politicians put it.

Today, London's Grand Metropolitan conglomerate decides the fate of Pajaro Valley's canneries[18]; land is leased to international agribusiness to grow strawberries; local banks are taken over by regional and national financial institutions; the University of California (at Santa Cruz) restructures itself to better supply "human capital" for the state's economy; local restaurants depend more on a growing commuter population working "over the hill" in Silicon Valley ; discount chain stores replace locally owned shops; and wealth and power become more nakedly polarized. All this happens at a time when local progressives seeking the electoral support of Greens and multiculturalists fear to utter the word "exploitation. As global capital redefines local economy, society, and ecology, political leaders avoid class politics as carefully as hikers steer clear of the Santa Cruz Mountains' poison oak and stinging nettles.

As capital comes to regard the region and its people as so much cultural capital, so many new commodities or profit centers, the present-day sense of nature and culture becomes increasingly nostalgic.[19] Nostalgia for an age that never was (and might never have been) is one theme weaving together local groups devoted to this or that aspect of natural and cultural history and identity. As is true in many regions of the world today, the chasm is growing locally between capital and labor, owners and workers, in local agriculture, tourism, and other industries. While rendered invisible in local politics, this divide is engraved in residential, rural, and commercial landscapes. "Progressive politics," locally, is about land use and environmental amenities; about public charity serving the poor, infirm, and diseased; about ethnicity, gender, and sexuality – it is much less often about labor.

Who gains from the suppression of class politics in an era that is actually simulating the model of capitalism developed by Karl Marx? The Old Mole would answer, "the petty bourgeoisie." Today, we have to add, "the new middle class, the salariat and professionals, who, together with the old middle class, are the main strata that organize nature and culture groups, ethnic picnics, historical preservation, and museum displays.

When we consider something seemingly as harmless as how to interpret the landscapes of the Monterey Bay region, we thus may come up against the explosive issue of political identity. What is ignored in local and regional politics is the theme of cultural and natural history as mediated by the history of human material activity (production, distribution, exchange, consumption) in the region. Yet the importance of capital and labor in shaping culture and nature turns out to be an important, perhaps the most important, political subject.

ANOMALIES IN LOCAL HISTORICAL AND POLITICAL THOUGHT

The main problem with the dualistic thinking that so often is the mark of historical (and political) dialogue in the region is not so much that it sheds no light on the past (it does), but that it mystifies and confounds the culture-nature relationship in the present. To d a y, capital increasingly seizes hold of both culture and nature and shapes them into its own image: consumerism and the profit-and-loss discourse on "resources," land, space, and "cultural capital" and the parallel discourse on nature/culture preservationism. Politically, the problem of capital and labor, and how these articulate with topography, watershed, neighborhood, ethnicity, gender, and so on, is seldom treated in a serious way by historians; community, environmental, or labor activists; regional planners; or political strategists.[20]

Anomalies are signs that something in life, from an apple tree to a personality structure, is wrong. A horticulturist knows that something is amiss when a graft doesn't take, or when a good vine produces a sour fruit. A good psychotherapist knows that the patient has a problem when she hears some discrepancy between what the patient says and how he says it. These are signs of crisis, which make both trees and families yield bad apples, when the fruit is sour and people feel anxious and do stupid or cruel things, but which also creates opportunities for *transformation*, whether into a new vine or a healthy family, or a sustainable and equitable community.

Today the chasm between those who privilege cultural over environmental factors or vice versa is wide, and not only in Monterey Bay. The kind of history that grasps the dialectics of both, and their inner connections, is in its infancy, and working politicians are not much interested in this infant. There is one exception that proves the rule. The most important reason why those who defend the rights of indigenous peoples have a powerful sense that they are on the "right side" of history is that culture, nature, and material activity in indigenous societies are believed to be closely related, "organically connected" However much we romanticize or idealize indigenous peoples, defending their rights seemingly resolves the conflict between our sense of what culture and nature are and what they should be. There is a kind of coherence here, a sense that things fit,[21] which makes us feel comfortable with what we are doing, more confident than, for example, engaging in pure land politics in the Pajaro Valley or identity politics in Santa

Cruz.

The antinomies between nature and culture are visible everywhere in the region, which is divided neatly into “residential” “commercial” “light industrial” recreational,” “historical preservation,” “natural restoration, and other spaces. Dozens of signs, for example, inform hikers that state parks are open between 6:00 a.m. and sunset, half historical time, half God’s time. You can see this anomaly at Wilder Ranch State Park, an old dairy farm preserved as a historical relic, where one part is called a historical preservation zone, and another part a nature restoration area, as if the historical part, the farm buildings and their landscapes,

isn’t also natural, and the natural part, the mesas and the Wilder Creek flood plain and beach, hasn’t been modified by human agency dozens of times. Look at the local university campus: over there a natural conservation zone is posted, over here are classroom landscapes – “culture” guarded by redwood stands.

This dualism is so all-pervasive that we take it for granted, for example, in the Forest of Nisene Marks State Park in Aptos (between Santa Cruz and the Pajaro Valley) . The Marks family donated the land to the state park system on condition that this clear-cut forest be allowed to “revert back to its natural state’, as if all ecological and cultural traces of human agency, logging, and narrow-gauge railroads and lumber mills could be erased by decree. If you inspect the lower reaches of Aptos Creek, within the park boundaries, you will find a unique riparian community of trees and plants, thanks to the ecological effects of large scale logging by Frederick Hihn, the Southern Pacific Railroad, and others.[22] There was an incident in which a park ranger recruited some Boy Scouts to uncover the remains of an old lumber mill, now buried under landslides and brush, with the result not only of revealing a landmark from the past but also of calling forth a reprimand by the ranger’s superiors for violating the Marks’ family will, which vainly sought to bury history, literally as well as figuratively.[23]

A similar incident occurred in the old town of Rincon, once a center of lime production, built on the side of the San Lorenzo River canyon, today a complex of overlapping “ecotones” with many obvious traces of human use obliterated (even a lone apple tree that used to stand in the redwoods until a few years ago). Here, park rangers were ordered to remove seven old lime kilns that were regarded as a hazard. Instead, the rangers covered them up; they stand today buried under the parking lot that visitors use when they want to “get back to nature.”

The history-nature dualism, which some regard as the heart of the Judeo-Christian tradition and many others as the product of the scientific and capitalist revolutions, is apparent everywhere, sometimes in inverted forms. The University of California at Santa Cruz (UCSC) used to call itself the university in the redwoods but since fire control has long displaced fire management, the redwoods are under human control; the many groves and stands of second-growth trees can be interpreted as a kind of garden, and UCSC

might now be better named “redwoods in the university.”

Santa Cruz has plans to make the old Mexican land grant, Rancho Refugio, which borders Western Drive, the city’s westernmost residential neighborhood, into a “greenbelt” meaning a kind of urban wilderness area. Near the foot of Western Drive, on the first marine terrace, there is an apartment complex called Outlook, where we lived for a few months. Our “unit” of this particular filing cabinet for workers and students was on the second floor directly overlooking the steep bluffs above the convergence of two creeks at the point that gives “Outlook its name. Below us was the proposed greenbelt, seemingly wild nature, with no visible structures, two ancient trails climbing the sides of both creeks, accessible to anyone willing to climb over the barbwire and flaunt that most sacred of rights, property rights; beyond, one could see what appears to be a landslide, criss-

crossed with ancient cattle trails leading to the cool waters at the confluence of the creeks; and further beyond, rolling meadows, leased for grazing cows.

The proposed greenbelt is home for many species of fauna: we saw or heard horned owls, hawks, various sea birds, deer, coyotes, dogs, cats, skunks, and parrots, living together, some preying on other species, others safe in specialized niches. If you try to identify the food chain, you find that one of its sources is the garbage of the tenants of Outlook apartments. The landscape is, in effect, a kind of open-wall zoo. Any plausible interpretation of species life in this “ecosystem” therefore presupposes a history of local housing development, population changes, land values and speculation, money capital, bank profits, and so on, as well as an account of how the tenants and others who live on and near Western Drive above the canyon use nature as a sink for their own leavings. There is a political economy and political sociology and social psychology of nature here, although what they are and how they articulate with the zoo that is this section of the old Rancho Refugio is unknown. During a recent debate in Santa Cruzs Civic Center about whether or not to raise property taxes by a few dollars to enable the city to purchase the land for the greenbelt, no one seemed to care about this lack of information.

There are many who do care about Monterey Bay itself, especially its “marine Resources.” Fort Ord, between the lower reaches of the Salinas Valley and Monterey Peninsula, will be converted to a branch of the California State University system and a center for marine research (among other new uses), which is expected to yield not only knowledge but also federal monies and new industry and profits. The bay itself, too, exemplifies a political economy of nature. Although it is regarded locally as a more or less strictly “natural” phenomenon, a close look reveals that the bay is a kind of aquarium. I don’t mean that there is an aquarium on the shores of the bay, although there is a renowned Monterey tourist attraction financed by the billionaire preservationist David Packard, a charter member of the military-industrial complex. I mean that

practically everything in the bay has been modified or is controlled by human agency, including regulations forbidding certain activities, for example, whaling.

This is true even in its famous undersea canyon. Early Spanish sailing vessels, to avoid the risk of dangerous landfalls, took fresh water from "boils" in the bay itself. Recent discoveries by marine scientists reveal that this water doubtless came from the Pajaro and Salinas aquifers. Tw o centuries ago, fresh water was forced up vertical earthquake fault lines to the bay's surface. Cold seeps vented water after earthquake slippages or compressions. The cold seeps contain iron and manganese, and masses of bacteria. Undersea photography has established the existence of cold seep communities (worms and oddly shaped clams). But heavy agricultural and other onshore activity have reduced the amount of fresh water entering the bay, which probably explains why fresh water surface boils are no longer present, hence, by inference, that the biomass and species life produced in cold seep communities is less abundant (and possibly of a different type) than those existing two centuries ago.[24]

Human labor, at first deploying forms of organization and technologies perfected in the fisherpeople's country of origin, at one time emptied the bay of certain species, the most famous being sardines. Logging, farming, urban construction, and other forms of human agency, integrated by local, regional, and world markets and mediated by state budgets and policies, have silted rivers and streams, burying the gravel bottoms that salmon and steelhead trout need to spawn, and destroying shade trees and spawning pools, which have reduced the local salmon population in the bay. Restrictions on human activity, for example, the protection of sea otters, which used to spend much of their lives on shore until they learned that humans would go to great lengths to obtain their pelts, have their effects, too. Today the otter is ruler of the bay, along with the sea lion, another protected species. The otter, once nearly depleted by humans, today depletes the supply of clams and abalone, leaving little for human consumption. Sea lions grab salmon right off the lines of fishing boats (is it any wonder that some of the animals are found on the beaches, shot to death by fishermen?). The lowly mussel is left for us neglected human beings. There is one place where you can harvest mussels at low tide, where the critters are constantly washed by the sea, meaning that they are tasty and easy to prepare for a meal. The otters don't like mussels, or, more accurately, they seem to prefer clams and abalone.

An economic history could be written about the marine life of the bay of Monterey, on the way that successive phases of capitalist development transformed marine communities, and how various species, kelp beds, and other forms of nature have changed in accordance with their own "laws of motion" as well as capital's tendential laws of accumulation. The people who speak for the new Monterey Bay Sanctuary, however, seem to have no plans for such a natural history. The same is true of the story of the great changes in the bay's shorelines and landfalls: mining the sand; recycling it via tourism, landfills, and river and creek diversions; and dozens of other alterations brought

about by human labor, organized by capital for profit, or by governments and private organizations for recreation or preservation. Those in charge of the sanctuary, however, neither know nor care about the economics of the region, except as it impacts their budgets and affects how the bay can be turned into a new "profit center"

The same can be said of the keepers of Elkhorn Slough, 20 minutes by car southeast of Santa Cruz, the most important bird flyway on the Pacific Coast, where you can sight dozens of bird species during the migration season. Elkhorn Slough is a kind of tidal museum or sea park or water garden, so many times have human beings altered its dimensions, the inflow of salt water, the quality and quantity of fresh water, the salt flats, and the harbor, and removed shellfish and hunted sharks for sport, all in accordance with the commercial and recreational needs of the day. Earth scientist Gary Griggs and his co-workers have charted in loving detail the major changes on the coast itself.[25] The Santa Cruz Small Craft Harbor, built for pleasure craft and the local fishing fleet in the 1960s, trapped sand destined for Capitola's town beach to the south, meanwhile enlarging a beach in Santa Cruz and simultaneously increasing water hazards and flooding proper

ties near the Capitola beaches. Robbed of its economic life blood, Capitola installed a breakwater and imported sand. So, too, has dune life changed as a result of mining the dunes for sand to make cement and constructing condo developments on a long stretch of coast southeast of Moss Landing. The variety and fecundity of dune flora has declined.[26] The sea shells that wash ashore on the bay's beaches tell a story of a massive loss of indigenous species diversity and the importation of many "exotics" from other parts of the world."[27]

The Salinas River was long ago diverted from its original course, the Pajaro River tamed by levees, the San Lorenzo River similarly domesticated. Riparian fauna today coexist with undocumented workers displaced by economic bad times and political turmoil in Mexico and Central America to live in riverside campsites. I have seen photographs of Santa Cruz taken a century or more ago. There were no trees in these pictures; long ago the redwoods that grew down into the river and creek canyons were cut; coast oak took hold on meadows that the Ohlone peoples burned for tens of centuries and that the Spanish and Mexicans and Yankee s used to graze cattle, altering the local ecology, perhaps forever. The redwood forests were clear-cut; lumber was manufactured and exported, and also metamorphosed into houses and places of business on the flood plain. The forests were transplanted downtown, as it were: new trees were planted, both exotic ornamentals and native species; indeed, redwoods again took root. In a few years, when you look down on the city of Santa Cruz from the highest marine terraces, the town will be completely hidden under trees and shrubs, and this uniquely "cultural" landscape will look eminently "natural

NATURE AND THE LOGIC OF CAPITAL

Culture does not provide anyone a living until particular cultural norms of human cooperation are "imported into the workplace, thus becoming a kind of productive force. Nature yields nothing for human beings until human labor is applied to, or mixed with, the munificence of forest, meadow, stream, mineral deposit, field, or sea, which then also become productive forces. Labor mediates culture and nature, so to speak: labor brings the two together in productive ways, yielding the material means of life. Seen this way, the dualism between cultural and environmental interpretations of history and landscape evaporates. A slight change in perspective brings into focus not two separate facts, but one fact, with three sides – culture, labor, nature – when viewing any cultural landscape or studying any ecological system. The Stone Age Ohlone people lived for thousands of years with an abundant nature, but they had to work four to six months a year to maintain a certain level of material existence. The capitalistic North Europeans manufactured black powder in a large factory complex constructed near Ohlone fishing grounds, but they needed hardwood forests, limestone, and other local materials for their work. The fact that the labor of the former was infused with tribal culture and that of the latter with the bottom-line thinking and cultural

norms of a Wild West capitalism, and that they modified nature in very different ways, should not deter us from interpreting both as cultural productive forces

At one time, the region's immigrants transplanted different cultures and ways of working that fit different local topographies, resources, and climates, which, in turn, resembled those in the settlers' region or country of origin, hence that were familiar to them. The desire for profit and to control their surroundings (and perhaps fear of wildness) of the early North European Protestant settlers combined with their frantic labor to level old-growth redwood forests (giant symbols of remoteness and otherness). But the canyons and hills would not have been clear-cut without a growing market for lumber to build cities and towns (including the region's own) filling up with immigrants. What could contrast more sharply with what visitors described as the Californios' love of pleasure, combined with seemingly limitless meadow land where thousands of head of cattle could freely pasture? Or with the inward-looking displaced Dust Bowl immigrant subsistence farmers in the hills of the Prunedale district? Each of these economies was "rational" from the standpoint of the participants' cultural values. Today, with few exceptions, the old connections between culture, labor, and nature are now history: the redwoods no longer symbolize "otherness"; the use of land for grazing has practically disappeared or has been reorganized along capitalist lines; the fierce individualism of the subsistence farmer has given way to a culture of commercial farming.

In the old days, the land was shaped in particular ways in the image of various cultures and ways of working. At the same time, these cultures had to bend to variations in local nature: perfect matches between nature and culture were rare. The Yankee s and

other North Europeans had never before logged redwoods; the Spanish had never been blessed with such an abundance of good grazing land, nor the Chinese with so many dependable dry summer months, nor the Sicilians and Genovese with such excellent fishing conditions. The Dust Bowlers had to learn the secrets of the microclimates in the hills and valleys where they settled. Newcomers had to adapt their ways of life and work to both the enabling and the constraining features of the configurations of local nature. Culture and nature did not work out their respective logics independently of each other. Rather, nature and culture changed and were changed in various ways together, mediated by the hard work and the native technologies of waves of immigrants.

Sooner or later, however, and this is the important point, both traditional ways of life and familiar landscapes bent to the logic of capital. The globalization of markets, finance, and production eroded old cultures and vernacular environments. A specifically capitalist nature and culture, including concepts of space and time and the sense of the good lite, finally, were produced and exploited tor profit. Today, land and labor have become fictitious commodities, treated as if they are commodities yet not produced as such, with fictitious prices ("rent" and wages"). The wage form of work and the commodity form of need satisfaction are practically universal. The built environment of highways, tract housing, shopping malls, and other features of the "geography of nowhere" are more or less the same

throughout the Monterey Bay crescent – and most of the rest of the country. The cultural and political reaction to the capitalization of both nature and culture is also near universal: preservationism. Organized groups today fight over preserving this or that cultural practice, historical artifact, and environmental amenity, species, or ecosystem in accordance with the desires and power of residents who wish to retain some sense of "original culture" and "first nature" (and also the judgment of experts as to what the region looked like during this or that period of its history, with some periods, and thus some species life and building and landscape aesthetics, favored by preservationists, and others scorned).

A kind of capitalist "successional activity' can be documented by the stages of property relations and the commodification of nature in the region. In the early Yankee period, commercial bear hunting provided food and hides for scattered mountain settlers. Self-organized labor, local barter, and subsistence production were the rule. Today, the bears are gone and plaster representations of sad-eyed sea otters are sold to working-class tourists as souvenirs. Yesterday, homes were built to the design of the buyers. Today, clusters of semi-uniform condo developments are thrown together on speculation. Tw o centuries ago, there existed cultural and natural diversity in the forms of subsistence production, local trade, and long-distance trade in a few prized items (abalone shells for the Ohlones; sea otter pelts for the Russians; whale oil sold to those confined to dark and cold climates). Today there are consumers, commodity production, and a world market in

thousands of goods (the shells are tourist items, the otters and whales protected species – environmental amenities and objects of scientific investigation). What counted in the old days was a livelihood, basic commodities; in the 1990s, what's important are more and new consumer goods produced cheaper and cheaper on a world scale, with the aim of reducing the costs of reproducing the labor force and society as a whole.

The older unity of culture and nature – more or less close fits between cultural values, technical skills, ways of working, and "first nature" – began to break down when the first railroads were built; when logging and lime production were placed on a large-scale capitalist basis; when a highly capitalized beet sugar industry moved into the Pajaro Valley ; when the "captains of tourism" (Frederick Hihn, Fred Swanton, the Southern Pacific Railroad) rationalized the sale of natures amenities; when Monterey's famous sardine industry was placed on a mechanized basis; when the region became more tightly integrated into the national and world economy; in short, when capitalist property displaced communal and self-earned property. This began in earnest in the boom of the 1870s and accelerated in the 1880s. The depression of the late 1890s and America's first major overseas adventures (in the Caribbean, Hawaii, and the Philippines), which expanded the demand for locally produced black powder, helped to consolidate capitals control of the region. So, too, did competition from northern California lumber, Portland cement, and other products, as well as white racism that divided the labor force, preventing any real working-class unity.

In the 20th century, the unity between cultural and technical skills, norms of

cooperation and tools and techniques, and forms of nature and the shape of the landscape disappeared at an increasing rate. This was not, however, a linear process. There was rather a kind of uneven and combined decomposition of cultural skills, technological advance, and human impacts on nature. Sicilian fishing technology decimated the sardine population in Monterey Bay; Norwegian whaling technology, which industrialized the taking of whales, depleted schools of migrating whales; North European logging technology clear cut the stands of redwoods that were most remote and difficult to harvest. Yet there was an inexorable march toward labor processes and technologies, and financing of industry, innocent of any particular ethnic imprint. While early industry and railroad construction were often locally financed, banking became national and global financial markets now have as much or then international in scope, and more influence on the shape of local industry and the allocation of resources than do the dreams and plans of local businesspeople and residents. Technology has been largely delinked from particular ethnic or national cultural forms and skills.

A London conglomerate makes life and death decisions about land use in the Pajaro Valley.[28] While Chinese and Japanese skills in cultivating berries created the local strawberry industry[29] now the "devil's fruit" is cultivated with standardized techniques and chemicals by people whose forebears came from three continents. The first major

lime works was built and operated by the son of a European family long skilled in the arts of lime production[30] machines do the quarrying and high-tech furnaces the burning today. In the 1850s, older logging techniques gave way to sawmills; in the 1880s, in the deepest reaches of Aptos Creek, capital was organized on a larger scale (still dependent, however, on the individual skills of craftsmen) and workers logged and removed and milled old-growth redwoods at a rate previously unknown. Today, trees are cut and moved and lumber is manufactured in more or less the same way throughout the region.

The mechanization of sardine processing in Monterey led to a higher level of capitalization of the industry and also to the end of the dominance of Chinese and Japanese fish cutters, who had traditionally accomplished their tasks by hand, on Cannery Row.[31] The individualism of Scots-Irish tenants in the hills of the Prunedale district, once the cultural form in which diversified subsistence farming developed, exists today only in the form of its ecological traces: mixed farms and orchards in the 1990s are worked by people who call themselves "Americans" and whose forebears came from all corners of the globe. Unlike the "old days, no ethnic group today has a monopoly on the production of low-input organic vegetables: at Santa Cruz's farmers' market, men and women of European, Japanese, Chinese, and Mexican descent sell their produce side by side. In nearly every sector, the market and standardized technical requirements, methods of financing, and work organization have replaced older, more unified forms of culture and labor.

So, too, has nature's economy been turned to uses unimaginable before the advent of industrial and finance capitalism and modern technology and science – the latter a specific form of cooperative labor that presupposes a certain

level of cultural, productive, and ecological evolution. Frost-free tomatoes, frozen broccoli, mechanized harvesting., chemicalization of agriculture, tree farms, postmodern structures that bear no relationship to either the supply of local materials or local architectural traditions the list of commodities that no longer "embody" forms of first nature(as well as the fruits of particular ethnic cultures) is practically limitless.

A specifically capitalist space/time continuum has delinked production from older forms of culture and nature. The Santa Cruz Beach Boardwalk, the last open amusement park on the West Coast, has drawn tourists for almost a century. But the kinds of amusements offered and the visitors who enjoy them have changed. When I first visited the Boardwalk in the 1960s, there was a Fun House, where your kids could play as long as they wished for two bits, and until 1963 there was great salt water pool, where swimmers could splash to their heart's content. Today, space is used more "efficiently" (that is, profitably): The Plunge and the Fun House are gone. Yo u pay for a certain number of minutes and seconds on the rides and to use the electronic games. Leisure is standardized. So, also, is the cultural landscape: the remodeled Santa Cruz wharf is a kind of bastardized moderne; the city's upper Pacific Avenue (downtown) has features

resembling Carmel Village; even Watsonville, the last bastion of Mexican culture, plans to upscale its downtown. Monterey, Aptos Village, Capitola, Watsonville, and Santa Cruz still have a different feel about them, but their differences have as much or more to do with wealth and income levels as with ethnic cultures and unique environments or landscapes.

In today's capitalist economy, the linkages between particular cultures and configurations of nature, on the one side, and particular divisions of labor and technologies, on the other, are thus rusty or broken or long forgotten. In their place stands a commodified nature and culture of modernity, an ethos of self-development and realization (rather than that of "archaic" community), and the universalization of the wage form of labor. The reaction is a plethora of culture and nature preservationist groups trying to protect or restore or remember this or that traditional cultural practice and landscape – mostly *abstracted from* the prevailing methods of production and divisions of labor and types of commodities produced today.

CONCLUSION

This way of thinking relieves us of having to defend either an environmental determinist thesis and pure politics of place or a cultural determinism and unalloyed politics of identity. The old dualism persists mainly in the form of green belts and state parks and ethnic holidays. It has been largely eradicated in the interstices of material production, distribution, exchange, and consumption. The latter are mostly capitalistic, as are their landscapes and diverse "corporate cultures. This suggests that there is at least the possibility of a class politics that

addresses local environmental issues and political identity as interconnected with problems of unemployment, low wages, homelessness, poverty, inequality, and social decay

A picture of the ecological and social history of Monterey Bay, and the political issues and configurations in the region today, which combines economics, sociology politics, ecology, marine and soil sciences, art, literature, and so on, is possible, at least, in principle. Such a picture is also necessary for a healthy and sustained recomposition of cultural life, productive activity, and ecological regeneration. The raw materials are provided by dozens of local antiquarians, some excellent amateur historians, who like facts for facts' sakes. The famous crescent that swoops inland from Monterey to Santa Cruz is the home of many women and men curious enough about this or that facet of the landscape and traces of older ethnic cultures, as well as the shape of the region's present-day economy, to engage in the task of uncovering the region's secrets, debunking its myths, and reconstructing its past in a way that would prove fruitful for a more equitable and just future. We have specialists in sea lions, coastlines, redwoods, fire management,

water cycles, agriculture, city planning, environmental restoration, various ethnic traditions, and a host of other objects of study, although a paucity of generalists armed with powerful methods of thinking about the present as history.

The point, however, is not only to understand the past, but to change the future. But few if any of those who care about the past have raised the big questions: in our society, what *should* nature be? This is a normative question that presupposes, in part, an answer to the question, what should labor be? On what should those who labor work? What should the social relations of property and power be? These are difficult questions, first, because labor is expended on private or state property, and these have yet to be democratized, in many cases even to be held minimally accountable to the public will. Second, no one has a method for grasping the environment, hence latent social and political possibilities, as simultaneously a cultural, material or economic, and natural artifact. Such a method presupposes a holistic view of who we are, and how we conceive of, and use, our environment and cultural memories, and how they use us. No one knows the real ecological history (in the full sense of these words) of the region, so busy have the specialists been poking into social history here, natural history there, economic history elsewhere, avoiding the difficult problems of how they articulate with one another to produce certain physical, aesthetic, and cognitive interfaces

Ultimately, this is a problem of capitalism, which increasingly separates People from the means and objects of production and their surroundings, and which has naturalized the social and economic world under the sign of the free market and competition. Wage labor is kept ignorant of the nuances of soil and water in the fields and of the physical and chemical reactions in the factories residents can no longer sense the weather by smelling the air, by calculating the direction of the wind. There is a kind of systemic studied ignorance of the many and varied interfaces between socioeconomic existence and second nature. Nature is a walk in Henry Cowell State Park; culture is a visit to the Santa Cruz

McPherson Center for Art and History; labor is behind walls bearing the sign, “Private Property, Keep Out.”

Immediately, it is a problem of our education system, including institutions of higher learning, where *transdisciplinary* science and art are notably absent. The specialization of knowledge, (“monoculture of the mind”), despite attempts to slap disciplines together under the rubric of “interdisciplinary studies,” is as damaging to our minds as the specialization of labor in the fields, in the high-tech factories, and in the fast-food outlets is to our bodies. In a world that increasingly simulates the model of global capital, where human culture is “human capital” and “community capital and ecology, environment, and landscape are “natural capital a totalizing world of unimaginable magnitude and power, institutions designed to enlighten too often produce studied ignorance. Without deep reforms in how we produce knowledge, which

presuppose deeper reforms in the relations of power governing education and other institutions, the answer to the question, What should labor be?, will be happily supplied by capital. Labor will be for production and profit and accumulation (and on weekends and holidays, nature and culture preservationism). This also answers the second question, What should nature and culture be?, because both, in diverse and important ways, are what capital and wage labor have made them.

It was and remains true that the region's hydraulic cycles, successional activity, variations in climate, and so on, as well as Monterey Bay's enduring if mainly symbolic ethnic identities, are critical for understanding the forces that have shaped the fate of the landscape and the history of the region's people. It is even truer, however, that bioregionalists who privilege nature and the politics of place and multiculturalists who emphasize ethnicity and the politics of identity run the danger of bypassing the dialectical interactions between place and identity, on the one hand, and the division of labor, competition, and the world market, on the other, thus skipping over the central role of economic and social class. This may be, in fact, a good time to rediscover class politics, and the ways that it articulates with place and identity politics, not only in our interpretations of the past, but also, and more importantly, in our visions and politics of the future.

NOTES

[1] Marvin Harris, Cultural Materialism: The Struggle for a Science of Culture (New York: Random House, 1979). "Nature makes culture" is a deliberate oversimplification of Harris's theory of history, but it captures something like the essence of his method applied to particular times and places. For example, Harris explains the development of agriculture in terms of global climatological changes and the resulting "depletion or outright extinction of the Pleistocene megafauna that had been the preferred prey species for tens of thousands of years" (p. 87). Again, "the development of capitalism in Europe can be seen largely as a response to the depletion of resources upon which Europe's feudal mode of production had been based" (p. 111).

[2] Harris (ibid., chap. 9) critically reviews what he calls "cultural idealist" strategies of explanation of historical causality. For example, "One popular set of psychologistic theories of sociocultural causation sets out from the assumption that each society has a national character, a modal personality, or some other definite range of personality types. . . . Strategic conflict between psychological anthropologists and cultural materialists [Harris himself] arises when [the former] fail to implicate the etic infrastructure in the causal chain responsible for personality complexes, or when they go further and propose that structural and infrastructural changes are predetermined by the existence of a particular modal or basic personality type or national character.."(pp. 259-260).

[3] Martha K. Norkunas, *The Politics of Public Memory: Tourism , History and Ethnicity in Monterey California* (Albany: State University of New York Press, 1993).

[4] Here and in some other places in this chapter, I rely on notes taken from Sandy Lydon's Cabrillo College local history course, and also his public lecture on the inseparability of "natural and cultural history" (Louden Nelson Community Center, Santa Cruz, 20 September 1994). The "isolation'" thesis is a favorite of Lydons but is disputed by others, for example, by local writer Geoffrey Dunn: "I think that Lydon over-emphasizes Santa Cruz's "isolation' during the 19th century. Although certainly not the center of the universe, Santa Cruz was intrinsically linked to the political economies of Spain and Mexico, and, later, to the western expansion of the United States. Villa de Branciforte (located across the river from Mission Santa Cruz) was selected as one of the first three pueblos in California; church records indicate that there was regular interaction between Santa Cruz and the missions at Carmel and Santa Clara, along with the secular communities in Monterey and San

José. ... The hill is big: the bay is deep; but an island we are not, nor have we ever been" ("Preliminary Thoughts on the Santa Cruz Genovese Fishing Colony" [unpublished paper, 1994]).

[5] Donald Thomas Clark, *Santa Cruz Place Names: A Geographical Dictionary* (Santa Cruz, Calif.: Santa Cruz Historical Society, 1986).

[6] Malcolm Margolin, *The Ohlone Way: Indian Life in the San Francisco-Monterey Bay Area* (Berkeley, Calif.: Heyday Books, 1978); Gordon, op cit., Pp. 21-48.

[7] Ibid., pp. 48-55.

[8] Richard Henry Dana described the Californios as a "proud, indolent people given to lascivious dances." An early Yankee arrival watched the "Californios [with] dull, suspicious countenances in brute animal enjoyment-dancing and vomiting"

[9] In Greek mythology, Prometheus was the Titan who stole fire from heaven in order to benefit mankind. Both the Promethean and the "myth' sides of Yankee culture are beautifully captured in the following text: "On June 7, 1905, a construction crew for the Ocean Shore Railroad set a blast at Waddell Bluffs, thus beginning the monumental effort to tame this wild piece of coastline. In doing so, tons of rocks buried the existing county road for some time. The responsibility fell to Vid Trumbo and his men to keep the road open while construction was proceeding. The Ocean Shore Railroad was the grandiose plan of several wealthy entrepreneurs to link San Francisco with the resorts and businesses of Santa Cruz. The venture was ultimately doomed, in part because of the difficulty of overcoming such obstacles as Waddell Bluffs" (Frank [Lud] McCrary, "The Railroad that Didn't,' in *Big Creek Lumber and Building Supplies, Waddell Bluffs: The Magnificent Creek with a Dramatic Past* [undated]).

[10] Sandy Lydon, *Chinese Gold: The Chinese in the Monterey Bay Region* (Capitola, Calif.: Capitola Book Company, 1985), passim. This is the best social and economic history of the region to appear to date.

[11] Ibid., pp. 501, 504.

[12] Gordon also writes, "Chinese customs were introduced, with but slight modification"(op cit., p. 59). It so happened that Chinese cultural and technical skills worked well on the "edges, in a figurative sense, but also literally, e.g., the edges of the sea where they had long experience gathering and processing the seas products (ibid.; Lydon, op cit., p. 488). "Few people on earth use more of everything they catch, grow or process than do the Chinese; virtually nothing is wasted. So it was that when the first Chinese settled in the Monterey Bay area – in the cove at Point Lobos about 1851 they must have rejoiced at the variety and bounty offered to their talents as experienced fishermen. ...Unlike the other early groups immigrating to the Monterey Bay, the Chinese [of Point Lobos] came as whole families." (Michael Kenneth Hemp, *Cannery Row: The History of Old Ocean View Avenue* [Kane'ohe, Hawaii: History Company, 1986], p. 22).

[13] The Prunedale district (with Corralitos at one corner) contained hundreds of subsistence farms, with fruit trees, cows, a team of horses, and garden vegetables. The "Okies" farmed the area as tenants, a "livelihood similar to that which they had known back home" (Gordon, op cit., pp. 100-101; italics added).

[14] "'Making a set' with a net deployed off a moving boat on the open sea in nearly total darkness (lights drew company and competition) required courage, skill and a level of team work difficult for the uninitiated to envision. Although often referred to as Italians, the men whose labor and skill dominated the Monterey fishing industry came from the coastal cities near Palermo.... For exceptionally large catches, sharing the extra fish unable to be carried was common among friendly [Sicilian] boats. (Hemp, op cit., p. 79).

A variation on this theme: In Santa Cruz, a colony of Genovese fishermen and their families settled in the late 1870s, nearly all from the small fishing community of Riva Trigoso. The "Genovese brought with them from the homeland the use of lampara nets... which are set with lanteen boats, and beach harvesting nets, which are launched by row boats and pulled in from land. The Genovese quickly adapted their native methods to the local physical environment. As the shallow-water fisheries declined (were over-fished) they adopted other methods, particularly the Portuguese long-line, to harvest the deep-water fisheries. While there was a strong sense of community among the Genovese, from the outset they were fishing commercially for markets outside of Santa Cruz, i.e., San Francisco, where their catches were shipped by train. My sense is that there was a great deal of competition among the Genovese and more so over time. Each family had a boat, and when the sons would grow old enough, the family would add additional boats. While there was some cooperation

between families, most cooperation was within families. The cohesion of the fishing colony was based more on language and cultural isolation, and on female cooperation (midwifery, child-rearing, healing, etc.), than on the enterprise of fishing." (Dunn, personal communication, August 1995).

[15] Local historians have still to uncover the ways that women in the reproductive spheres of life (e.g., domestic work, teaching, etc.) modified Monterey Bay's environments.

[16] Examples of the uneasy, at times antagonistic, coexistence of both tendencies (I stress "tendencies") appear in the pages of Frank Bardacke's *Good Liberals and Great Blue Herons: Land, Labor, and Politics in the Pajaro Valley* (Santa Cruz, Calif.: Center for Political Ecology, 1994).

[17] Perry Anderson's critique of Carlos Ginzburg's brand of cultural determinism is relevant here. "What is missing from Ginzburg's account is that erosion of meaning which is such a large part of any cultural history-the familiar process whereby customs or beliefs once centrally active become in altered conditions sporadic or marginal, and then lose their sense altogether as they are surcharged with further developments that incorporate or efface them.... In social life, what is older and in that sense deeper is often more trivial – which has survived just because it has been reduced to insignificance. ... Jack Goody once remarked that the persistence of certain dishes might be explained not by their symbolic meaning, but their indifference to it, simple pegs of existential continuity... Words and myths, unlike objects of material use, are inescapable signifiers. But they too are always liable to de-signification...The only difference is that in their case it typically involves the cancellation of one meaning by the superimposition of another, which can easily contradict the first (Perry Anderson, *A Zone of Engagement*. London: Verso, 1992), pp. 224-225).

[18] Bardacke, op cit, chap. 5.

[19] For example, see Norkunas, op cit.

[20] Historian Sandy Lydon's lectures and writings border on environmental determinism, although at times (especially minority) culture and world economy and politics play (sometimes weak, sometimes strong) roles (e. g., Sandy Lydon, "Toward Rediscovering the Monterey Bay Region and Its History" Santa Cruz County History Journal, 1, 1994).

[21] "Traditionally, land and labor are not separated; labor forms part of life, land remains part of nature, life and nature form an articulate whole. Land is thus tied up with the organization of kinship, neighborhood, craft, and creed-with tribe and temple, village, guild, and church'" (Karl Polanyi, *The Great Transformation* [Boston: Beacon Press, 1957, p. 178).

[22] "The loggers' clear-cutting blurred the vegetation zones. Until the second-growth redwoods regain their supremacy in the canyon's lower reaches, there will be an intermingling of riparian and evergreen forests" (Sandy Lydon, The Forest of Nisene Marks State Parks [Santa Cruz, Calif.: Santa Cruz Mountains Natural History Association, undated]).

[23] Michael Meuser, "Marks in the Forest: The Production of Meaning and Meaning of Production in the Forest of Nisene Marks State Park" (Senior Honors Thesis, University of California at Santa Cruz, 2 June 1992), pp. 15-16.

[24] Gary Greene, director of the Moss Landing Marine Laboratories, in a lecture delivered at the Louden Nelson Community Center, Santa Cruz, 7 September 1993. Deep-water underseas video pictures depict at least six types of clams. Local naturalist Fred McPherson, who cotaught a class on the "Ecotones of Rincon'" with the present author, demurs: "The pelagic (deep water) and coastal ecosystems are not an aquarium. They are still the same marine ecosystems, but in a slightly affected successional state (i.e., with fewer sardines, and more fish being taken out, etc.)" (Letter, 13 July 1993). The problem is, What is an ecosystem and what is "succession"? (See, e.g., Ludwig Trepl, "Holism and Reductionism in Ecology: Technical, Political, and Ideological Implications Capitalism, Nature, Socialism, 5, 5, December 1994.)

[25] Gary Griggs and Lauret Savoy, eds., Living with the California Coast (Durham, N.C. Duke University Press, 1985).

[26] Gordon, op cit., chap. 5, passim.

[27] Hulda Hoover McLean, *Tide-drift Shells of the Monterey Bay Region* (Santa Cruz, Calif.: Santa Cruz Museum Assoc. 1992)

[28] Bardacke, op cit., chap, 5.

[29] *Nihon Bunk: Japanese Culture, One Hundred Years in the Pajaro Valley.* (Watsonville, Calif.: Pajaro Valley Arts Council, 1992).

[30] Bob Piwarzyk, "The Lime Kilns of Pogonip" (manuscript, undated).

[31] "Cutting that had been traditionally done by Chinese and Japanese workers gradually became less specialized by nationality and the introduction of machine cutters (Help, op cit., p. 89)

CHAPTER 4

THE NATURE OF CONSTRUCTION AND THE CONSTRUCTION OF NATURE AT FALL CREEK, FELTON, CALIFORNIA, 1860 TO 1990: A SCRIPT

Coauthored with Barbara Laurence.

INTRODUCTION

Fall Creek Beauty (Slide). This is the story of the natural history and the historical nature of a small watershed and creek in the Santa Cruz Mountains in California's Monterey Bay region.

Old Bridge: Fall Creek. The form of the narrative is "ecological history" – the study of the ways that human labor, or material production, depends on geological, climatic, and other natural forms and forces; the ecological transformations that the appropriation of nature by human beings brings about and the associated changes in the human experience and consciousness of "nature'

New Bridge: Fall Creek. Ecological history expresses the *historical* nature of human labor, and also of ecological science and sensibilities themselves.

Creek: Close-Up. The first premise of ecological history is that the history of nature is the history of human labor combined with that of nature's own economy. But we are getting ahead of our story....

HISTORICAL BACKGROUND

Wagon. In the last half of the 19th century and the first quarter of the 20th century, the industrial economy of west Santa Cruz County was mainly based on

the export of building materials to San Francisco, San Jose, and other fast-growing cities in northern and southern California.

Redwoods. Lumber and many other wood products used in construction, and manufactured from original-growth redwood forests, were the most profitable on poor. Second in importance were the manufacture and export of lime for mortar and plaster,

also used in construction; black powder for blasting railroad tunnels, mines, and quarries; and leather.

Redwood Stump. By the 1920s, the first-growth redwoods had all but vanished

Fall Creek, Lime Kiln. The lime industry, itself dependent on redwood to fuel the lime kilns, had also sharply declined.

Cowell Quarry. Most of the handful of major limestone quarries and dozens of smaller quarries were abandoned.

Hazelnut. The hazelnut shrubs that the lime works and powder works cut to make barrel hoops became scarcer.

Tanbark Oak. As did the tanbark oak, which produced tannic acid for the local tanneries.

Felton Covered Bridge. The mountain railroad and bridges fell into disuse.

Natural Bridge. Meanwhile, west county was also exporting its other main resource—its cool summer climate and beaches. sun and sea, and mountain scenery—the basis of the local tourist industry.

River. So, too, were Santa Cruz's rivers and streams. Visitors from San Francisco, San Jose, and elsewhere were a factor in the local economy from the 1860s on.

Boardwalk. After the depletion of its raw materials, west county increasingly specialized in tourism from nearby cities, themselves partly built from Santa Cruz Mountain redwoods and limestone. Tourism became the main export industry, probably by the second decade of the 20th century, and remains so to this day.

Fall Creek Kilns. One part of the 19th-century economy was the lime works and barrel mill in Fall Creek, Felton, six miles up the San Lorenzo River from the Santa Cruz flood plain. Fall Creek rises from the top of Ben Lomond Mountain and empties into the San Lorenzo at Felton.

Blue Cliff. The lime works was built two miles upstream on the flank of a steep hill formed of high-grade calcium carbonate or limestone. Built in the 1860s, the lime works temporarily dosed during the depression of the 1890s, reopened, and then permanently shut down in 1919.

Fern with Maple Leaves. Today Fall Creek is regarded as one of the most beautiful places to visit in Santa Cruz County. It has become part of the tourist economy – mainly for local weekend visitors. It is also excellent place to decode the ways that nature's economy and human economy combine or intermingle.

Fall Creek Scenery. The watershed is rugged, but small in scale. Its economic and social history is relatively simple. So is its natural history and riparian ecocommunities. Fall Creek is a kind of self-contained universe, a laboratory in

to study the ways that human agency and nature's economy influence and modify y each other.

Mushrooms. Fall Creek appeals to many kinds of visitors. To some, the

watershed is part of nature in the Santa Cruz Mountains.

Barrel Mill. Fall Creek appeals to others as part of Santa Cruz's economic and social history—as industrial archaeology, including here at the site of the old barrel mill.

Meat Locker. But the watershed is no more history than it is nature. It's the result of nature's economy and human material activity, combined, or comingled.

DOORWAY TO FALL CREEK

Park Entrance. Fall Creek is "second nature" or "humanized nature' This reality is illustrated by the park entrance. It suggests a rural, ordered, nature that is pleasantly and safely inviting. The security of what we call civilization is promised by the double-lined road, indicating official authority and order.

Parking Lot. The dirt parking lot and the lack of visitor facilities are signs that Fall Creek is undeveloped—indicating that those who come here may find a Romantic nature, "untouched by human hands," an accessible escape from urban life.

Signs and Gate. Trained docents lead hikes through Fall Creek. Two of the most popular hikes are those offered by the Santa Cruz Mountains Natural History Association and the Santa Cruz Museum. The History Association docents focus on the physical remains of the industrial period; those from the Santa Cruz Museum on the variety of plant species in the watershed.

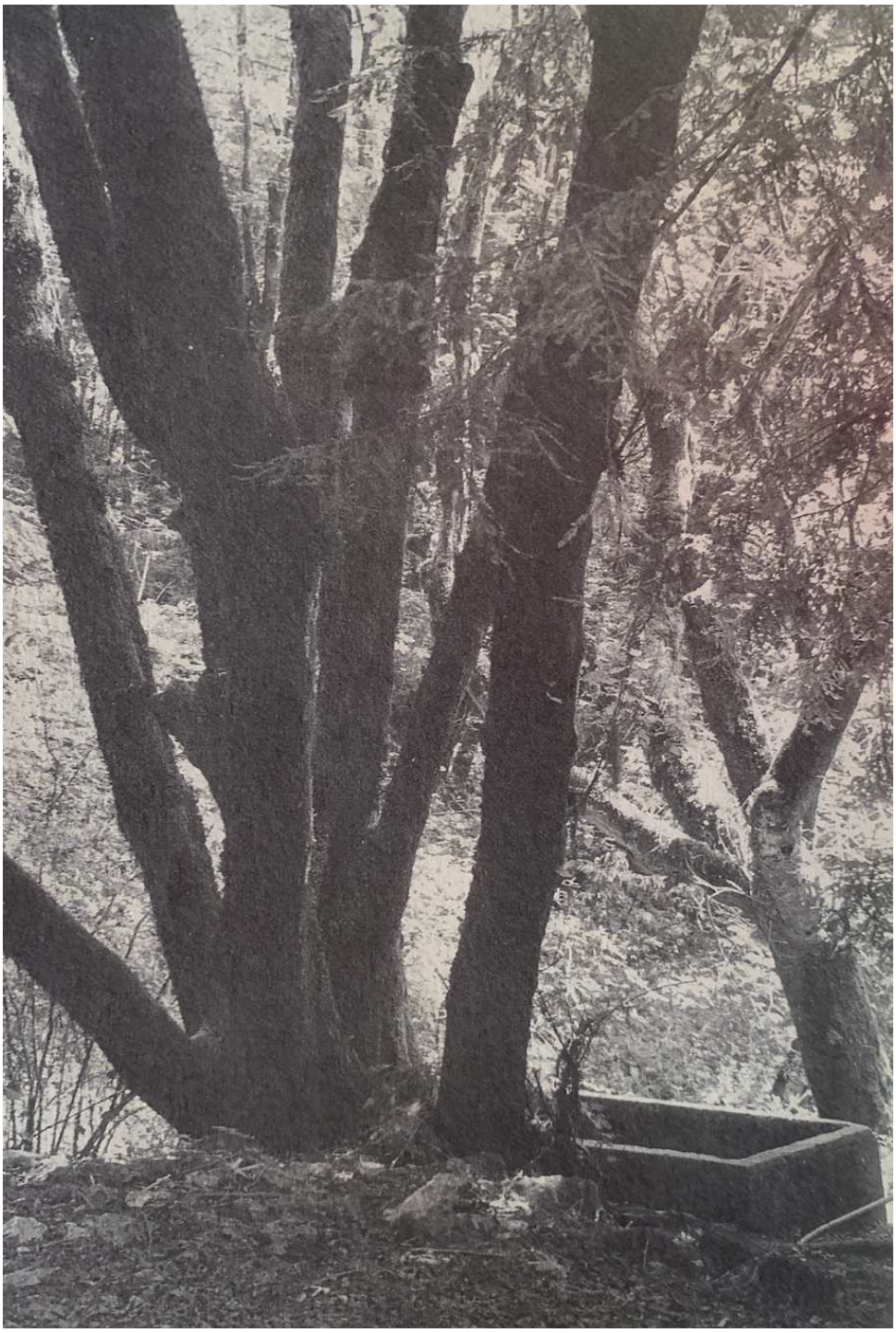
Signs and Gate: Close-Up. One Saturday morning, both groups had schedules hikes at the same time. On learning this in the parking lot, a visitor suggested combining the hikes, to benefit from the docents' knowledge of both history and nature—but this idea met with no enthusiasm. The "nature" docent explained that her group would stroll the watershed to study the flora; the "history" docent said
that her group would hike the park, to get to the old industrial remains without delay. Such was the result of a practical effort to combine history and nature! Western dualism never rests.

Fall Creek Park Sign. This sign marking the park is unwittingly emblematic of history and nature. "6 a.m." denotes official time in an era in which clock time measures human activity "Sunset" denotes nature's time, a holdover from the precapitalist past when activity measured time.

THE LABOR PROCESS

Redwoods and Sorrel. Timber and lime operations in the 19th century transformed the ecology of Fall Creek—as well as the economy and society of northern California and the Central Coast. This story begins with the original ecology of the

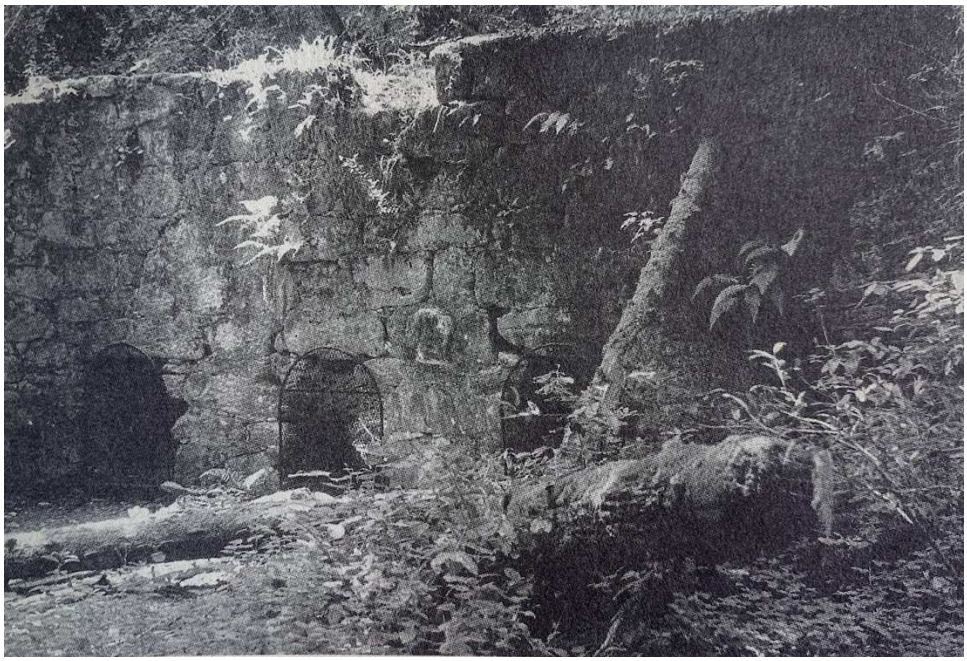
KILN, TOP VIEW (photos this page, and following, Catharina Marlow)



STAVE TANK

CREEK FILL EROSION

SPAWNING POOLS



KILN, FRONT VIEW

WAGON ROAD TRAIL

CREEK EROSION CONTROL

watershed. The big ecological picture of Fall Creek is a story of great earthquakes and land movements, upthrusting magma, and major changes in climate.

Granite and Redwood. Here is an economically relevant ecological detail. Granite boulders and rocks on the creek bank hold the soil in place. This allows shallow-rooting redwoods to grow. An integrated nature—granite helping the redwood to grow—was exploited by the lime works.

Redwood Stump. Redwoods and other tree species were cut, transported by wagon to the kiln site, and used as fuel in the lime kilns. Nature provided cheap and easy access to fuel.

Quarry: Blue Cliff Lime marble formations in Fall Creek were created by the compression of layers of calcium carbonate, formed from ancient underseas fossils. The compacted materials were heated to incredible degrees by magma, forming a crystalline rock, from which high-grade lime could be produced. Blue Cliff was blasted out of the mountainside. Three hundred feet high, it is one of the three biggest lime quarries in the region.

Powder Storage Bunker. Italian and Portuguese laborers, some little more than indentured servants, carried blasting powder from this bunker up the cliff.

Old Tram Car Bed above Kiln. The men then loaded the limestone, each piece about the size of a person's head, onto a gravity-powered tram car, which followed this route above the kilns.

Rail. The tram car ran on narrow-gauge rails from the top of the quarry down to

the kilns.

Kiln Top. Early lime manufacturers in the area who worked for themselves built and operated single pot kilns. But with the introduction of wage labor, three kilns were necessary to keep the work force busy and fully exploited. One of these kilns was fired while the second cooled and the third was reloaded.

Kiln Front. These kilns supplied between 20 and 40 percent of California's lime in the late 19th century; most was either exported to San Francisco or used locally.

Santa Cruz City: Long Shot. Fall Creek thus helped to build nearby cities, including Santa Cruz, which developed typically urban social structures, values, and ambiences. Urbanization created a social need or demand to escape, to "get back to nature" And "back to nature" included back to Fall Creek.

Flatiron Building. Santa Cruz's building-materials export economy (including the Fall Creek works) helped to create the material basis for an urban population. West county thus helped to augment the social demand for its own environmental amenities. Santa Cruz and Fall Creek supplied their own demand, as it were.

Kiln Front. The Fall Creek lime works was abandoned in 1919, due to competition from Portland cement, a labor shortage induced by World War I, and the depletion of the redwoods. Labor conditions partly explained why this particular kiln design (technically very old) was used, and also the timing of the closure of the works.

Kiln Door. After 1930, thanks to the labor movement and generally improve

working conditions, no such kiln work could attract workers in the United States. Low wages and poor work conditions—including intense heat, frequent burns and falls, sulphur smells, bad air, and blasting noises from the quarry—were too horrendous.

Inside Kiln/Blue Melancholy. Today the kilns evoke a kind of melancholy, like ruined castles for 18th-century English pre-Romantics.

Kiln Top. Here is a top view of one of the kilns; it looks like the grave of a giant, reclaimed by nature, which literally and figuratively softens history.

Buttress. After a burn, the impurities were separated from the lime, and the product was shoveled into barrels, which were then loaded on wagons.

Warehouse Site. Here, there was a great warehouse, which spanned the filled-in creek, where empty and full lime barrels were kept dry before wagons transported them out of the canyon to Felton, then to the wharf in Santa Cruz; and with the opening of the railroad, to a waiting freight car.

Shovel. After a burn, workers shoveled out the impure, leftover rock—including the rock used for the archways—from the front doors of the kilns.

Stave Tank. A stave tank was built below the kilns. The cooper used redwood for barrel staves and hazelnut for the hoops. Wood was soaked in the tank to bend into staves.

Wood Pile. The fiber of split old-growth redwood, in this woodpile, burned long and hot, and was used for fuel. About eighty cords of wood (eight-foot lengths of split wood, or the width of the kiln) are left; about seventy cords were needed for one firing, which lasted about three days.

Tailing Pile. Next to the creek, downstream from the lime works, sycamore and ivy grow on a high tailing pile, or dump, made from sortings at the kiln loading and sortings after the kilns were fired. The tailings were used to fill in the creek at the kilns and to make the wagon road.

Retaining Walls. Three retaining walls supported the wagon road that led out of the lime works. There were three walls because this design best stabilized the hillside.

Creek Fill. Where the two branches of the creek meet, the south fork was filled to make the wagon road. Underground erosion has eaten away the road from below.

Debris in Creek. Below the lime works, the creek is a kind of refuse dump filled with the debris of nature and history.

Wagon Road Trail. Stones from the creek bed were used to pave the wagonroad, now the main trail for visitors. Here a generation of hikers has rounded off the edges of history—to make a safe and inviting place to walk.

RESTORATION OF THE CREEK

Redwoods. Many people came and went in Fall Creek after the lime works closed.
Metal in Woods. Nearby residents foraged the watershed for scrap metal,

lumber, redwood burls, firewood, berries, mushrooms, ferns, and the like. In the 1960s hippies built their camps in the area from leftover lumber and bricks.

Creek Scenic. Locals fished the creek and used the kiln area for target practice. Kids played in the watershed and climbed up the quarry (some fell and were injured; two died). The Park Service added Fall Creek to its collection in 1972.

Restored Creek, Spawning Pools. In the mid-1970s, Dave Hope, a Santa Cruz resident and county official, organized the restoration of one stretch of the creek, where salmon and steelhead used to spawn. Logging had removed the tree canopy, and with it the shade the fish needed to produce offspring. Road construction and landslides led to silting, which covered the gravel creek bed, also necessary for the fish to spawn.

Restored Creek, Spawning Pools. Enter the labor of creek restoration. Technically, these creek steps do two things. They channel the water, to maintain a high flow; they also create spawning pools in still water sections, which are constantly flushed to keep them from becoming stagnant. Culturally, while the creek looks “natural,” it is, in fact, constructed according to a certain aesthetic of nature.

Boulders in Creek. The “constructed” creek is in the “classical” mode in that it offers a balance of logic and expression or feeling. The logic is in the design of the fish-

run steps, which is based on the capacity of boulders and the rocks to stand up in heavy storms. The expressivity is in the use of natural materials close at hand—rock, stone, and wood. The restorer had a conception of nature as peaceful and inviting, not as strange and threatening wilderness.

Creek: Close-Up. Nature is made to look exactly like those urbanites seeking escape expect it look—nature as it was imagined to be at one time.

Restored Creek. A particular nature, familiar since the time of the English Romantics, was imposed—appealingly and safely wild. But the model of the biosphere expressed in the restoration is highly simplified: it is designed as a fish run. Other species life—algae, insect, bird—do not merit the same attention.

Restored Creek/Fallen Logs. Meanwhile, fallen logs are carried down the creek, threatening to damage the steps. Present history and past nature, present nature and past history, are hopelessly entangled with each other.

Restored Creek. These logs, boulders, and rocks are placed at a bend in the creek to control erosion. They channel the creek away from the bank in a way that is meant to look natural.

Boulders/Cable. A cable holds the boulders in place.

Rocks/Chicken Wire. Chicken wire that helps to hold the stones in place is showing through. Nature uncovers man's attempt to make nature look natural.

ECOLOGICAL IMPACT OF LIME AND TIMBER

Fall Creek Beauty. Meanwhile, independent of efforts to restore the creek and manage the park, the ecology of Fall Creek dramatically changed during the past century.

Fall Creek Beauty. The conditions of production in Fall Creek help to explain the design of the kilns, the mode of operation of the timber operations and lime works, and the liming of the closure of the lime works.

Fall Creek Beauty. These, in turn, help to explain the type and timing of the ecological impact of the industrial use of the watershed. The history of nature in FaII Creek is in some unknown and unknowable part the history of labor between 70 and 130 years ago, as well as that of nature's economy over the same span of time.

Fall Creek Beauty. The industrial period originally had the effect of devastating Fall Creek's ecology. According to the authors of the only known ecological stuy of the watershed, "During the period of logging and mining . . . much biomass was removed."

Fall Creek Beauty. The authors go on to say, "Vast destruction of the vegetative cover . . . increased the erosion of soils, changed microclimates, and created a new, nearly uniform habitat (and) successional activity characterized by decrease in floral diversity and distributional complexity."

Fall Creek Beauty. But as time passed "the biology has become more complicated. Energetics within the . . . watershed have existed as a system of biomass and energy accumulation, with much more energy flowing into the system than released, Solar radiation is absorbed by an annually accumulating standing crop of woody vegetation and forest floor litter."

Flowers. The watershed then became more ecologically diverse. With the disappearance of the original-growth redwood canopy, more flora could grow.

Fall Creek Beauty. In time, there appeared a greater variety of ferns, flowering plants, and shrubs. Seasonal rains and erosion have also changed the creek itself. The ecological fact that human labor unintentionally and intentionally re-created a diverse ecology is one reason why Fall Creek is a favorite spot for local urbanites to get away from it all.

Blue Flowers. Fall Creek ecology today is also the result of Park Department rules and regulations, trail repair, bridge building, and other maintenance and improvement efforts by the Park Department and volunteers. The watershed is really a kind of garden. And gardeners make decisions about what to grow and what not to grow, by intention or effect.

Fern. Ferns, and chamiso, California maiden-hair, blue blossom, honey-suckle, lotus, wild rose, blackberry and raspberry, and other flora flourish in disturbed areas of the watershed.

Redwood. So do the redwoods, which are now so numerous that they will probably never achieve the size of the original-growth trees. One result of the privileging of redwoods is that some other plants and ferns will not be able to live when the redwood canopy is higher and thicker. Sun-loving wood ferns and gold-back ferns may disappear.

Hazelnut. But the hazelnut has returned, and wax-myrtle and chaparral pea flourish near the stream course and on road banks. The hearty sword fern, abundant in deeply shaded areas, will survive.

Tanbark Oak. Tanbark oak are reproducing prolifically.

Maple Leaves. So are big leaf maple, growing in dense thickets on the limestone rubble at the base of Blue Cliff and in streamside clearings.

Mushrooms. Fall Creek was once a good spot for fungi foragers. Now the state forbids visitors from gathering mushrooms, as well as from removing ferns and other plants—in effect, making another gardening decision. As in a wildlife reserve, we can only appropriate the image of the real thing in a photograph, not the thing itself.

Lady Bugs. Where this colony of ladybugs comes from, how they choose Fall Creek in their migration path, and why they suddenly leave on a warm jet stream in mid-February remain mysteries.

Ivy. Ivy has been called many things, including "man's footprints." It was planted by the workers to humanize their surroundings, and perhaps for erosion and dust control.

Vinca. This ulna and the ivy cover up the past of those who planted it, as if they wished to soften the hard edges of their own history. Here man still dominates nature in the sense that these introduced species dominate native flora.

Seep. Below the lime works, water bubbles up from a small underground spring or seep. When the creek was filled upstream, it stayed alive under the rubble, and recoursed itself. The seep may be one result, but its real economic history remains unknown.

Creek. Stone, fern, light, and water combine in this stretch of the creek to make a picture of Romantic nature worthy of the most demanding urban nostalgic imagination.

INTERPRETATION

Fall Creek Scenic. Karl Marx once wrote that production not only creates the objects that satisfy needs but also the needs that the objects satisfy. This study is a variation on this theme. Fall Creek produced the lime that helped to build urban California, including urban Santa Cruz and Felton. Urban life constituted a certain social structure and the social need to escape and return to nature.

Fall Creek Scenic. The nature that local urbanites and other visitors seek includes Fall Creek, no longer wilderness, but still undeveloped or natural looking.

Fall Creek Scenic. Or, to put the point differently, Fall Creek is an example of nature as the urban imagination wants to see it. The circle is thus closed: Fall Creek supplied its own demand in the double sense of helping to build urban centers and also by now looking and feeling like the kind of nature that urban visitors seeking escape from the city expect when they visit "nature'

Warehouse Beam in Creek. Fall Creek only appears to be "pure nature" In

fact, history mingles with nature in the watershed, in obvious ways, as with this wayward beam from the warehouse in the creek bed.

Fall Creek Bizarre. And in bizarre ways, as with this kiln door frame lodged in the forest floor litter.

Water Tank. What we see in the watershed and smell and hear, and the sense of security we feel on its trails, has in its own way as much to do with the development of capitalism in the West as with nature's own rhythms.

Wagon. Labor supplies and conditions of work, forest depletion, technological changes in raw materials production, and the place of California in the world economy of the late 19th and early 20th centuries—all helped to construct nature in Fall Creek today.

Redwood Stump. But Western dualism—to use shorthand—has blinded us to the dialectics of this natural history and historical nature. Thus, the importance of ecological history, which deconstructs the ideological walls between history and nature, and creates a new understanding of the present as history, and as nature.

CHAPTER 5

THE SALES OF TWO CITIES: CHICAGO AND LOS ANGELES

CHICAGO

Devoting an issue of *Antipode,* the journal of radical geography, to a symposium on *Nature's Metropolis: Chicago and the Great West,* a book that will consolidate William Cronon's position as one of the leading environmental historians in the country, is a good concept (as they say in Hollywood). But the treatment is largely a failure. Eleven radical scholars, most of them Marxist geographers, commend Cronon's prose style and narrative prowess, his painstaking research and passion for his subject, and his willingness to take on the complex issue of the ways that Chicago and its hinterlands molded and shaped each other during the last half of the 19th century. However, all but two or three of the contributors accuse Cronon of theoretical naiveté, hence for failing to do what they think the author set out (or should have set out) to do. Criticism, often ungenerous, sometimes mean, outweighs appreciation by a factor of two or three. But this is not the reason why the symposium fails, equity and efficiency being two different things, as economists teach us. The reason is that in his "Reply" Cronon doesn't acknowledge one single point of criticism proffered by his critics. He might as well have said, "If I had been able to read every contribution to this symposium before I wrote my book, I would have written exactly the same book." When good scholars don't learn anything from one another, something's wrong.

More than proprietary interests and egos are at work here. There are at least three other reasons why Cronon's critics talk right past him. One is that Cronon himself isn't as dear as he could be about what his method and object of study really are, which naturally discomforts the theory-minded contributors to this symposium. A second is that the Marxist geographers don't explain *their* method as well[1] as they could, nor do they show how their approach would yield better results than Cronon's. (The form of their criticism is so often impolite that it would take a very patient and wise scholar to work his or her way through their arguments to separate the wheat from the chaff.) Lastly, even if the contributors had succeeded in expounding Marxist method in helpful ways, my hunch is that

Cronon would still have stonewalled his critics, as he is not a Marxist (though he claims

to understand Marxism) and doesn't want to be one.

Cronon "wonders" whether his critics regard *Nature's Metropolis* as deeply flawed because of their unreal "expectations" rather than his own "performance. But Cronon seems to be a little confused about what this performance actually is, hence what his readers have and don't have a right to expect. His narratives ("stories") are clearly meant to be theoretically informed, but how deeply and by what kind of theory is unclear. Three or four critics blast the book for not explaining the dynamics of Chicago's regional development. What drove the city that so ravaged nature? But it may be that Cronon's intention was not to explain regional development per se, but rather the *effects* of this development on nature. In the book itself, he says that his intention is to write a "history of the relationship between Chicago and the Great West," and in particular to explore the economic and ecological transformations undergone by the great city and its hinterlands. Yet Cronon also makes Chicago's merchants, middlemen, speculators, boosters, and so on the key agents of change, which he may or may not regard as a theoretical claim. Also, in his response to Carolyn Merchant's complaint that his account of the ecological transformation of the Great West is itself incomplete, Cronon replies that this omission was deliberate—that he had already engaged this subject in his earlier book on the environmental history of New England. Nor does the author address the ecological transformation of Chicago itself, whether at the level of ecosystem destruction or the level of the appearance of cultural landscapes. "Cronon does not complete the loop between country and city,' Merchant writes, "by detailing the return of effluents, smoke, or refuse to the countryside and rivers."

Perhaps Cronon sets out his real aim in his "Reply" Here he states that he wrote the book "to investigate . . . the many ways that people alienate themselves from the natural world on which their lives depend . . . by exploring the growth of a major city relative to the natural systems that make the growth possible Ralph Saunders and Sallie Marston add: "Cronon demonstrates how Chicago developed simultaneously with, and more importantly through, the ruin of the natural world that surrounded it." Fair enough. We need Only add "meanwhile being oblivious to the city's dependence on nature's fecundity—and its ruination (of first nature)." The problem is that this purpose cannot be realized without another, parallel investigation of the ways that people were alienated from the means of production, their labor and the product of their labor, and from one another (not Only from nature), all of which are missing in Cronon's story. This also suggests that Cronon's goal is to explain the effects of the dynamics of development of Chicago and its hinterlands on nature (and human beings, insofar as they estranged themselves from nature), not the dynamic itself. Cronon says that he didn't intend to "give the [book] readers a comprehensive theory of urbanization, regional change, industrialization, and the internal dynamics of capitalist growth." While his focus is on merchants, railroads, and markets, he claims that "nowhere do I assert that transportation or trade or markets or

movements were the sole determinants of Chicago's growth.... I merely say that they were very important and that we can learn a great deal about the city's relationship to its hinterlands by thinking about them." Again, fair enough. This kind of approach, however, doesn't really explain anything but merely isolates one factor or set of factors among others, without saying what the other factors are, and how the latter articulate with the former.

Cronon says that his compass sights on the paths into and out of town, following the routes that linked the human community called Chicago to the natural world of which the city became so important a part": transport and railroads. Railroads are deceptively simple subjects and Cronon's compass might lead his readers in the wrong theoretical direction. Transport is productive capital, which no one in the symposium mentions. (Even the "pure" exchange labor at the supermarket checkout counter has a productive moment, the bagging of groceries.) Railroads were built for more than one reason, which complicates all railroad stories. Railroads consolidated the power of Chicago and its merchants and meatpackers over the countryside; they were also an outlet for surplus capital, as well as part of the creation of the transcontinental empire called the United States.

As in the creation of interstate highways and space shuttles, political and military considerations combined with economic motives in the building of railroads. It is not even clear whether Chicago and its hinterlands would have been significantly different if railroads had never replaced canals. If not, Cronon pays too much attention to railroads per se and too little to railroads as a means of reducing the turnover time of capital and speeding up history (even though his account of the regimenting and disciplining of time needed for railroad efficiency itself is excellent). Cronon writes the following wise sentence: "We" now know that narrative works by seizing a portion of reality, arranging it into a compelling sequence, and making that sequence seem whole despite all evidence to the contrary." Yet Cronon begs the question of how does one decide the criteria used to determine what to extract from the mess of history for detailed investigation, and what to leave in the archives? More often than not, it seems that Cronon's criteria pertain to the physicality of things, railroads and their cargoes, for example, defined as use values, not exchange values, as ways in and out of town, not as ways to accumulate capital. This is probably another source of his critics' confusion about Cronon's purpose and method.

Is *Nature's Metropolis* descriptive narrative or does it also raise "why" questions? I think it does both, but it hedges on both fronts, so it does neither in a completely satisfying way. The author isn't clear about what his hypotheses are, how they could be tested, what counterfactuals one should look for, and what opacity he wishes to penetrate—whether ideology deconstructed or previous narrative revised. This lacuna is especially discomforting to Marxists, who learn to develop their our theoretical perspectives in the form of a critique of "bourgeois theory" and method (an expression Cronon's critics avoid).

Cronon stonewalls his critics not only because his aims and methods aren't

clear (hence the latter don't know and can't know what they have the right to criticize), but also because the Marxist geographers don't do a very good job of explaining their own methods (which, in turn, irritates the author of *Nature's Metropolis).* Cronon states that his critics are upset because he didn't write the book they wanted him to write, namely, one to explain the dynamics of development of Chicago and the Great West in terms of a Marxist-type theory of the production, circulation, and accumulation of capital. Mary Beth Pudup complains that "Cronon's exclusive preoccupation [is] circulation. . . . The wheels of commerce are what get Chicago moving." Philip Scranton writes, "The bracketing [of industrial growth] allows us to see more deeply into the mutations of market exchange, but in the absence of an equally penetrating analysis of production, it impoverishes the larger argument."

What difference does it make that Cronon ignores what two critics call the "primacy of production" and a third calls the "relations of production"? Let's assume that he intended his book not only to describe the effects of regional development but also to explain this development. The critics offer a lot of free advice about what Cronon should have done, and what they wished he had done, but much less about *how* he could have done what they want him to do. Nor do they explain what difference their method would make in terms of the kinds of results that Cronon might have obtained had he written a Marxist book.[2]

Brian Page and Richard Walker identify the problem with market-oriented explanations of economic development. They rightly argue that those who offer them rarely take the next step and ask, What determines market expansion? The critics correctly state that "capital accumulation was the prime mover" but they might have improved the odds of convincing Cronon by explaining what this means. They don't say that markets are created when money capital is advanced to workers in exchange for their laborpower and that markets form within the capitalist class when money capital exchanges against energy, equipment, raw materials, and so on. Cronon doesn't really distinguish these two types of markets, nor do his critics. Thus the economic implications of the fact that grains, meat, and lumber were key elements of variable capital (less so of constant capital) escape both the author and his critics. Nor do any of the participants link the rate of accumulation to the rates of surplus value and profit and the composition of capital.[3]

Page and Walker (and other contributors) could have explained the "dynamism" of Chicago's development better. Some critics use the terms "economic growth" and "economic development" interchangeably. But Marx used the concept of "expanded reproduction" (economic growth) as a heuristic device, no more. Capital accumulation (development) is a qualitative as well as a quantitative process; all of Marx's categories are sociological as well as economic. For example, the rate of exploitation is an indicator of capital's power over labor and also a statistical measure of the tendency of the system to move towards realization crisis. The class struggle (see below) in Chicago must have

had economic and ecological consequences. The share of total profits absorbed by rent also had economic and

ecological implications, a subject both the author and critics say nothing about. Page and Walker stress the idea that capital accumulation presupposes both process and product innovation (although they miss the sociological side of the story). This is especially true during bad times when individual capitals struggle to *reduce* unit labor (and other) costs, and fight to retain market shares or to steal markets from rivals, as well as to acquire or merge with other capitals to redistribute scarce profits to the strongest or wiliest. The theme of economic crisis, which should be central to any good Marxist account of the "dynamics of development," is missing from this symposium. "Accumulation through crisis" explains the expansion of capital goods markets in terms of *declining* consumer demand, that is, of the need to reduce costs to defend or restore profits when final markets are weak or falling. Most great cost-reducing technological innovations appeared or were diffused during periods of depression or stagnation. In the history of capitalism, crises are defining moments of economic, technological, and social change, including changes in the composition of social classes generally and the working class in particular. Since capital during the last half of the 19th century was a crisis-ridden (as well as a crisis-dependent) system, the neglect of crisis theory limits the usefulness of both *Nature's Metropolis* and the geographers' meditations on Cronon's book.

The critics' most common complaint is that Cronon neglects what two geographers call the "causal primacy" of industry (or productive capital). In his Introduction, Walker states that "the argument over causal primacy is fundamental to an understanding of Chicago's explosive growth." Pudup seconds the motion: "Commerce became more generally subordinated to industrial production" by the end of the century. Did industrial capital in fact subordinate merchant capital during the last half of the 19th century, and if so, so what? One problem is that none of the critics explain what "subordination" means, so Cronon's irritation at this line of attack is understandable. It means that merchants lose whatever monopoly they enjoy in trade, hence their capacity to buy cheap and sell dear in what amounts to a zero-sum game. Instead, they are compelled to compete with one another, and also with industrial capital, for money capital and credit, labor, and so on.

The subordination of merchants to industrialists (in a simple model in which commodity capital is in the hands of an identifiable class of merchants and productive capital in the hands of industrialists) means that the former appropriate a share of total profits in accordance with the amount of capital they have invested, the organic composition of their capitals, and the average profit rate. Most of Cronon's critics circle around these issues without confronting them. Holdsworth alone discusses raw material prices and the extent of competition prevailing at the time, but only with respect to the power of merchants over the direct producers ("Chicago merchants… behind transportation changes… relentlessly captured enough of the supply to control the price

that producers received. Producers—nearly always at the mercy of buyers from the metropolis… had very little power to respond to distant and anonymous Chicago."). None of the critics raise the important question, How did the (as-

sumed) subordination of merchant to industrial capital change the story of h ecological transformation of the Great West? Is there a blade of grass that disappeared (or not) because of this subordination (or lack of it)?

By 1900, Chicago had developed a range of "import-substitute" and capital goods industries and had more factories than any other city in the world. Two critics believe that neither grain nor lumber trading had much to do with the "city's gathering industrial vitality" But this is not sufficient grounds for rejecting Cronon's strategy of privileging merchants and the like as the dominant agents of growth. Britain had thousands of factories in the early 1800s, but industrial capital did not subordinate merchant capital until later in the century, and then only partially. The Big Three economies today of the United States, Japan, and Germany have important neomercantilist features. Modern industry reduces merchants to blind personifications of commodity capital as a whole only in textbooks. To learn if and when and in what respect Chicago's merchants were economically and politically subordinated to industrialists, one would have to study the extent and type of competition between merchants; movements of raw material prices as competition takes hold between merchants; and changes in the capital-labor relation, between fractions of capital, and in the configurations of state power (among other factors). Perhaps the issue cannot be sensibly discussed outside of the context of world economy as a whole, and the place of imperialist America in it.

Attention would have to be paid to William A. Williams's thesis (ignored by author and critics) that Great West farmers were a leading expansionist force because of large farm surpluses yielded by nature's fecundity combined with human technology. In the United States, industrialists and workers were protectionist, farmers and bankers much less so, or not at all. The United States was protectionist until 1913, then after World War I tariffs were raised to their highest level in the country's history. Is this a sign that industrial capital was dominant? Maybe, maybe not. Truly powerful industrial capital seeks free trade and investment everywhere and is not afraid of foreign competition. Protectionism sheltered industry while farmers benefited from expanding European markets. U.S. industry got cheap raw materials and food for its workers, especially from the South after the Great Compromise of 1876, and farmers enjoyed growing markets, punctuated by overproduction crises. These considerations are the tip of the historical iceberg, which, like its mass, is ni· visible in this symposium.

Cronon's critics also fault him for neglecting labor and class struggle. But they don't explain how to bring these themes into Cronon's narrative in interesting ways. Page and Walker write that Cronon "demotes the value-generating power of human labor," but don't explain how nature's abundance and human labor and technology articulated with

one another in the Great West. Merchant complains that Cronon doesn't "show the resistance to market structures either by human agents or nonhuman actors," but falls to explain how an account of this "resistance" might change Cronon's results. Holdsworth suggests that the story wouldn't have changed much when he states that the "transformation of tall grass prairie, buffalo range and northern pine forest [was] unquestioned and largely unchal-

lenged." Scranton adds that Cronon does portray conflicts between farmers, railroads, packers, and merchants, but that the capital-labor struggle is "all but ignored." Again, so what? How would this change Cronon's results? None of the critics discuss the way that the defensive struggles of craft and capitalist skilled workers forced industry to shift to mass production, and the real, not only formal, subsumption of labor, without which industrial capital cannot firmly establish itself. This process is connected to the issue of the subordination of merchant capital in ways that no one has ever theorized. Cronon's critics don't even mention it.

No one writing in this symposium questions Cronon's argument that changes in the Great West, especially environmental changes, were one side of a two-sided historical process, the other being the development of Chicago. Some question Cronon's strategy of limiting the city-hinterland relation to Chicago and the Great West. As I noted above, a book about nature's metropolis would locate the region within the framework of world economy as a whole. But those who want Cronon to widen his compass don't explain how this might be done. There is little or nothing about uneven and combined capitalist development or the "development of underdevelopment." One would have to trace the effects of investment in transport, land improvements, and so on, on the cost of production of foods and raw materials. (Also, ecological changes attendant upon American occupancy may have indirectly raised the cost of production of raw materials, the thesis of the "second contradiction of capital.") Typically, during the 19th century, investments in raw material zones raised the profit rate on industrial capital, and encouraged new waves of investment in land, infrastructure, and so on in these zones, thereby lowering costs and raising profits further. Worldwide, integrated, balanced industrial economies in the North developed at the expense of specialized, fragmented, raw material export economies in the South. Development caused underdevelopment and vice versa. The focus of this literature in the United States is on the American South, but it's surprising that no one in this symposium asks whether the same kind of model (with modifications) might be usefully applied to the Great West.

I think that many fair-minded readers of this symposium, who seek to learn from both Marxist economic geographers and non-Marxist environmental historians, will conclude that many (not all) of the critics are often more interested in scoring points than in illuminating the dialectics of change between Chicago and its hinterland in the last half of the 19th century. The critics seem to be better at preaching than educating. Cronon

rightly chides them for being "not much interested in nature"—a central subject for ecological Marxists. They do score many points, but the bull's-eye is most often missed; it's the edges of their target that are torn to shreds. This is one reason why Cronon stonewalls his critics in his "Reply" On the other hand, he obviously resists any Marxist-type account of the subject. Arguably, the main reason is, as a number of contributors point out, that he ignores the heart and soul of Marxist theory, the imposition of labor, the production of surplus value, that is, the exploitation of labor (and all the ideologi-

cal and political issues associated with exploitation). Cronon's error is two-sided. He ignores labor as an input or factor of production and he also ignores labor defined as the labor movement. Cronon doesn't deny this reality, but I don't think he really believes that labor is exploited in capitalism, in the normal course f events, whereas his critics rightly do.

Instead of facing the difficult issues raised by his critics, Cronon tries to slip out of their (frayed) noose. First, he writes that his use of phrases such as the "logic of capital" is a rhetorical device only. Second, he insists that he understands Marxism, and simply chooses not to use it, when it's obvious that he doesn't, hence is in no position to say whether Marxism could be useful to him or not (although he is "sometimes persuaded by Karl Marx"). He reminds me of those postmodernists who don't *want* to understand totalities, hence never learn whether it is possible for them to do so or not. For example, critics ask for an account of the forces and relations of production in industry, agriculture, and so on (although they don't teil their readers what they mean by "forces" or "relations"), which Cronon seems to interpret as a call to study "factory output" in more detail. "I try to make a handful of manufactured goods... stand as surrogates for the rest," he writes, missing the critics' point altogether.

Another example: Cronon chides the geographers for chastening him for his emphasis on "distribution." In Marxist theory, distribution means the distribution of wealth and income between social classes; realization means, selling things; transportation is a form of productive (surplus-value-yielding) capital. Third, Cronon claims that his critics believe that the only theory they support is "*their* theory" when, in fact, *"their* theory" includes ("sublates" if you will) *Cronon's* theory of market-driven development and ecological transformation. les not an either/or but an and/and proposition, or what's called in Marxist jargon "the contradictory unity of production and realization." But the critics do not explain this very well, either—which is not a sufficient reason for Cronon to pretend that he knows Marxist method when he doesn't. While this symposium is a failure (most especially an editorial failure to eliminate repetitiveness and the sometimes mean-spirited tone of some of the contributors, including that of the editor himself) in terms of the presumed goal of the Marxist contributors, namely, to educate Cronon and other environmental historians, it can be judged a success in the sense that it *may* encourage some readers to become more self-conscious of their own theoretical

categories, and their status in history writing, as well as the need to write the history of a place in terms of the history of other places. Everyone congratulates Cronon for tackling this subject with respect to Chicago and the Great West. Urban history will (or should) never be the same, especially if historians, including theoretical historians, take Cronon's confession to heart: "I was deeply unwilling to worship of the altar of theory and academic discourse if doing so meant abandoning ordinary readers" (which suggests that Cronon is aware that firmer theoretical foundations are needed, but that he hasn't acquired the skill at this stage in his career to provide them). He could do much worse than to study *Capital,* the classic in theoretical history.

LOS ANGELES

Each chapter of Mike Davis's *City of Quartz* frames a social or political conflict. The first is one of hterary and filmic interpretation: Is Los Angeles sunshine or noir? Is it high noon or late evening in LA today? Then come struggles between rival centers of economic and political power; conflicts between affluent white homeowners and less affluent people of color; police violence against labor and oppressed minorities; architectural violence against those without status and purchasing power; and finally, the fight between populist and radical Catholics, mainly Hispanics, and the Church bosses. The book itself is framed by two great chapters, the whacky story of the utopian community, Llano del Rio, at the beginning, and a brilliantly noir narrative of that "junkyard of dreams," Fontana, of the end.

Mike Davis's racist and conflict-ridden Los Angeles is marvelously appealing in a horrible kind of way. I can't think of another book to compare with this widely praised tour de force. *City of Quartz* is a genre of its own, and, unless the United States Left is really dead, will doubtless happily inspire imitators. Better still, the Left should give Mike Davis a lifelong stipend as city biographer-in-residence, and ask him to write about Houston, Denver, Detroit, and other U.S. cities where he could "excavate the future" by dose study of the peoples and cultural landscapes of these Wild West agglomerations and old company towns.

In this book, Robert Morrow's peopleless black-and-white photographs of LA's cultural artifacts are almost worth the price of admission. Davis's text clarifies these pictures as much as the latter illustrate the text. These photos mysteriously force those who look upon them to think abstractly, theoretically.

However, Davis's anatomy of La La Land eschews explicit theorizing about his subject. The names of yesterday's and today's urban theorists—Geddes, Mumford, Jacobs, Bookchin—do not appear in the index. Nor do those of the most influential theorists of water and space, for example, Wittfogel and Worster, and Lefebvre and Harvey, respectively, even though water and space are central realifies in Davis's story. Nor does the book have much use for "new social movement" theory, even though its

pages come olive with housing struggles, fights for the rights of undocumented workers and political refugees, and so on. In short, Davis is flying by the seat of his pants, which, however, thanks to the author's knowledge of his subject and literary endowments; his sense of outrage, irony, and the absurd; and his compassion for ordinary people, gets him more or less safely to his destination.

It is up to the reader to draw his or her own theoretical lessons. For this reader, Davis's story is about the mock-heroic transformation of nature in the LA basin and environs, and the creation of a partially new environment or second nature. The characters who organized this transformation, the land and water and real estate and savings and loan barons, changed themselves in the process. They made themselves into a filthy-rich ruling class, desperate enough for a saving cultural identity to finance art, museums, universities, and other symbols of high

culture, which (not so incidentally) LA's present-day town fathers are valorizing. However, under Wild West capitalist conditions, this transformation was so corrupt, foolish, and wicked, so (in the last analysis) ecologically and economically stupid, that contradictions began to accumulate as fast as real estate and savings and loan money and wealth.

As Mike Davis beautifully tells this eco-Marxist story, LA was conjured out of desert. The Comstock lode, silver, created the capital for the first investments in the area. The conquest of space by the railroad then made LA into an important agricultural and, later, manufacturing center. Up until the 1930s, booms were based on oil and land (throughout LA's history, capital is formed and consolidated time and again by land speculation and development and the growth of real estate investment and finance). World War II brought great prosperity to the shipyards and new war factories, and the postwar development boom and cold war science and industry restored more life to the local land development and rentier classes (to this day, the dominant interests remain rentiers; and savings and loan profits are crucial in California politics). Surprisingly, Hollywood has only a walk-on role in Davis's drama.

The major profit activity was the subdivision of the suburban frontier; LA's nature is fundamentally a consumptionist nature. There was so much space that whites could keep on moving to new suburbs to escape the race issue (the old "frontier thesis" with a new twist), and postpone facing up to their responsibilities as citizens and human beings—so that there occurred finally an "extension of racism across a vast metropolitan area." The immigrant white working and middle classes eagerly bought the illusion of escape manufactured by the Southern Californian dream makers, Hollywood and land developers alike.

Silver and oil, land and water, sunshine and ocean, and beach and surf are the keys to any plausible interpretation of the history of Lotus Land. Drought was a central factor in land speculation in valleys once filled with citrus fruits. Words such as flood, landslide,

earthquake, even hurricane, are LA words and most of them appear more than once in Davis's book. In other words, ecology appears as a major actor, often only implicitly, sometimes in the passive sense (nature as an opportunity for, and limit to, history), other times in an active sense (nature's economy as an independent force in historical determinations). In some passages, space is something to overcome and sunshine is an amenity; in others, space and sunshine actively pull newcomers from the East while smog drives them back there again. In both kinds of passages, however, the link between ecology and history is indissoluble. The historical ecology and ecological history of LA are two sides of the same general, natural-historical process.

LA finally became as consumed by contradiction as by greed and stupidity. The disappearance of developable land changed the power structure, creating a demand for large-scale capital for vast land conversions, that is, LA capital became increasingly monopolized. As deserts bloomed with tract homes drawing on imported water, ecological crises struck: water scarcity, lack of sewerage disposal facilities, gridlock, and pollution. Together with the social crisis—unresolved race

and labor relations—these crises began to hamper the city's growth and prosperity. Public space was destroyed; clean air became polluted air; beaches were threatened by sewerage and oil spills. Open space became overcrowding; freeways became traffic congestion; privacy became unwanted neighbors; unlimited opportunity for newcomers became a giant third world sweatshop; and citrus orchards promising Jeffersonian (or at least Levittownian) independence became barren industrial suburbs.

In theoretical terms, Mike Davis is documenting the second contradiction of capitalism in LA. The heedless exploitation of air, land, and water finally threatens to raise the costs of transport and the commute to work, health care, education, and other private and state economic activities to the breaking point. The future development of Los Angeles capitalism itself is uncertain – if the scare stories coming out of the LA media are to be believed. The author, however, doesn't address this contradiction squarely. Nor does he interpret LA's social movements – which seek to redefine capitalist conditions of production as conditions of survival and life – in a terribly interesting way. Had he done so, more of LA's future could have been "excavated" than the impressive amount that the author actually mines in this fine book.

NOTES

[1] Exceptions are noted in the text. However, even Allen Pred, who offers the most sophisticated methodological criticisms (namely, that Cronon conflates the shaping of landscapes as both medium and outcome of human agency contingent on the previous histories of people and nature, i.e., the enabling and constraining conditions built into the products of human agency with the agency of these products itself) doesn't say what difference it would make if Cronon had used his method.

[2] There seem to be two exceptions. Merchant says that by "bracketing the relations of production, Cronon's critique of the market is limited to its ecological costs." Page and Walker show that a focus on capital accumulation and concomitant technological change in industry and agriculture would better explain the speed of ecological transformation and economic development.

[3] Of course, this takes the subject of accumulation but one small step beyond the account offered by Page and Walker. There may be a demand for replacement goods even in hard times, and there is always a demand for basic food and shelter. Yet everything else being the same, the higher the rates of profit and accumulation (a subject no one discusses with respect to Chicago in the last half of the 19th century), the faster will both wage goods and capital goods markets expand. If there are economies of scale (including external economies), as there were in Chicago's heyday, the rates of profit and accumulation will accelerate. This assumes not only that markets are growing, but growing more or less at the same rate as physical productive capacity and profits; that there is no tendency toward a crisis of overproduction; and that cost-side crises (e.g., external diseconomies) are absent.

CHAPTER 6

SOME OBSERVATIONS ON "ECOLOGICAL CRISIS"

Three decades ago, Gerhard Masur wrote that "the idea of crisis is penetrating the most varied fields of human activities!"[1] While Masur unaccountably failed to include ecology as one of these fields, his remark is apt. The idea of a "global environmental crisis" is now fixed in the minds of most literate persons and has moved to the center of serious discussions of the impact of world economic growth and development on the natural environment. In the late 1960s, "the biologist, Lord Ashby, while chairman of the standing Royal Commission on Environmental Pollution—itself a response by the British government to mounting environmental concern—suggested that we face not a single crisis, but a critical period, or climacteric, as a series of natural systems threatened collapse under the tide of industrial pollutants, and with the exhaustion of key resources."[2] In 1990, Mustafa Tolba, executive director of the U.N. Environmental Program (UNEP), singled out global warming, ozone depletion, and loss of biodiversity as the most important "threats" to the natural world.[3] As Tolba warned of "global genocide"; Michael Soulé, a founder of conservation biology, stated that unless action is taken to save the world's rainforests, there will be an ecological "disaster."[4]

Environmentalist discourse routinely contains expressions such as "threatened species; "endangered habitat; and "vanishing forests." "Danger," "peril," "risk," and "emergency," regularly reoccur in the vocabulary of ecologists and environmentalists. Journalists label a wide variety of events, from oil spills to nuclear accidents, "environmental crises': which they typically define in objective terms, derived from one of the meanings of "crisis" in use two and a half millennia ago by the Greeks, and still common in medical practice today, namely, the turning point of an illness at which it is decided whether the patient lives or dies, or whether the disease turns into another (more serious) ailment.

The Greek definition of crisis is also a "discourse" in that it contains strong subjective elements, or arguable evaluations of the course of a disease. Consider

the meaning of "environmental pollution." Osvaldo Sunkel and Jose Leal supply an objectivist definition: "abuse of the assimilative capacity of the environment' as a dumping ground for waste and waste materials. This capacity may be regarded *as* a resource which is renewable and therefore recoverable, except in cases of extreme abuse, when it may become depleted through the collapse of the ecosystem."[5] By contrast Mary

Douglas—in *Risk and Culture*—argues that ideas about pollution are not fully explained by physical dangers, that communities censor their own pollution beliefs, and that they develop sensibilities that are often miles apart from scientifically measurable risks.

We can adopt a definition of "crisis" as arguable evaluations of (say) the health of a forest without subscribing to Douglas's extreme subjectivism and relativism. A forest crisis can be said to exist when no one knows whether or not the forest is being harvested on a sustained-yield basis —sustainability defined as the capacity of the forest ecosystems to retain their biological productivity despite disturbances from the outside, for example, by large-scale timber operations. Such an understanding of crisis puts strong emphasis on the judgments of human agents, whether scientists or not_ More often than not, two ecologists studying the same species population in two different habitats are likely to disagree about both the turning point when it is decided whether a species lives or dies and the outcome of this turning point. This is so for at least three reasons. First, species populations are usually dispersed in accordance with resource availability (called "clump dispersal"). It is not uncommon for particular populations in one dump to die off, and also for the habitat to be repopulated simply because it is a good spot for certain species.

Typically, most populations do not "self-destruct" but instead respond in (weakly) predictable ways to outside changes in climate, predator populations, and so on. In this sense, *the* species in question may *never* achieve an "equilibrium" with its habitat, but rather might be in a kind of permanent "crisis." Second, no single model of either species or population of species holds because habitats are (somewhat or very) different, for example, because of the quality of available nutrition. Third, while territoriality is said to be a crisis-prevention mechanism, the site-specific character of ecological knowledge suggests that "territories" (as well as the effects of outside disturbances) arc probably more often than not ill-defined or difficult or even impossible to know In general, ecologists teach that the mechanisms of plant growth are much harder to study than those of animal populations because it is relatively easy to calculate the age profile (hence one key predictor of survival or growth) of the latter. Plant ecologists thus typically study dispersal patterns, while animal ecologists study population growth mechanisms.

Nineteenth-century historians often used "crisis" to signify the turning point in the destiny of a nation or peoples, a time for decision, or the moment when a people's will is truly tested. In these senses, George Bush's war against Iraq was a crisis, a turning point at which America projected its power abroad and "restored *the* credibility that it lost in Vietnam." One might imagine a future president similarly proving that he or she has the "right stuff" by leading a massive effort t

reduce global warming or to end dependency on fossil fuels by huge subsidies to "soft energy paths." A subjective concept of crisis would include historical conjunctures•(e.g., major wars) when populations cannot accept in a matter of fact way the normality that

they usually take for granted. This sense of "crisis" is broad enough to include periods of intense economic and political, hence ecological, uncertainty[6]; high anxiety and suspense at the personal level (e.g., a family system in decay), hence available social psychological resources for any serious green politics and the chances of global ecological ruin, hence prospects of both widespread political debate and the demand for the political regulation of a runaway global capitalist economy.

The most important meaning of crisis, including ecological crisis, would seem to be "turning point," and thus "time for decision." An example would be the antagonistic relationship between socioeconomic groups in class society, or the struggles between (and within) classes at the moment when no one knows or can know which class or group will succeed in imposing its will on others. This sense of "crisis" can be extended, for example, to conflicts between rich and poor countries ("environmental amenities" vs. the "environmentalism of the poor") as well as to other national economic and political rivalries, and also to struggles between green and other social movements seeking to preserve nature, community; and individual life, on the one hand, and structures of property and power that are dependent on economic growth, on the other.

Subjective dimensions of any useful concept of environmental crisis are required because objectivist definitions typically (always?) contain a number of unscrutinized assumptions. Consider, for example, the announcement, that "the government added 60 types of plants and animals to its list of endangered and threatened species... pushing the total to a record 883. Of that number, 764 were classified as 'endangered' or at risk of extinction. The remaining 119 were placed in the 'threatened' category reserved for species likely to become endangered."[7] Is "endangered" the point of crisis, or is it "threatened"? Or both, indicating degrees of crisis? What time span is being assumed and how much is "bureaucratic counting;' compared with the results of the hard work of ecological scientists, reflected in these numbers?

A number of examples can be adduced to show that "ecological crisis" is as much (or more) a political and ideological category as it is a scientific construct. For example, a *New York Times* headline in 1987 announced that "World Delegates Warn of a Peril to Wilderness."[8] According to the news story, "At least half of the remaining stock of wilderness is not self-protecting by virtue of its forbidding nature. It can slip away easily with little notice…. The Arctic wilderness of Canada and Alaska was seriously threatened by oil and gas and mineral development and... population pressures are quickly eroding wild areas in Africa and South America." Less than 20 percent of the wilderness areas identified in a report presented to the Fourth World Wilderness Congress are "formally protected;' the story continues. The well-known problem with any claim that "wilderness" is in "peril" or "threatened" is that the concept has no (or weak) scientific standing

Wilderness is not a species or an ecosystem, but rather a social construct deriving from

well-established Romantic (idealist) "nature-loving" sensibilities that are over 200 years old. When governments intervene to designate "wilderness areas" and especially when governments manage these areas and emphasize what Michael Frome has called "short-order wilderness served like fast food,"[9] the concept of "wilderness" becomes a political category. The *Times* story thus denotes a political and culture condition at least as much as an ecological fact.

Here is another example dramatizing the political and ideological dimensions of the idea of "ecological crisis." "Wetlands, the crucial habitat for waterfowl and other birds, are vanishing at an astounding pace. Nationwide, more than 450,000 wetland acres are lost every year; that translates into 1,200 acres per day going under the bulldozer. In California, home for some 14 million wintering ducks and geese, less than four percent of the marshes available a century ago exist today... Recognizing the need to preserve what is left, a national nonprofit organization that emphasizes restoration instead of political rhetoric is moving into California in a big way"[10] This account offers a political concept of ecological crisis parading as a scientific *one* (e.g., "crucial habitat"). A key element of the ecological equation is missing: how many wintering ducks and geese used California's marshes a century ago? Would the remaining 4 percent of wetlands suffice to support 14 million birds? If not, can they reroute their migration inland? More questions of this type come to mind. The point is that the environmental organization in question ("the national nonprofit organization" mentioned in the story) buys wetlands, thus has an interest in making the issue appear strictly ecological or technical rather than cultural and political.

Whether or not a species dies off, an ecosystem is destroyed, or a wilderness or wetland threatened are political, ideological, and cultural as well as ecological questions. This fact has two ramifications. First, ecological crisis can be defined as the turning point in the political battle between, for example, environmentalists who are trying to protect an ecosystem or "wilderness, and capitalist developers who are driven by investments and hope for profit, namely, the moment or time when no one knows which side will win. Second, this is first and foremost a political turning point precisely because it is not *clear* whether the destruction of a wetland or species has gone past the point of no return, Thus, it may or may not make a difference whether or not interested individuals and groups intervene in favor of keeping the wetland or particular species alive).

Once we accept the political and ideological character of such "crises:" we can begin to identify the specific *material interests* that may be at stake. Scientific claims in such a context dearly must be evaluated in light of the scientists' relationship with the interests involved in the struggle.

Two further examples illustrate this point. Advertisements have appeared in the *New York Times* warning of global warming and of the profound adjustments that the world will have to make if the earth gets warmer. However, when we learn that the nuclear power industry is paying for the ads, our suspicions should be

aroused since this industry has a vested interest in reducing our current dependency on fossil fuels in order to increase our demand for nuclear power. The second example is taken from the story of ozone depletion by chloroflurocarbons (CFCs). Dr. Robert Watson, chief scientist for NASA's ozone project, stated in October 1987 that CFCs "are having a role in the destruction of ozone at all latitudes'' Dr. E Sherwood Rowland of the University of California at Irvine, who warned of danger to the ozone layer in the early 1970s, said in the same month that it would be "very risky, [even] foolhardy" to assume that the process at work in Antarctica could not spread into temperate zones. Also in the same month, Dr. Mack McFarland, a scientist with E. I. Du Pont de Nemours and Company, one of the largest CFC producers, said that it was unlikely that the process at work over Antarctica could occur elsewhere. If this a difference of scientific opinion? Or a difference of interests? Or both?

Once we start thinking about ecological crisis in terms of material interests, we can link the concept to political and economic crisis tendencies. Two examples are Canadian forests and the world's fisheries. Many Canadians refer to a "forest crisis" For some ecologists, this means that Canada's lumber and paper and pulp industries no longer harvest forests on a sustained-yield basis. For those who see the forest as an ingredient of Canada's national identity, the "crisis" may mean the sight of ugly clear-cut land, and all that this symbolizes. For the paper and pulp mill industry, the "crisis" signifies a shortage of lumber. At a given level of world demand for paper and pulp products, a forest crisis means a threat to the economic viability of the industry.

Alternatively, if the industry faces uncertainty or economic trouble, it may seek cheaper logs. To acquire them industry managers may have to use environmentally unsound methods of logging, creating a "crisis" as ecologists might define the word. Wood available to pulp mills depends not only on cycles of regeneration of trees but also on costs: how distant the trees are from the mill, the presence or absence of access roads, and the price of pulp in the U.S. market, among other factors. There may be a shortage (or surplus) of wood in economic terms without any necessary connection to natural conditions of supply and regeneration.

There is wide agreement that the world's fisheries are in a "dire state... despite what experts say are the extraordinary difficulties of gathering data... Scientists, industry experts and government officials agreed at a United Nations conference . . . that the evidence undeniably showed that overfishing and the destruction of habitat have caused alarming drops in marine populations."[11] This "threat" to the environment is global in scope, "with implications for future food production and the economic stability of the countries dependent on fishing" The harvesting of some major food fishes has unquestionably sharply declined in recent years. The U.N. Food and Agriculture Organization reported in 1993 that nine of the world's seventeen major fisheries are in serious trouble (four are classified as commercially depleted, the others as either "fully exploited" or "overexploited"). The most heavily fished species "are approaching not only

commercial, but biological extinction." Changes in weather patterns, water temperature, and salinity; the growth of fishing fleets; more efficient technology, fishing practices that kill immature fish; the destruction of coastal ... spawning grounds; and fishing operations that ignore regional fishing agreements—all are cited as the main causes. Here, there is a "crisis" of major proportions: for the fishing industry, for fish-exporting countries, and for countries whose populations depend on sea life for protein. Whether this is also an "ecological crisis" defined in terms of the ability of fishing stocks to recover from the beating they have taken by various natural and human-made factors is another question. "We've learned that there's more and more information that you need to make an intelligent decision about what the natural resilience of the stock is; Australian biologist Mary Harwood said, "and what a safe level of harvesting might be; "Fish in their natural element will not stand still long enough to be counted; David Pitt writes. "There are also, many note dryly, a vast number of fish still scattered over 70 percent of the Earth's surface' There is doubtless a gathering economic crisis of the world's fisheries of global proportions; but whether there is an ecological crisis—in some scientifically defined sense—is an open question. In either case, in capitalist societies, where nature "counts" first and foremost as potential exchange value, naturalistic definitions of crisis invariably become confused with, and are often inseparable from, economic definitions.

"Ecological crisis" may also refer to the economic troubles of whole regions, as well as to the struggle between regional groups of capital. "The health of San Francisco Bay hangs in the balance, and like doctors arguing over a difficult case, the experts still cannot even agree whether the patient is sick.... The bay is either ailing or thriving, depending on which expert you ask.... It comes as no surprise that the scientific rift runs along geographic lines. From the north, the bay looks sickly; from the water-hungry south, it appears to be doing just fine"[12] Here we have a good example of the subjective element in the definition of ecological crisis, that is, arguable evaluations of the course of the disease, as well as an example of money and power informing the debate over whether or not a crisis exists.

There would seem to be no truly objective definition of "ecological crisis." There are those who deny that there is a crisis and maintain that the future will evolve out of the present in more or less predictable ways. "Reports of threats to the global environment often set off waves of skepticism; David Pitt writes, "much of it from scientists who argue that knowledge about complex phenomenon is far too limited to justify jumping to apocalyptic conclusions."[13] Many economists who worry about the cost of environmental protection to business as a result of the actions of "environmental kooks" scoff at the idea of a "crisis." "By developing . . stories of imminent catastrophes, environmental extremists can secure attention, financing from the public, and, often, their policy objectives," economist Thomas Gale Moore writes. "The media knows that stories of impending doom sell newspapers and attract viewers. Scientists understand that fear of calamities can generate support for research projects.... A scientist who asserts that an

alleged disaster is phony or overstated will receive little support for his

research while incurring the enmity of his colleagues."[14] After reminding his readers that "the major trade conflicts between advanced countries revolve around huge surpluses (not shortages) of food; Moore, a senior fellow at the Hoover Institution, debunks the Alar, acid rain, and global warming scares. Ironically, the basis for this debunking are statistical studies of the same type that Moore condemns when carried out by pro-environment scientists. To prove that there is massive uncertainty about the dangers of environmental destruction, Moore deploys "scientific" studies as if their results were certainties.

There are those who insist that the environmental crisis demands quick and decisive action to prevent some form of catastrophe, as well as those who are timid or cautious, unsure whether or not there is a crisis. An example is the debate on atmospheric ozone depletion noted above. After being ridiculed by governments for years, those who warned that the ozone shield was being "eroded" by CFCs finally were heeded in 1987, when forty countries agreed on a plan to freeze the present level of CFC use, then to reduce consumption by one-half by 1999. In early scientific discussions, a distinction was made between the degree of ozone depletion and its causes. Some argued that if the causes were not understood, there was no (or less) cause for alarm. This suggests that the statistical magnitude of an ecological problem is less important than science's understanding of the problem.

By 1987, there was no longer a debate about whether chlorine was a factor in the erosion of the ozone shield, only about how great a factor it was. The green position was that. chlorine production should be banned immediately, even if ozone loss turned out to be mainly due to non-man-made factors, on the grounds that "every little bit helps;' and also because this was the only factor under human control. By contrast, one line put forth by scientists (partly financed by the Chemical Manufacturers Association) was that if humankind's contribution to ozone loss is (say) 10 percent, the production of chlorines needs to be cut back not completely but by only a certain amount. Some scientists concluded from the facts that there may or may not be a human-made crisis of the ozone shield, and that more facts are needed; the same facts led environmentalists to conclude that CFCs should be banned immediately, in other words, that there is a crisis and quick action is needed. The Montreal protocol in 1987 was a compromise, a way to bring the balance of nature and the bank balances of business into line.

Established opinion leaders understand that talk of crisis itself creates uncertainty. Another group thus surfaces—the cautious liars—who deny the existence of crisis, when, in fact, they think that there is one. Then there are those who believe that there is a crisis but secretly hold stronger opinions than they are willing to admit. There are also the dissemblers who privately scoff at the notion of crisis, but act in an alarmist way, to manufacture a sense of danger that they hope will help mobilize public opinion and

action in favor of their interests. By contrast, capitalists often hire PR Oaks to play down crisis talk ("greenwashing") and play up business's commitment to green technology and products, because they fear the economic cost of facing up to a "real" crisis.

The true Orwellian discourse on crisis, however, may emanate from the

political establishment. The less the political class talks of crisis, the more likely it is that a crisis may in fact exist. Do those in power underestimate problems, while those out of power overestimate them? The irony here is that the "ins" usually have more, albeit different, information than the "outs," hence may be better situated to know the truth. Even though those with the greatest knowledge also have exaggerated powers of denial, those in power (the national security state based on this reality) sometimes manufacture "crises" in order to mobilize support for what otherwise would be unpopular military, economic, or other policies.

To summarize: the key features of "crisis talk" are highly uncertain outcomes based on material interests; socioeconomic and political struggles and conflict. arguable evaluations of the existence of crisis; the high probability of ideological constructions of crisis; and the fact that during crisis moments the individual can make a difference with regard to the resolution of the crisis, since, by definition, no one knows or can know its actual outcome. This last feature is reason enough to become an environmentalist (and social and political) militant and join the battle for an ecologically rational and sensitive world.

NOTES

[1] "Crisis in History," *Dictionary of the History of Ideas* (New York, Scribner's, 1968), p. 595.

[2] Philip D. Lowe and Michael W Worboys, "Ecology and Ideology; in F. H. Buttel and H. Newby, eds., *The Rural Sociology of the Advanced Societies* (Montclair, N.J.: Allanheld, Osmun, 1980), pp. 433-434. Foreshadowing my discussion below, the authors continue: "Yet others, such as John Maddox, then editor of *Nature*, questioned the very existence of a crisis, other than in the minds of the 'prophets of doom. Interestingly, Ashby, himself... subsequently declared that 'The danger is political not ecological collapse.'"

[3] Quoted by Jon Stewart in the *San Francisco Chronicle*, 6 June 1990.

[4] Quoted in Bob Holmes, "How Fast Are They Going Extinct?," *Science Notes,* University of California at Santa Cruz, Winter 1992, p. 3.

[5] Osvaldo Sunkel and Jose Leal, "Economics and Environment in a Developmental Perspective," *International Social Science Journal*, 109,1986, p. 419.

[6] One example (*New York Times*, 29 October 1987): "The study [of the Energy Department] says that there are major gaps in the understanding of how the reactors would perform in certain kinds of accidents that civilian plants are destined to withstand. The study also concludes that 'there are significant uncertainties' about the ability of the reactors to limit the release of radioactive materials in an accident. The plants have filters meant to trap radioactive particles, while commercial plants are housed within commercial structures that are supposed to hold in all radioactive substances." Here we have an example of 'crisis" defined as uncertainty,

based on the absence of sufficient technical information.

[7] *San Francisco Chronicle*, 1 February 1986.

[8] *New York Times*, 12 September 1987

[9] Michael Frome, *Regreening the National Parks* (Tucson: University of Arizona Press. 1991).

[10] *San Francisco Chronicle*, 11 September 1987.

[11] David E. Pitt, *New York Times*, 3 August 1993. All quotes are Pitt's, unless otherwise noted.

[12] *San Francisco Chronicle*, 4 January 1988.

[13] *New York Times*, 3 August 1993.

[14] Thomas Gale Moore, "Environmental Kooks Dream Up Crisis." *San Francisco Chronicle*, 14 September 1992.

CHAPTER 7

THE CONDITIONS OF PRODUCTION & THE PRODUCTION OF CONDITIONS

INTRODUCTION

Capitalist nature may be provisionally defined as everything that is not produced as a commodity but that is treated *as if* it is a commodity. This formulation owes as much to Karl Polanyi as it does to Karl Marx. Polanyi defined "labor" and "land" as make-believe or fictitious commodities. "Man under the name of labor, nature under the name of land, were made available for sale.... There was a market in labor as well as in land, and supply and demand in either was regulated by the height of wages and rents, respectively; *the fiction that labor and land were produced for sale* was consistently upheld."[1] Land and labor are not produced as commodities in accordance with market forces or the law of value. Hence only in a make-believe sense can they be regarded as exchange values. In Marxist terms, the statement that land and labor are commodified means that they are treated as if they are a product of labor to which an abstract value can be affixed.[2]

Marx's concept of the "conditions of production" can be interpreted to mean roughly the same thing as Polanyi's "labor and land." "Roughly" because Marx sometimes used the expression "material conditions of production" in a wider sense to include "property in capital" as well as property in "land"[3] and also because he identified not two but three "conditions of production." He called the laborpower of workers the "personal condition of production." Land is called the "natural condition" or "external physical condition." Physical infrastructure, that is, "the means of communication and transport," is given the label "communal, general conditions."[4]

The fictitious nature of laborpower, the "personal condition;" is clear. Laborpower is a make-believe commodity in the sense that it is not produced and reproduced for sale on the market. Nor can it be separated from its owners, and

thus it cannot circulate freely on the market. The laborpower of workers, their physical and mental well-being, the kind and degree of their socialization and technical qualification, their ability to cope with the stresses of work relations, and so on are one and the same. Bourgeois ideology to the contrary, no essential or core "self" has a grant of immunity from the commodification of laborpower.[5] Human beings as social productive forces are biological and social organisms, however much the labor market pretends otherwise.

Because laborpower is not produced and reproduced in ways governed by the law of value, the price of laborpower cannot be explained in terms of its exchange value. Strictly defined, laborpower has no exchange value (only the value content of the consumption basket – not the size of the basket – is market-determined). There is no guarantee that laborpower even will be available in the form of a fictitious commodity, much less that it will be reproduced under conditions that permit or favor capitalist production and accumulation. This is so because workers are not only the objects but also the subjects of the exchange of laborpower for wages, and also the subjects as well as the objects of labor (material production) itself. If laborpower is treated by workers as if it is a commodity, then it may be treated as if it has a value. If workers do not permit their laborpower to be treated thusly, then the make-believe that it has a value breaks down; in this case, workers value their own laborpower. This "self-valorization" depends in the last instance not only on the rhythms of the economy, productivity, profit rates, and so on, but also on the class struggle, feminist struggles, nationalist struggles, and the complex articulations between economic, political, and social life generally.

Marx defined a second condition of production as *"the communal, general conditions of social production"* or "the general conditions of the social process of production, that is, in the means of communication and transport."[6] These "general conditions" have been theorized by a number of Marxists.[7] Most theorists include the physical and social infrastructure (e.g., roads and education, respectively) and also human-made space as the main general conditions. We can also add "community capital;" that is, cultural features of community life that can be valorized by capital. Infrastructure is the prerequisite for bringing together land, resources, and laborpower with capital. Urban and other human-made space permits capital to combine the "factors of production" in certain ways and not others. Lojkine's definition of general conditions is the most comprehensive: those "factors so important to constitute other 'necessary conditions' for the overall reproduction of the developed capitalist formation. They are... the *means of collective consumption...* the *means of material circulation* (i.e., the means of communication and transport) and... the *spatial concentration* of the means of production."[8] Hirsch presents another definition that includes the "*'general material'* conditions of production in the narrower sense, for example, roads and channels, and *'general'* conditions of production which for capital are incorporated in labor power (e.g., health service), education, and also research in the broadest sense."[9] Mandel's definition of general conditions is similar to Hirsch's.

He distinguishes between "the *general-technical* preconditions of the actual process of production (means of transport and communication, the postal service, and so on); the provision of the *general-social* preconditions of this same process of production; ... and the continuous reproduction of those forms of intellectual labor which are indispensable for economic production.[10] This is similar to the concept of social investment and social

consumption developed in the present author's study, *The Fiscal Crisis of the State.* Lojkine's conceptualization of the general or communal conditions of production is perhaps most coherent since it includes the organization of space in general and urban space in particular.

Urban physical and social infrastructure, space, and community capital (the latter is still an undeveloped category) are also fictitious commodities. They are typically not produced and reproduced for sale on the market (office space, housing plots, etc., excepted) and they cannot circulate freely on the market, that is, they are either site-specific or cultural attributes of a particular community. Also, like laborpower, the general conditions have no exchange value, strictly speaking. The supply of public transport and communications is not directly governed by market forces or the law of value. Also like laborpower, there is no guarantee that infrastructure and space will be available in the commodity form. Finally, the value of infrastructure and urban space depends not only on market demand but also on the power of various capitalist fractions or blocs and the class struggle in general and urban movements in particular.

The third condition of production was called by Marx the "external physical conditions"[11] or "natural conditions."[12] "External physical conditions fall into two great economical classes, (1) natural wealth in means of subsistence... (2), natural wealth in the instruments of labor." The former includes "a fruitful soil, waters teeming with fish, etc."; the latter includes "waterfalls, navigable rivers, wood, metal, coal, etc." Marx elsewhere refers to external physical conditions as the "natural elements entering into constant and variable capital." These conditions or natural elements may be defined in terms of nature's contribution to physical production independent of (or abstracted from) the quantity of labor time (or the amount of capital) applied to production. Favorable natural conditions increase the productivity of labor, hence *reduce* (not increase) the exchange value of commodities, and in turn (everything else being the same) increase the production of surplus value and profit.

In Marx's time, theoretical accounts of natural or external conditions were based on the idea of natural scarcity or natural limits. Today, not only are we in the midst of a revival of energy economics, but external conditions are discussed by ecological economists in terms of the economic as well as the ecological viability of ecosystems, the economic implications of the greenhouse effect, the stability of coastlines and watersheds, the consequences of resource exploitation for ground rent, soil and water quality and agricultural productivity, costs of prevention of acid rain, and a host of similar questions. The whole issue of "natural conditions" is becoming an increasingly important topic in economic theory today – more important than in Marx's time because of the capitalization

of a worldwide "second nature" by national and international corporations and banks.

In the manner it treats laborpower and the communal conditions of production, the

market treats external or natural conditions as fictitious commodities. With a tortured and crackpot ingenuity, neoclassical economists today try to attach prices to clean air, attractive views, and other environmental amenities; wilderness areas; and even rainforests. Yet, however much capital is applied to the soil, water tables, coastlines, and mineral deposits, they are produced by God, who did not make them for sale on the world market. Accordingly, like the personal and general conditions, external conditions have no exchange value, strictly defined. Also like the personal and general conditions, there is no law of value at work making land, soil, water, and other natural elements available to capital in the requisite quantities and qualities and at the right place and time. Ground rents theoretically play this allocative role, but rents are explicable mainly in terms of the power of landed property versus industrial capital and other capitalist fractions.[13] In fact, the whole program of the allocation of natural resources is a political issue in much the same way that education, welfare, urban space, and other production conditions are political issues. Finally, the "value" of external nature depends not only on market demand and ground rent but also on the class struggle in general and the environmental struggle pertaining to the ways that nature may or may not be legally or legitimately used in particular.

"Condition" is a word with roots in classical Greek, where it was given powerful "objective" connotations and meanings. Perhaps Marx used the word because he deliberately chose to theorize the problem of laborpower, infrastructure and space, and nature in a priori terms. In fact, Marx sometimes elided the active, autonomous role of nature (whatever metaphor is used to describe nature, e.g., "competition, "cooperation, etc.) in his theory of capital. He also objectified laborpower, infrastructure, and space in this theory, which at times seems to work better as a theory of the conditions of capitalist accumulation rather than of capitalist accumulation historically understood. Whether or not this is true, no account of production conditions can ignore the fact that external nature has its own autonomous "laws" or developmental principles; nor the fact that laborpower is the subject as well as the object of exchange and labor; nor the fact that space and infrastructure independently structure capital geographically as well as being structured in indirect ways by politics and markets.[14] The concept of "conditions of production" thus needs to be subjectivized and historicized, that is, treated in less deterministic ways than Marx did and Marxists normally do.

THE CONDITIONS OF PRODUCTION AND THE STATE

Marx identified three conditions of production but he did not theorize them in any systematic way (as Polanyi theorized "land and labor"). Some passages in

which these conditions are mentioned seem to be little more than afterthoughts. He wrote more about the conditions of supply of laborpower than about the general and external

conditions of production. But even the account of "personal conditions" was confined to descriptions of "primitive accumulation" and working-class conditions of life in Marx's time, as well as to the theory of capitalist accumulation and the reserve armies of labor. Little can be found in his works about the conditions of supply of infrastructure and nothing about space, urban or otherwise. The scattered remarks about "external physical conditions" may add up to a theory that raw material scarcity has the effect of increasing the organic composition of capital, hence lowering the profit rate,[15] but most of Marx's attention on "land" was focused on the theory of ground rent. Further, little can be found in Marx and Engels's work about social struggles organized around the provision of the conditions of production excluding, of course, the working-class struggle itself.

One basic reason for this theoretical lacuna is probably historical. In capitalism's early period of extensive development, abundant supplies of laborpower, land and natural resources, and space were readily available. Only during later periods of intensive capitalist development, that is, during the period of capital and market deepening and the real subsumption of labor by capital, do the conditions of production become a systematic rather than a sporadic problem. Whatever the real reasons for this theoretical lacuna, it is important today to address the production conditions theoretically, just as capital, the state, and social movements are addressing these conditions practically.

The theoretical starting point is the observation that the production conditions are not only productive forces but also production relations. They are produced and reproduced (or made accessible) within definite property, legal, and social relationships that may or may not be compatible with the reproduction of these conditions defined as productive forces. This is a crucial theoretical and practical issue because the neglect of education and health (for example), infrastructure, and the natural environment may lead to the impairment of their productive powers, hence, indirectly, to the diminution of the productive powers of capital, that is, to economic crisis (see Chapter 8).

The production and (in many respects) the distribution of the conditions of production are not regulated by the market (or the law of value). There must be an independent or "relatively autonomous" agency that makes human laborpower, nature, and infrastructure and space available to capital in the desired quantities and qualities and at the right times and places. This agency can be no other than the capitalist state that produces these conditions and/or regulates access to, use of, and exit from laborpower, land, raw material, and other markets for fictitious commodities which Marx called "production conditions." As Polanyi argued, state regulation of fictitious markets in the production conditions (and the wider market, in general) is also necessary because in principle there are no limits to the capitalist exploitation of laborpower and land or people and nature. It follows that if the reproduction of the conditions of production is neglected and

their productive powers are impaired or destroyed, in turn damaging the productive

powers of capital, the immediate or proximate cause can be attributed to state structures and policies, not to capital per se.

State structures and policies have been theorized in two different general ways by Marxists. Orthodox Marxists have sought the inner connections between processes of capitalist accumulation and the state. Neo-Marxists influenced by Weber, Lowi, Offe, and others have focused on the relationship between civil society and the state. While there has been much crossover in terms of methods and themes between the two branches of Marxism, there is a strong tendency for the first to be "economic" and the second to be "sociological." Orthodox Marxists underscore the importance of state policies that attempt to guarantee the existence of the production conditions in the commodity form and also to ensure that these conditions are reproduced as such. "The function of the state," one economist writes, "[is] to secure the collective interest of the capitalists, which would be unobtainable (and perhaps endangered) by the actions of individual capitalists."[16] The collective interest of capital is to secure the conditions of production which individual capitals neither alone nor together can accomplish. "It is... a matter of reproducing not laborpower, but the conditions of existence of laborpower."[17] The same may also be said about natural and communal conditions. In sum, a general condition of capitalist production is the politically guaranteed existence of laborpower, urban infrastructure and space, and environmental conditions.

The state may or may not actually produce the conditions of production (e.g., compare a freeway built by the state with a naturally occurring mineral deposit). Even if "the production of the general conditions [and by extension the personal and external conditions] is a specific and fundamental function of the state,"[18] not all conditions are publicly provided. With respect to the general conditions, "capital itself always produces a considerable part.[19]

The family (with the education system) performs most activities that are necessary for the reproduction of laborpower. "Nature's economy" reproduces many natural or external conditions such as soil quality and plant life. One aspect of the theory of conditions of production thus pertains to their relationship to capitalist production and accumulation, not whether or not they are privately produced or produced by the state.

However – and this is the important second point – "the intervention of the state makes a difference in the *form* in which those... conditions are provided, as in this case they are unprofitable activities performed outside the circuits of capital."[20] Further, whether the production conditions are produced by the state, the family or community, or capital itself, the state invariably regulates their production in direct or indirect ways; the state also regulates access to, use of, and exit from the production conditions on the part of individual capitals. Family, labor, education, health, and welfare policy; the criminal justice system; and so on regulate the forms of appearance of laborpower in the labor market. Natural resource, farm, park, water, land, and related policies regulate capital's access to external nature. And urban policy, zoning, urban and regional planning, and the like regulate capital's access to urban infrastructure and space. Taking into account

the wide range of state agencies and policies that pertain directly or indirectly to production conditions, it is no exaggeration to claim that all of the state's domestic functions, excepting (perhaps) maintaining law and order and establishing monetary and fiscal policy, are related in complex ways to one or more of the three conditions of production.

The supply of production conditions and/or the rules of capital's access to these conditions are often highly bureaucratized. Labor, environmental, and urban policies are subject to public scrutiny and accountability. They are usually legislated in accordance with formal democratic procedures and implemented by a (theoretically) impersonal state bureaucracy. Ideally, these policies are regarded by the public as "legitimate" and by capital as "productive." Given the politicization of the conditions of production, if these conditions are neglected, and/or their productive powers damaged, there arises the possibility not only of an economic crisis for capital but also of a legitimation crisis for the state or a political crisis for the ruling parties and government.

This possibility is underscored by the fact that the provision or regulation of the conditions of production is a highly contradictory process. State policy has complex unintended consequences. Policy may benefit individual capitals at the expense of capital as a whole, or capital fractions at the expense of individual capitals. Some industries may be aided at the expense of others, or at the expense of the environment.[21] Certain regions may be favored to the detriment of other regions. The state may undo with one hand what it does with the other.

We can theorize these problems under two general headings: contradictions within capital and their implications for state policy; and contradictions within and between state-produced-or-regulated conditions of production themselves.[22]

There are many contradictions within capital as a whole that have important implications for state policies pertaining to the provision of the conditions of production. First, contradictions exist between the interests of individual capitals and capital as a whole. For example, natural resources may be commodified by individual capitals at the expense of their use as means of collective consumption for the reproduction of laborpower for capital as a whole, as with park land. Second, there exists a range of contradictions between the interests of individual capitals or capital fractions. Will money capital, industrial capital, or commercial capital receive favorable zoning in urban renewal programs? Will landed capital or industrial capital be favored by energy policy? (A startling example of the victory of landed capital over industrial capital was the defeat by domestic oil producers of attempts to establish a state monopoly over Middle East oil after World War II.) Will small or big capital benefit from state policy? Typically, the biggest capitals get their way. A good illustration is the Alaskan oil spill in 1989. Alaska State Department of Environmental Conservation efforts to expand their review of oil industry cleanup procedures were stymied by the political strength of the industry, which had neglected the maintenance of equipment needed to clean up spills and had also disbanded its twenty-member emergency team. Meanwhile, in 1986, the U.S. Coast

Guard, prompted by Congress (under the

influence of big oil) reversed its double-hull standard for oil tankers (the singlehull tankers of the type that spilled oil in Prince William Sound are much cheaper to build). The local fishing and tourism industries lacked the political power to prevent what has often been described as criminal negligence.

There are other issues: Will labor market policy favor consumer goods or capital goods industries; for example, will wages policy be developed in accordance with the need to maintain consumer spending or the need to reduce costs of production? Other contradictions include conflicting requirements of different regional agglomerations of capital; national and international capital; and low-tech and high-tech capital. How these contradictions work themselves out politically determines or influences labor market, resource, urban, and other policies related to the provisioning of the conditions of production. Finally, the short-run and long-run interests of individual capitals and capital as a whole are often in conflict. For example, for years the U.S. Department of Agriculture spent almost all of its budget to support farmers and agribusinesses whose operations result in short-run profits but long-term soil degradation and the salinization of water.

There are also systemic contradictions within and between the conditions of production themselves. The problematic of "production conditions" must be located not only in the relationships within capital as a whole but also within the political system and state bureaucracy. The political system has an independent effect on the state's capacity to protect or restore conditions of production, for example, in relation to external conditions: "While ecological damage, risks, and dangers have a temporal span of millennia, the time-horizons of contemporary democratic procedures are limited to two or three legislative periods. This span even lags significantly behind the future projections of industry."[23] The bureaucracy is also a crucial determinant of the development of the production conditions. "Any explanation of policy in terms of competing bureaucratic interests;" David Beetham writes,

> is incomplete without an examination of the structure within which they are located... [and also] without an understanding of the conventions which govern the expression of such interests, and which regulate the process of bureaucratic competition.... Bureaucracies possess well-developed cultures of their own, and the more so, the more self-enclosed their elite. These cultures embody elaborated codes governing the way administration is conducted, as well as larger assumptions about the world, which set their own limits to the range of policies considered possible or acceptable.[24]

Bureaucratic policy is thus

> the product of compromises between divergent bureaucratic interests, of the limitations imposed by administrative structures, and of the tendencies

> of shared cultural assumptions.... Interests come to be aligned with a given administrative structure, and their expression defined by common cultures and beliefs [hence], the content of policy, and not only its execution, is systematically affected by the character of the administrative systems [and] within bureaucracies, the relationship between means and ends becomes inverted; the nature of the administrative means determines the policy goal or end.[25]

A functionalist theory of the capitalist state that attempts to establish certain definite relationships between state policy and the conditions of capitalist production thus needs to be alerted to the fact that the capitalist state is a bureaucratic state established within a formally democratic political system, hence is "relatively autonomous;' in other words, subject to its own internal tendencies and contradictions. More specifically, the three conditions of production are themselves produced and reproduced within certain social relationships, that is, they are produced and/or regulated by the state.

Production conditions can be defined as "forces of production" or "social relationships of production." Defined as "forces," there is obviously a limit with respect to the kind of "relationship" within which they are produced or organized or regulated. Defined as a "relationship," there is a limit to their development as a "force." Certain kinds of formal learning, public health, land use, traffic patterns, offshore oil drilling, water distribution, and so on are produced within certain definite bureaucratic relationships which in turn define and limit learning, public health, and so on. These relationships may or may not be consistent with the production and reproduction of the conditions of production in their given quantitative and qualitative state. Put another way, given the fragmentation of interests within capital and the state, contradictions between the forces and social relations of the conditions of production may arise. For example, noncommunicable diseases in large part are socially and culturally produced, not genetically determined[26]; education and urban renewal policies in the inner city, health and resources policies in boomtown mining regions, and agricultural and urban policies on the fringes of metropolitan areas (to take three examples) may or may not be congruent.

THE CONDITIONS OF PRODUCTION AND CIVIL SOCIETY

The capitalist state is not only a bureaucratic state but also a political state. The supply of production conditions and/or capital's access to these conditions is not only bureaucratized but also politicized. A functionalist account of state policy thus needs to be further modified to take into account the fact that the bureaucratic state operates within civil society with its ideological, social, and political conflicts and compromises.[27] This

means that the function of the state to "secure

the collective interests of the capitalists [i.e., to secure the conditions of production]... is served... not through an uninterrupted process, but instead through a series of conflicts and confrontations, piecemeal changes and sudden spurts of action."[28] This is a general rule that holds true not only in relation to conflicts between capitals and within the state (as noted above) but also to conflicts within civil society and between movements in civil society, on the one hand, and capital and the state, on the other. Further complicating the theory of the production of the conditions of production therefore are the varied and complex conflicts within civil society: feminist movements, urban movements, ecology movements, struggles of indigenous peoples, and so on.

A telling example pertaining to external conditions comes from a survey of conflicts in the Canadian Great Lakes, which reveals that "of the 28 fishery conflicts, identified according to the users themselves as well as the government regulatory agency, 18 involved the sport vs. the commercial fishery, five sport vs. native, two commercial vs. native, two different groups within the commercial fishery, and one park vs. commercial fishery."[29] There were also two three-way conflicts between sport, commercial, and native fisheries.

In his theoretical works, Marx interpreted civil society as class society in which individuals and social groups are personifications of the categories of capital; for example, bankers personify bank capital, workers personify variable capital, and so on. Civil society is thus thought to evolve in accordance with the laws of capitalist accumulation (e.g., proletarianization, concentration and centralization of capital and capitalists, etc.). By contrast, many Neo-Marxists have argued that civil society is structured by the state. Left Weberians such as Michael Mann have taken the position that "society" is simply another name for the nation-state. In these accounts, civil society obeys certain laws pertaining to the development of the state (e.g., the creation of a client class by the welfare bureaucracy) rather than to the development of capital (at least, in the first instance).

However, civil society cannot be reduced to the structure of either capital or the state. It also evolves in accordance with its own often impenetrable logic of social action. For example, while the women's movement is inexplicable outside of the proletarianization of women and state policy in the area of rape law, juvenile justice, abortion law, and so on, it also represents its own autonomous movements, forms of organization, and interplay of cultural themes. The same can be said of other social movements, including the traditional workers' movement as well as "new social movements" such as the peace, urban, and ecology movements.

In the last analysis, it is the combined force of all economic, social, political, and bureaucratic processes and conflicts that determines the development of particular production conditions and their relationships with one another, and the connection

between these conditions and the process of capitalist production and accumulation. The outcome of struggles within and between capital, the state, and civil society will affect state production and/or regulation of the conditions of production in highly complicated, often unknown, and sometimes unknowable ways. For example, struggles between communities, city governments, construction companies, gas and elec-

tric utilities, and industrial companies that rely on these utilities are often so complex as to defy analysis-until years after the event (illustrated by the struggle over the Hanford, California, coal-burning cogeneration plant to produce steam for the Armstrong Rubber Company's rubber-processing plant and power to be sold to the utility monopoly, Pacific Gas and Electric). The evolution and utilization of land, water, and other resources is more often than not the unintended result of the (weakly structured) free play of conflicts along many different dimensions. Any coherence or fit between capital and its conditions thus is more likely to be the exception than the rule. Or such a fit may be mediated by so many social and ideological forces that it becomes totally opaque. Or (as will be argued in Chapter 8) it may need to be enforced in small and large ways by economic and political *crises.* New Deal programs to reconstruct labor markets, urban infrastructure, land productivity, and conditions of production generally in the South during the crisis of the 1930s are cases in point.

The discussion above leads to the conclusion that the relationships between capital and its production conditions are mediated by socioeconomic and political struggles, ideology, and bureaucratic realities. Conflicts within civil society and social movements and between these movements and the state are fought on complex social, political, and ideological terrains. Most importantly, state restrictions on property rights in labor and land (and property rights in product markets even more so) are typically established only after long, uphill battles. Parties to conflicts within society evoke familist values, tradition, and religion to legitimate their attempts to defend access to, and use of, particular general, external, and personal conditions of production. In struggles between civil society and the state, the basic ideological premise is established by the fact that the capitalist state, to retain its legitimacy, must act in, or present itself as acting in, the name of the people as a whole, that is, be also a "state in capitalist society." Put the other way around, struggles over the production of the conditions of production are universally regarded as more legitimate than workplace struggles and conflicts in the marketplace even more so. State agencies cannot legitimately function openly in accordance with the interests of capital or capitalist fractions, but rather in that of the "general interest" or welfare. Politicians, officials, and planners do not merely personify capitalist interests but are themselves political subjects who are constrained by the dominant ideology, the citizenry, and capital itself. An example is the struggle (alluded to above) to prevent the destruction of old-growth trees in the Tsongass National Forest in Alaska. "Critics say the timber management of the Tsongass demonstrates that the Forest Service... has lost sight

of its mission, to manage and protect the public forests *for the benefit of all,* and the failure is nowhere more evident than here."[30]

However, typically, arguable evaluations about the meaning of "benefit of all" prevail. For environmentalists, the expression means saving old-growth forests for present and future generations; for the timber interests, it means jobs, profits, taxes, and "economic growth." Hence struggles over the conditions of production almost invariably turn on the definition of the "general interest" which, finally, is constructed within the dominant ideology, namely, in the case of late-20th century capitalism, "economic growth, "free enterprise," and "individual liberty."

The state produces, or regulates access to, use of, and exit from, the production conditions, including the "environment" There is no reason to believe, however, that even (or especially) in the best of economic times state policies pertaining to the conditions of supply of laborpower, urban infrastructure and space, and environment will be constructed in ways that are functional for the reproduction of capital as a whole. The many conflicts between fractions of capital and within the state and civil society, as well as between capital, the state, and civil society make any functionalist theory of the relationship between capital and its conditions implausible.[31] Capitalist production and profitability will thus always be problematic, not only because of capital's internal contradictions discovered by Marx and developed theoretically by Marxists. Individual capitals are simply unable to transform in unproblematic ways the conditions of production, which are first and foremost specific or particular use values, into exchange values. In the last analysis, conditions of capitalist production are conditions of human life-and of life itself. It is possible that capital will impair or destroy its own conditions in systematic ways, and also that the state as presently structured will not be able to rationally defend or reconstruct these conditions. In any case, it is "' dear that environmental destruction cannot be laid at the door of capital alone; the state is deeply implicated in the crisis of nature. This same state – under the democratic control of civil society – can be the basis for the reconstruction of nature, and our relationships to nature.

NOTES

[1] Karl Polyani, *The Great Transformation* (Boston: Beacon Press, 1944), p. 131. "Production is the interaction *of* man and nature; *if* this process is to be organized through a self-regulating mechanism *of* barter and exchange, then man and nature must be brought into its orbit; they must be subject to supply and demand, that *is, be dealt with as commodities, as goods produced for sale"* (p. 130, italics added).

[2] Michael Lebowitz, "The One-Sidedness *of* Capital, *Review of Radical Political Economics, 14,* 4, Winter 1982.

[3] Karl Marx, *Critique of the Gotha Programme* (London: Lawrence and Wishart, 1943).

[4] Carlos Carboni (personal conversation, c. 1988) used the expression "social reproductive conditions" to include Marx's "conditions *of* production." I use "conditions of production' because I want to reconstruct the

problem using Marx's own terminology and basic approach, and also because my discussion is limited to the crisis tendencies in the process of production and circulation of capital rather than including the process of social reproduction of the social formation as a whole.

[5] '... *if* the internal consistency *of* the bourgeois system *of* ideology is to be maintained, the power to labor has to be so defined as not to constitute an essential characteristic *of* the self. Were this not the case ... *if* one's essential characteristics were commodities to be bought and sold, the individual would lose all semblance *of* freedom and be reduced to a mere result *of* the conjunction *of* market forces. He would be alienating himself-his very self-in the sale *of* what was essential *to* his nature. Therefore, everything which might be exchanged in the marketplace has to be so defined *so* as to be separable from the pure choice of the individual, the core of the self which liberalism would not permit to be surrendered. From this it followed that every mental and physical power, every capacity and sensitivity of the individual which might be bought or sold in the marketplace ... had to be defined as alien to the 'self, which could now be defined solely as the owner of its alienable attributes, a grant of immunity from commodification... Through this device the individual could maintain the pretense that he was not being sold when he sold his personal attributes, and the structure of bourgeois ideology could maintain its facade of human dignity. What is parceled out and given over to the domination of others is not 'I' but merely 'mine"' (Richard Lichtman, "The Production of Human Nature by Means of Human Nature; *Capitalism, Nature, Socialism, 4,* 1990, pp. 36-37).

[6] Marx and Engels, *Selected Works,* (Moscow: Foreign Languages Publishing, 1962), vol. 2, p. 25.

[7] See Mario Pianta, "The Conditions of Production: A Note; *CNS,* 3, 1989. The most thorough treatment is Marino Folin, "Public Enterprise, Public Works, and Social Fixed Capital: Capitalist Production of the 'Communal, General Conditions' of Social Production; *International Journal of Urban and Regional Research, 3,* 3, September 1979.

[8] Quoted in Pianta, op cit., p. 131.

[9] J. Hirsch, "The State Apparatus and Social Reproduction," in John Holloway and Sol Picciotto, eds., *State and Capital* (London: E. Arnold, 1978), p. 92.

[10] Quoted in Pianta, op cit., p. 131.

[11] Marx, *Capital 1 (New* York: Random House, Modern Library edition, 1936), p. 562.

[12] Marx, *Theories of Surplus Value* (Moscow: Progress Publishers, 1968), vol. 2, p. 515.

[13] This is not true of the "excess profits" appropriated by capital favorably situated with respect to soil with high fertility, rich mineral deposits, etc., in the absence of a landed class. But these "excess profits" presuppose monopoly power over land, which in the last analysis turns on the political power of the particular capital in question.

[14] Respectively, Donald Worster, *Nature's Economy: The Roots of Ecology* (Garden City, N.Y.: Doubleday 1979); Harry Cleaver, *Reading Capital Politically* (Austin: University of Texas Press, 1979); and David Harvey, *Consciousness and the Urban Experience* (Baltimore, Md.: Johns Hopkins University Press, 1985). The works of Henri Lefebvre and Manual Castells also "subjectivize" the "urban."

[15] Michael Perelman, "Marx as a Natural Resource Theorist," *CNS, 4,* 2, June 1993.

[16] Hugh Mosely, "Capital and the State: West German Neo-Orthodox State Theory," *Review of Radical Political Economics, 14, 1,* Spring 1982, p. 25.

[17] Aboo T. Aumeerruddy, Bruno Lautier, and Roman G. Tortajada, "Labor-Power and the State," *Capital and Class,* 6, Autumn, 1978, p. 50.

[18] Folin, op cit., p. 51.

[19] Hirsch, op cit., p. 91.

[20] Pianta, op cit., p. 130.

[21] "The Forest Service has lost 98 cents for every dollar it spends on the logging program in the Tongass National Forest, a network of evergreen-covered islands and lush valleys encompassing most of the 500-mile-long Alaskan panhandle. Critics say the timber management of the Tongass demonstrates that the Forest Service spends most of its money servicing industry to the detriment of the environment and taxpayers. They say that the agency has lost sight of its mission, to manage and protect the public forests for the benefit of all,

and that the failure is nowhere more evident than here" (Timothy Egan, "Logging in Lush Alaskan Forest Profits Companies and Costs U.S." *New York Times,* 28 May 1989); see also "Subsidies Hurt Environment, Critics Say Before Talks; *New York Times,* 23 June 1997.

[22] The contradictions between capital and its conditions of production is the subject of Chapter 8.

[23] Alex Demirovic, personal communication, May 1994.

[24] David Beetham, *Bureaucracy* (Minneapolis: University of Minnesota Press, 1987), p. 51.

[25] Ibid., p. 52.

[26] Thomas McKeown, *The Origins of Human Disease* (Oxford: Basil Blackwell, 1988).

[27] The long history of ideas of "welfare," "adequate education; "public health; etc., bears on the supply of "personal conditions." The history of urban planning and design that pitted visionaries such as Harold Geddes and Frank Lloyd Wright, influenced by anarchist ideals, against the totalitarian visions of a Le Corbusier similarly bears on the supply of "general, communal conditions" (Peter Hall, *Cities of Tomorrow: An Intellectual History of Urban Planning and Design in the Twentieth Century* [Oxford: Basil Blackwell, 1988]). Finally, the history of conflicts over the idea of nature, e.g., the Christian Enlightenment idea vs. the pagan Romantic concept, bears strongly on the supply of "external conditions" (Worster, op cit.).

[28] Mosley, op cit., p. 26.

[29] Thomas Whillans and Fikret Berks, "Use and Abuse, Conflict and Harmony: The Great Lakes Fishery in Transition;' *Alternatives, 13,* 3, 1983, pp. 10-19.

[30] Egan, op cit. (italics added).

[31] "The rejection of mechanistic views of state policies leads us to see their outcomes as an open process that can be explained only by concrete analyses of specific cases. An example of this approach is the work of Hirsch, who, after stating that the provision of the 'general conditions of production' is a basic function of the state, stressed that from this one cannot determine in the same way what concretely must become the object of state 'infrastructural provision' at any historical point in time, nor whether the state apparatus will supply the need" (Hirsch, op cit., p. 91). From this, Hirsch concluded that "trying to define infrastructure enumeratively and conclusively is senseless, as the 'general conditions' provided by the state depend on the social processes and on the balance of class forces" (p. 92). "Thus, a possibility is open for the development of contradictions between state and capital, between the political and economic spheres, between state policies and specific requirements of economic development." As Hirsch put it: "Since these 'general social conditions of production' do not automatically adapt to capital accumulation, the crisis breaks out into the open when the process of accumulation comes up against their limits" (p. 74). "In this way, the development of state policy is the joint result of the process of capital accumulation, and of the specific conjuncture of social and political forces; thus the development of the resulting 'general conditions of production' is immediately related to the development of social relations" (Mario Pianta, *State Investments and Urban Restructuring: The Case of Turin, 1960-1978* [Ph.D. diss., London School of Economics and Political Science, 1983], pp. 82-83).

CHAPTER 8

THE SECOND CONTRADICTION OF CAPITALISM

INTRODUCTION

This chapter expounds an elementary version of the traditional Marxist theory of the contradiction between forces and relations of production; overproduction of capital and economic crisis; and the process of crisis-induced restructuring of productive forces and production relations into more transparently social, hence potentially socialist, forms. This exposition provides a point of departure for an "ecological Marxist" theory of the contradiction between capitalist production relations and productive forces and the conditions of production; underproduction of capital and economic crisis; and the process of crisis-induced restructuring of production conditions and the social relations thereof, also into more transparently social, hence potentially socialist, forms.

While the two processes of capital overproduction and underproduction are by no means mutually exclusive, they may offset or compensate for one another in ways that create the *appearance* of relatively stable processes of capitalist development (see the Addendum to this chapter). Study of the combined development of the two processes in the new global economy may throw light on the decline of traditional labor and socialist movements and the rise of "new social movements" as agencies of social transformation (see the Introduction to this book). In similar ways that traditional Marxism illuminates the practices of traditional labor movements, ecological Marxism may throw light on the practices of new social movements. While ecology and nature; the politics of the body, feminism, and the family; and urban movements and related topics are usually discussed in post-Marxist terms, the rhetoric deployed in this chapter is self-consciously Marxist and designed to appeal to Marxist theorists and fellow travelers whose work remains within a social scientific discourse, hence those who are least likely to be convinced by post-Marxist discussions of the problem of capital's use and abuse of nature (including human nature) in the (post-)modern world. However, the emphasis here on a political economic or "scientific" discourse is tactical, not strategic. In reality, more or less autonomous social relationships,

many noncapitalist or anticapitalist, constitute "civil society," which thus needs to be addressed on its own practical and theoretical terms. In other words, social and collective action is not meant to be construed merely as a derivative of the systemic forces discussed in this chapter (see Part III of this book).

In 1944, Karl Polanyi published his masterpiece, *The Great Transformation,* which discussed the ways in which the growth of the capitalist market and economic relations generally impaired or destroyed their own social and environmental conditions.[1] The subjects of the ecological limits to economic growth and the interrelationships between development and environment were reintroduced into Western thought in the 1960s and early 1970s. The results have been mixed and often highly dubious. Polanyi's work remains a shining light in a heaven filled with dying stars and black holes of bourgeois naturalism, neo-Malthusianism, Club of Rome technocratism, romantic deep ecologyism, and United Nations one-worldism.[2] Class exploitation, capitalist accumulation through crisis, uneven and combined capitalist development, national struggles, and many related topics are missing from these kinds of accounts. The results of these (and similar) efforts to discuss the problem of capitalism, nature, and socialism misfire in part because they fail to focus on the meaning of specifically capitalist scarcity, that is, the process whereby capital is its own barrier (or limit?) because of its self-destructive forms of proletarianization of human nature, alienation of labor power, appropriation of labor, and capitalization of external nature and the "urban."[3] The usual approaches to the problem – the identification of "limits to growth" in terms of "resource scarcity," "ecological fragility," "harmful industrial technology," "destructive cultural values," "tragedy of the commons," "overpopulation," "wasteful consumption," "production treadmill," and so on, either ignore or mangle Marxist-type theories of historically produced forms of nature and capitalist accumulation and development.

This is not surprising since Marx himself wrote little pertaining to the ways that capital limits itself by impairing its own social and environmental conditions, hence increasing the costs and expenses of capital, and thereby threatening capital's ability to produce profits, that is, by threatening to bring on economic crisis. He also wrote little or nothing about the effects of socioeconomic and political struggles organized around the provision of the conditions of production on the costs and expenses and variability (flexibility) of capital. Nor did he theorize the relationship between social and material dimensions of production conditions, excepting his notes on the effects of different ecoregularity processes in different industries on the circulation and reproduction of capital and his extended discussion of ground rent (i.e., social relations between landed and industrial capital and material and economic relations between raw materials and industrial production). Marx, however, seems to have been convinced of at least three things. The first is that deficiencies of production conditions or "natural conditions" ("bad harvests") may take the form of economic crisis.[4] Second, he believed in the more general proposition that while some barriers to production are truly external to the mode of production (e.g., "the productiveness of labour

is fettered by physical conditions"),[5] in capitalism these barriers assume the form of economic crisis.[6] Put another way, some barriers are "general" not "specific" to capitalism;

what is specific to capitalism is that these barriers assume the form of economic crisis. Third, Marx believed that capital undervalues nature, hence that, for example, capitalist agriculture is harmful to the soil, as well as that capitalist exploitation is physically and biologically harmful to workers and destructive of community.

In sum, Marx believed that capitalist farming (for example) ruined soil quality. He also thought that bad harvests take the form of economic crisis. However (although he did state that a rational agriculture is incompatible with capitalism),[7] he never considered the possibility that ecologically destructive methods of agriculture might raise the costs of the elements of capital, which, in turn, might threaten economic crisis of a particular type, namely, underproduction of capital.[8] Put another way, Marx failed to put two and two together and argue that "natural barriers" may be capitalistically produced barriers, that is, a "second" capitalized nature.[9] Marx hinted at, but did not develop, the idea that there may exist a contradiction of capitalism that leads to an "ecological" theory of crisis and social transformation.

TWO KINDS OF CRISIS THEORY

The point of departure of the traditional Marxist theory of economic crisis and the transition to socialism is the contradiction between capitalist productive forces and production relations.[10] The specific form of this contradiction is between the production and realization (or appropriation) of value and surplus value, one kind of contradiction between the production and circulation of capital. The agency of socialist revolution is the working class. Capitalist production relations constitute the immediate object of social transformation. The sites of transformation are the political system and the state and the process of production and exchange.

By contrast, the point of departure of an ecological Marxist[11] theory of economic crisis and transition to socialism is the contradiction between capitalist production relations *(and* productive forces), on the one hand, and the *conditions* of capitalist production, or "capitalist relations and forces of social reproduction,[12] on the other.

Marx defined three kinds of production conditions. The first is "external physical conditions,"[13] or the natural elements entering into constant and variable capital. Second, the "laborpower" of workers was defined as the "personal conditions of production." Third, Marx referred to *"the communal, general conditions of social production;"* for example, "means of communication."[14]

Today, "external physical conditions" are discussed in terms of the viability of ecosystems; the adequacy of atmospheric ozone levels; the stability of coastlines and watersheds; soil, air, and water quality; and the like. "Laborpower" is discussed in terms of the physical and mental well-being of workers; the kind and

degree of worker socialization; toxicity of work relations and the workers' ability to cope;

and human beings as social productive forces and biological organisms generally. "Communal conditions" are discussed in terms of "social capital;" "infrastructure;" and so on (including, most recently, "community capital"). Implied in the concepts of "external physical conditions," "laborpower;" and "communal conditions" are the concepts of space and "social environment." We thus include as a production condition "urban space" ("urban capitalized nature") and other forms of space that structure and are structured by the relationship between people and "environment,"[15] which, in turn, helps to produce social environments. In short, production conditions include commodified or capitalized materiality and sociality, excluding commodity production, distribution, and exchange (strictly defined) themselves.

The specific form of the contradiction between capitalist production relations (and forces) and production conditions is also between the production and realization of value and surplus value. The agency of social transformation is "new social movements, or social struggles including struggles within production over workplace health and safety, toxic waste production and disposal, the use of natural resources and urban space, and so on. The social relationships of reproduction of the conditions of production (e.g., state and family as structures of social relations and also the relations of production themselves insofar as "new struggles" occur within capitalist production) constitute the immediate object of social transformation. The immediate site of transformation is the material process of the production and reproduction of production conditions (e.g., division of labor within the family, land use patterns, education, etc.) and the production process itself, again insofar as new struggles occur within the capitalist workplace.

In traditional Marxist theory, the contradiction between production and realization of value and economic crisis takes the form of a "realization crisis, or overproduction of capital. In ecological Marxist theory, economic crisis assumes the form of a "liquidity crisis," or underproduction of capital. In traditional theory, economic crisis is the cauldron in which capital restructures productive forces and production relations in ways that make both more transparently social in form and content; for example, mergers and acquisitions, indicative planning, corporate networking, nationalization, profit-sharing, and the like. In ecological Marxism, economic crisis is the cauldron in which capital restructures the *conditions* of production, also in ways that make them more transparently social in form and content; for example, permanent-yield forests, land reclamation, regional land use and/or resource planning, population policy, health policy, labor market regulation, toxic waste disposal planning, and so on.

In traditional theory, the development of more social forms of productive forces and production relations is regarded as a necessary but not sufficient condition for the transition to (productivist) socialism. In ecological Marxism, the development of more social forms of the provision of the conditions of production is also a necessary but not sufficient condition for (ecological) socialism. "Ecological socialism' would be different than that imagined by traditional Marxism; first, because from the perspective of the conditions of production most

struggles have strong, particularistic, at times "Romantic anticapitalist" dimensions, hence are "defensive" rather than "offensive"; and, second, because it has become obvious that much capitalist technology and many forms of work, as well as the ideology of material progress itself, have become part of the problem not the solution. In sum, there may be not one but two "paths to socialism; or, to be more accurate, two tendencies that together lead to increased (albeit historically reversible) socialization of productive forces, production relations, conditions of production, and the social relations of the production and reproduction of these conditions.

THE TRADITIONAL MARXIST ACCOUNT OF CAPITALISM AS A CRISIS-RIDDEN SYSTEM

In traditional Marxism, the contradiction between the production and circulation of capital is "internal" to capitalism because capitalist production is not only commodity production but also production of surplus value (based on the exploitation of labor). It is a valorization process in which capitalists extract not only socially necessary labor (labor required to reproduce constant and variable capital) but also surplus labor from the working class. Everything else being the same,[16] any given amount of surplus value produced (or any given rate of exploitation) will have the effect of creating a particular shortfall of commodity demand at market prices. Or, put the opposite way, any particular shortage of commodity demand presupposes a given amount of surplus value produced or a given rate of exploitation. Further, the greater the amount of surplus value produced or the higher the rate of exploitation, the greater the difficulty of realizing value and surplus value in the market. The basic problem of capitalism is, Where does the extra commodity demand that is required to buy the product of surplus labor originate? Time-honored answers include capitalist class consumption; capital investment that is made independently of changes in wage advances and consumer demand; markets created by these new investments; new investment, consumption, or government spending financed by expanded business, consumer, or government credit; and the theft of markets of other capitals and/or capitals in other countries. However, these "solutions" to the problem of value realization (that of maintaining a level of aggregate demand for commodities that is sufficient to maintain a given rate of profit without threatening economic crisis and the devaluation of fixed capital) turn into other kinds of potential "problems" of capitalism. Capitalist consumption constitutes an unproductive use of surplus value, as does the utilization of capital in the sphere of circulation with the aim of selling commodities faster. New capital investment may expand faster than, or independently of, new consumer demand, with the result of increasing chances of a disproportionality crisis or a more severe realization crisis in the future. While a well-developed credit system may expand commodity demand independent of increases in wages and salaries, the expansion of consumer demand based on

increases in consumer or mortgage credit greater than increases in wages and salaries threatens to transform a potential crisis of capital overproduction into a crisis of capital underproduction. Moreover, any expansion of credit creates debt (as well as assets), financial speculation, and instabilities in financial structures, which may threaten a crisis in the financial system. The theft of markets from other capitals implies the concentration and/or centralization of capital, hence a worsening of the problem of realization of value in the future, or social unrest arising from the destruction of weaker capitals, or political instability, bitter international rivalries, protectionism, and war. In sum, economic crisis can assume varied forms besides the traditional "realization crisis;' including liquidity crisis, financial crisis or collapse, fiscal crisis of the state, and related social and political crisis tendencies. However, whatever the specific forms of historical crises (the list above is meant to be suggestive not exhaustive), and whatever the specific course of their development and resolution, most – if not all – Marxists accept the premise based on the real conditions of capitalist exploitation that capitalism is a crisis-ridden system.

THE TRADITIONAL MARXIST ACCOUNT OF CAPITALISM AS A CRISIS-DEPENDENT SYSTEM AND THE TRANSITION TO SOCIALISM

In traditional Marxism, capitalism is not only crisis-ridden but also crisis-dependent. Capital accumulates through crisis, which functions as an economic disciplinary mechanism. Crisis is the occasion that capital seizes to restructure and rationalize itself in order to restore its capacity to exploit labor and accumulate. There are two general, interdependent ways in which capital changes itself to exploit the crisis and resolve it in capital's own favor. One is by making changes in the productive forces, the second is by making changes in the production relations. Changes in either typically presuppose or require new forms of direct and indirect cooperation within and between individual capitals and/or within the state and/or between capital and the state. More cooperation or planning has the effect of making production more transparently social, meanwhile subverting commodity and capital fetishism, or the apparent "naturalness" of capital and capitalist economy. The telos of crisis is thus to create the possibility of imagining a transition to socialism.

Crisis-induced changes in productive forces by capitals seeking to defend or restore profits (and exemplified by technological changes that lower unit costs, increase flexibility in production, etc.) have the systematic effect of lowering the costs of reproducing the work force; making raw materials available more cheaply or their utilization more efficient; reducing the period of production and/or circulation, and so on. Whatever the immediate sources of the crisis, restructuring productive forces with the aim of raising profits is a foregone conclusion. More, crisis-induced changes in productive forces imply or presuppose more social

forms of production relationships, for example, more direct forms of cooperation within production.[17] Examples of changes in productive forces today, and associated changes in production relationships, include computerized, flexible manufacturing systems and robotics, which are associated with the development of "creative team play" and other forms of cooperation in the workplace and profit sharing, among others. And, of course, the greatest productive force is human cooperation. Science or the social production of theoretical and practical knowledge has become an almost completely cooperative enterprise[18] partly as a result of cumulative historical economic, social, and political crises.

The second way that capital restructures itself is by making crisis-induced changes in production relations within and between capital, within the state, and/or between the state and capital which are introduced with the aim of exercising more control of production, investment, markets, and so on, for example, the institution of more planning. Historically, planning has taken many forms (e.g., nationalization, fiscal policy, indicative planning), including, at the political level, fascism, New Dealism, and social democracy. Whatever the immediate sources of crisis, the restructuring of production relations with the aim of developing more control of labor, raw material supplies, and so on is a foregone conclusion. More, crisis-induced changes in production relations imply or presuppose more social forms of productive forces, for example, more direct forms of cooperation. Examples of changes in production relations today include "strategic agreements" between high-tech capitals; massive state intervention in financial markets; and the centralization of capital via takeovers and mergers. These changes imply sharing or socialization of high-tech secrets and technical personnel, new forms of financial controls, and restructuring of management and production systems, respectively.

TOWARD AN ECOLOGICAL MARXIST ACCOUNT OF CAPITALISM AS A CRISIS-RIDDEN SYSTEM

The point of departure of "ecological Marxism' is the contradiction between capitalist production relations and productive forces, on the one hand, and conditions of production, on the other. Neither human laborpower nor external nature nor infrastructures, including their space/time dimensions, are produced capitalistically, although capital treats these conditions of production as *if* they are commodities or commodity capital. Precisely because they are not produced and reproduced capitalistically, yet are bought and sold and utilized as if they were, the conditions of supply (quantity and quality, place and time) must be regulated by the state or capitals acting as if they are the state. Although the capitalization of nature implies the increased penetration of capital into the conditions of production (e.g., trees produced on plantations, genetically altered species, private postal services, voucher education, etc.), the state places itself (or mediates) between capital and nature, with the immediate result that the conditions of

capitalist production are politicized. This means that whether or not raw materials and needed labor skills and useful spatial and infrastructural configurations are available to capital in requisite quantities and qualities and at the right times and places depends on the political power of capital, the power of social movements that challenge particular capitalist forms of production conditions (e.g., struggles over land as means of production versus means of consumption), state structures that mediate or screen struggles over the definition and use of production conditions (e.g., zoning boards), and so on.[19] Excepting branches of the state regulating money, law and order, and certain aspects of foreign relations (those that do not have any obvious relation to accessing foreign sources of raw materials, laborpower, etc.), every state agency and political party agenda may be regarded as a kind of interface between capital and nature (including human beings and space).

In sum, whether or not capital faces "external barriers" to accumulation, including external barriers in the form of new social struggles over the definition and use of production conditions (i.e., "social barriers" that mediate between internal or specific and external or general barriers)[20]; whether or not these "external barriers" take the form of economic crisis; and whether or not economic crisis is resolved in favor of or against capital are sociopolitical and ideological questions first, and socioeconomic questions only secondarily. This is so because (as we saw in Chapter 7) production conditions are by definition politicized (unlike production itself); access to nature is mediated by struggles as external nature has no political identity and subjectivity of its own.[21] Laborpower (and community) alone struggle around the conditions of their own well-being and social environment broadly defined.

An ecological Marxist account of capitalism as a crisis-ridden system focuses on the way that the combined power of capitalist production relations and productive forces self-destruct by impairing or destroying rather than reproducing their own conditions ("conditions" defined in terms of both social and material dimensions). Such an account stresses the process of exploitation of labor and self-expanding capital, state regulation of the provision or regulation of production conditions, and social struggles organized around capital's use and abuse of these conditions. The main question – Does capital create its own barriers or limits by destroying its own production conditions? – needs to be asked in terms *of specific use values,* as well as exchange value. This is so because conditions of production are not produced as commodities, hence problems pertaining to them are "site-specific, including the individual body as an unique "site." The second question – Why does capital impair its own conditions? – needs to be asked in terms of the theory of self-expanding capital, its universalizing tendencies which tend to negate principles of site-specificity, its lack of ownership of laborpower, external nature, and space, hence (without state or monopolistic capitalist planning) capital's inability to prevent itself from impairing its own conditions. The third question – Why do social struggles against the destruction of production conditions (which resist the capitalization of nature, e.g., environmental, public health, occupational health and safety, urban, and other movements) potentially

impair capital flexibility and variability? – needs to be asked in terms of conflicts over conditions defined both as use values and exchange values.

Examples of capitalist accumulation impairing or destroying capital's own conditions, hence threatening its own profits and capacity to produce and accumulate more capital, are many and varied. The warming of the atmosphere will inevitably destroy people, places, and profits, not to speak of other species life. Acid rain destroys forests and lakes and buildings and profits alike. Salinization of water tables, toxic wastes, and soil erosion impair nature and profitability. The pesticide treadmill destroys profits as well as nature. Urban capital running on an "urban renewal treadmill" impairs its own conditions, hence profits, for example, in the form of congestion costs and high rents.[22] The decrepit state of the physical infrastructure in the United States may also be mentioned in this connection. There is also an "education treadmill," a "welfare treadmill," a "health care treadmill," and others.[23] This line of thinking thus also applies to the "personal conditions of production... laborpower" in connection with capital's destruction of established community and family life as well as the introduction of work relations that impair coping skills and create a toxic social environment generally. In these ways, we can safely introduce "scarcity" into the theory of economic crisis in a Marxist, not neo-Malthusian, way. We can also introduce the possibility of capital *underproduction* once we add up the rising costs of reproducing the conditions of production. Examples include the health bill necessitated by capitalist work and family relations; the drug and drug rehabilitation bill; the vast sums expended as a result of the deterioration of the social environment (e.g., police and divorce bill); the enormous revenues expended to prevent further environmental destruction and to clean up or repair the legacy of ecological destruction from the past; monies required to invent and develop and produce synthetics and "natural" substitutes as means and objects of production and consumption; the huge sums required to pay off oil sheiks and energy companies, for example, as ground rent and monopoly profit; the garbage disposal bill; the extra costs of congested urban space; and the costs falling on governments and peasants and workers in the third world as a result of the twin crises of ecology and development. And so on. No one has estimated the total revenues required to compensate for impaired or lost production conditions and/or to restore these conditions and develop substitutes (much less how much of these "costs" actually fall on capital). It is conceivable that total revenues allocated to protecting or restoring production conditions may amount to one-half or more of the total social product – all immediately unproductive expenses from the standpoint of self-expanding capital. Is it possible to link these unproductive expenditures (and those anticipated in the future) to the vast credit and debt system in the world today? To the growth of fictitious capital? To the fiscal crisis of the state? To the internationalization of production? The traditional Marxist theory of crisis interprets credit/debt structures as the result of capital overproduction. An ecological Marxist approach might interpret the same phenomena also as the result of capital underproduction and unproductive use of capital produced. Do these

tendencies reinforce or offset one another? Without prejudging the answer, the question clearly needs to be put on the theoretical agenda.

TOWARD AN ECOLOGICAL MARXIST ACCOUNT OF CAPITALISM AS A CRISIS-RIDDEN AND CRISIS-DEPENDENT SYSTEM AND THE TRANSITION TO SOCIALISM

Neither Marx nor any Marxists have developed a theory of the relationship between crisis-induced changes in the conditions of capitalist production and the establishment of the conditions of ecological socialism. In traditional Marxism, crisis-induced changes in the productive forces and production relations are determined by the need to cut costs, intensify labor, restructure the organization of capital, and so on. Forces and relations tend to be transformed into more transparently social forms. In ecological Marxism (like traditional Marxism), capitalism is also not only crisis-ridden but also crisis-dependent. Crisis-induced changes in production conditions (whether crisis itself originates in capital overproduction or in underproduction or in both) are also determined by the need to cut costs, reduce ground rent, increase flexibility, and so on, and to restructure conditions themselves, for example, through expansion of preventive health, reforestation, reorganization of urban space, and other modes of reducing socially necessary labor time.

There are two general, interdependent ways in which capital (helped by the state) changes its own conditions to weather crises and to resolve them in capital's favor. One is changes in conditions defined as productive forces. The other is changes in the social relations of reproduction of conditions. Changes in either typically presuppose or require new forms of cooperation between and within capitals and/or between capital and the state and/or within the state, or more social forms of the "regulation of the metabolism between humankind and nature, as well as the "metabolism' between the individual and the physical and social environment. More cooperation has the effect of making production conditions (already politicized) more transparently political, thereby subverting further the apparent "naturalness" of capital existence. The telos of crisis is thus to create the possibility of imagining more clearly a transition to socialism.

Crisis-induced changes in conditions defined as productive forces, with the purpose of defending or restoring profit (exemplified by technological changes that lower congestion costs, increase flexibility in the utilization of raw materials, etc.) have the systemic effect of lowering the costs of reproducing the work force, making raw materials available more cheaply, and otherwise reducing cost and increasing flexibility. Whatever the immediate sources of the crisis, attempts to restructure production conditions with the aim of raising profits is a foregone conclusion. More, crisis-induced changes in production conditions imply or presuppose more social forms of the social relations of reproduction of produc-

tion conditions, for example, more direct forms of cooperation within the sphere of production conditions. An example of a change in production conditions today, and the associated change in the social relations of reproduction of production conditions, is integrated pest management which presupposes not only more coordination of farmers' efforts but also more coordination of training and education programs.[24] Another example is preventative health technology in relation to AIDS and associated changes in community relations in a more cooperative direction.

The second form of restructuring is crisis-induced changes in the social relations of reproduction of production conditions introduced with the aim of exercising more control of production conditions, that is, more planning. Historically, planning has taken many forms; for example, urban and regional transportation and health planning, natural resource planning, and so on.[25] Whatever the immediate sources of crisis, the restructuring of these social relations with the aim of developing more control of production conditions is also a foregone conclusion. More, crisis-induced changes in the social relations of reproduction of production conditions imply or presuppose more social forms of production conditions defined as productive forces. An example of such a change today is "planning" to deal with urban smog, which presupposes coalitions of associations and groups (political cooperation) to legitimate tough yet cooperative smog reduction measures.[26] Another example is the proposed restructuring of the U.S. Bureau of Reclamation which new technical changes in water policy presuppose.[27]

To sum up, crisis forcibly causes capital and state to exercise more control or planning over production conditions (as well as over the production and circulation of capital itself). We can be almost certain that the first major crisis of the new system of global capitalism will be the occasion for a host of new international planning instruments (such as already exist, e.g., in international banking). Crisis brings into being new forms of flexible planning and planned flexibility, which increases tensions between a more flexible capitalism and a more planned capitalism – more so than in the traditional Marxist account of the restructuring of production and circulation because of the key role of state (and, increasingly, international) bureaucracies in the provision of production conditions. Crisis forces capital and state to confront their own basic contradictions, which are subsequently displaced to the political, ideological, and environmental spheres (twice removed from direct production and circulation), where there are introduced more social forms of production conditions, defined both materially and socially (e.g., political bipartisanship in relation to urban redevelopment, educational reform, environmental planning, and other forms of provision of production conditions). However, it is clear that technology and power embody one another at the level of conditions (as well as that of production itself), hence that new forms of political cooperation hold out only tenuous promises of socialism. Again, nothing can be said a priori about "socialist imminence" excepting at a high level of abstraction. The key point is that capitalism tends to self-destruct or subvert itself when

it switches to more social forms of the provision of production

conditions via politics and ideology. The premise of this argument (like the argument of the present interpretation of traditional Marxism) is that *any given set of production condition technologies and work relations is consistent with more than one set of social relations of reproduction of these conditions and that any given set of these social relations is consistent with more than one set of production condition technologies and work relations.* The "fit" between social relations and forces of reproduction of production conditions is thus assumed to be quite loose and flexible. In the crisis (in which by definition the future is unknowable), there is a kind of two-sided struggle to fit new production conditions defined as productive forces into new production conditions defined as production relations, and vice versa, into more social forms without, however, any "natural" tendency for capitalism to transform itself into socialism. Urban planning mechanisms, for example, may be a step toward socialism under certain political conditions, but not others. They are certainly a step toward more social forms of the provision of production conditions, hence making socialism at least more imaginable. So, too, regional transportation networks and health care services and bioregional water distribution (for example) may or may not be a step toward socialism; they are certainly a step toward more social forms of the provision of production conditions.

In modern world capitalism, the list of new social and political forms of reproduction of production conditions is practically endless. It seems highly significant, and also theoretically understated within Marxism, that the world crisis today appears to result in more, and to require many additional, social forms not only of productive forces and relations but also of production conditions, although the institutional and ideological aspects of these forms are confusing and often contradictory, and although these forms should not be regarded as irreversible (e.g., reprivatization, deregulation, etc.). Yet it is conceivable that we are engaging in a long process in which there occurs different yet *parallel* paths to socialism, hence that Marx was not so much wrong as he was half-right. It may be that the traditional process of "socialist construction' is giving way to a new process of "socialist reconstruction;' the reconstruction of the relationship between human beings and production conditions including the social environment – a kind of Preservation First! politics (see Chapter 20). It is at least plausible that in the "first world" socialist reconstruction will be seen as, first, desirable, and second, necessary; in the old "second world" as equally desirable and necessary; and in the "third world" as, first, necessary, and second, desirable. It is even more plausible that atmospheric warming, ozone depletion, threats to biodiversity, acid rain, and pollution of the seas will make highly social forms of reconstruction of material and social life absolutely indispensable.

To elaborate somewhat, we know that the labor movement "pushed" capitalism into more social forms of productive forces and relations, for example, collective bargaining. Perhaps we can surmise that feminism, environmental movements, and other new social

movements are "pushing" capital and state into more social forms of the reproduction of production conditions. Labor exploita-

tion (the basis of Marxist crisis theory, or the "first contradiction of capitalism, traditionally defined) engendered a labor movement that in particular times and places turned itself into a "social barrier" to capital. Nature exploitation (including exploitation of human biology) engenders an environmental movement (environmentalism, public health movement, occupational health and safety movements, women's movements organized around the politics of the body, etc.) which may also constitute a "social barrier" to capital. In Nicaragua, in the 1980s, the combination of economic and ecological crisis and political dictatorship in the old regime engendered both a national liberation movement and extensive ecodevelopment planning.

Concrete analysis of concrete situations is required before anything sensible can be said politically about environmentalism defined in the broadest sense, as well as capital's short- and long-term prospects. For example, acid rain causes ecological and economic damage. The environmental movement demands cleanup and restoration of the environment and protection of nature. This may restore profits in the long run or reduce government cleanup expenses, which may or may not be congruent with short- and middle-term needs of capital. Implied in any systematic program of politically regulated social environment are kinds of planning that protect capital against its worst excesses, yet that may or may not be congruent with capital's needs in particular conjunctures. One scenario is that "the destruction of the environment can lead to vast new industries designed to restore it. Imagine, lake dredging equipment, forest cleaning machines, land revitalizers, air restorers, acid rain combatants."[28] These kinds of supertech solutions would be a huge drain on surplus value, unless they lowered the reproduction cost of laborpower, yet at the same time helped to "solve" any realization problems arising from traditional capital overproduction. Vast sums of credit money would be required to restore or rebuild the social environment, however, which would displace the contradiction into the financial and fiscal spheres in more or less the same ways that the traditional contradiction between production and circulation of capital is displaced into the financial and fiscal spheres today.

This kind of technology-led restructuring of production conditions (including technique-led restructuring of the conditions of supply of laborpower) may or may not be functional for capital as a whole or individual capitals, in the short or long run. The results would depend on other crisis prevention and resolution measures, their exact conjuncture, and the way in which they articulate with the crisis of nature broadly defined. In the last analysis, the results would depend on the degree of unity and diversity in labor movements, environmental movements, solidarity movements, and the like. And these are political, ideological, and organizational questions.

In any event, crisis-induced changes in production conditions necessarily lead to more state controls, more planning within the bloc of large-scale capital, a more socially

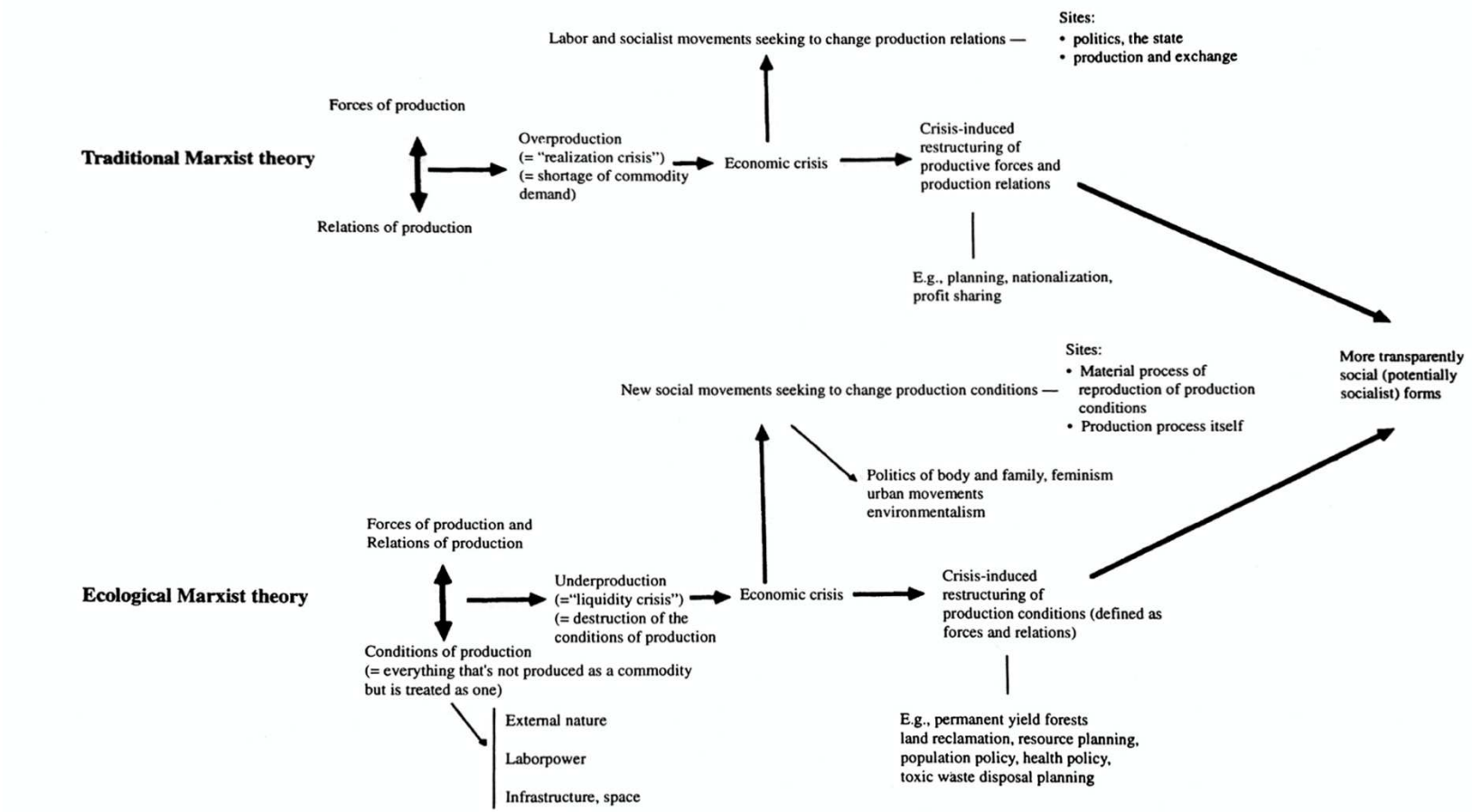


FIGURE 8.1. The first and second contradictions of capitalism. Diagram by Yaakov Garb, based on James O'Connor, "Capitalism, Nature, Socialism: A Theoretical Introduction," *CNS*, 1, Fall 1988 (modified by the author).

and politically administered or regulated capitalism, hence a less nature-like capitalism, one in which changes in production conditions would need to be legitimated because they would be more politicized – and one in which

capitalist reification would be less opaque. The combination of crisis-stricken capitals externalizing more costs, the reckless use of technology and nature for value realization in the sphere of circulation, and the like, must sooner or later lead to a "rebellion of nature, that is, powerful social movements demanding an end to ecological exploitation. Especially in today's crisis, however one theorizes its source, capital attempts to reduce production and circulation time, which typically has the effect of making environmental practices, health and safety practices, and so on, worse. Hence capital restructuring may deepen, not resolve, ecological problems. Just as capital ruins its own markets (i.e., realized profits), the greater is the production of surplus value, so does capital ruin its own produced profits (i.e., raises costs and reduces capital flexibility), the greater is the production of surplus value based on the destructive appropriation of nature broadly defined. And just as overproduction crises imply a restructuring of both productive forces and relations, so do underproduction crises imply a restructuring of production conditions. And just as restructuring of productive forces implies more social forms of production relations and vice versa, so does restructuring of production conditions imply a twofold effect – more social forms of production conditions defined as productive forces and more social forms of the social relationships in which production conditions are reproduced. In sum, more social forms of production relations, productive forces, and conditions of production together contain within them possibilities of socialist forms. These are, in effect, crisis-induced not only by the traditional contradiction between forces and relations, but also by the contradiction between forces/relations and their conditions. Two, not one, contradictions and crises are thus inherent in capitalism; two, not one, sets of crisis-induced reorganizations and restructurings in the direction of more social forms are also inherent in capitalism (see Figure 8.1).

NOTES

[1] Karl Polanyi, *The Great Transformation* (Boston: Beacon Press, *1957).* Polanyi's focus was mainly on capitalist markets, not exploitation of labor.

[2] E.g., World Commission on Environment and Development, *Our Common Future* (New York: Oxford University Press, 1987).

[3] The closest anyone has come to a "Marxist" account of the problem is Alan Schnaiberg in his *The Environment: From Surplus to Scarcity* (New York: Oxford University Press, *1980).* This is a pathbreaking and useful work. The relation between the capitalization of nature and political conflict between states is another, and closely related, question (see Lloyd Timberlake and Jon Tinker, "The Environmental Origin of Political Conflict, *Socialist Review, 15, 6,* November-December *1985).*

[4] In the case of bad harvests, "the *value of the raw material ... rises;* its *volume* decreases. ... More must be expended on *raw material,* less remains for *labour,* and it is not possible to absorb the same quantity of labour as before. Firstly this is *physically impossible.... Secondly,* it is impossible because a greater *portion of the value of the product* has to be converted into raw material.... Reproduction cannot be *repeated* on the same scale. A part of *fixed capital* stands idle and a part of the workers is thrown out into the streets. The *rate of profit* falls because the value of constant capital has risen as against that of variable capital .... The fixed charges – interest, rent – which were based on the anticipation of a *constant* rate of profit and exploitation of labour, remain the same and in part *cannot be paid.* Hence *crisis... [and] there is a rise in the price of the product.* If this product enters into the other spheres of reproduction as a means of production, the rise in its price will result in the same disturbance in *reproduction* in these spheres" (Karl Marx, *Theories of Surplus Value 2* [Moscow: Progress Publishers, 1968], pp. 515-516).

[5] "Apart from the degree of development, greater or less, in the form of social production, the productiveness of labour is fettered by physical conditions" *(Capital I* [New York: Random House Modern Library Edition, 1936]). In *Theories of Surplus Value* (op cit.), part 3, p. 449), Marx states that the precondition for the existence of absolute surplus value is the "natural fertility of the land"

[6] Michael Lebowitz, "The General and the Specific in Marx's Theory of Crisis." *Studies in Political Economy,* 7, Winter 1982. Lebowitz includes as "general" barriers the supply of labor and the availability of land and natural resources. However, he does not distinguish between the supply of labor per se and the supply of *disciplined* wage labor. As for natural resources, he does not distinguish between "natural" shortages and the shortages capital creates for itself in the process of capitalizing nature or those created *politically by* ecology movements.

[7] Karl Marx, *Capital 3* (Moscow: Foreign Languages Publishing House, 1962), pp. 119, 792.

[8] We can therefore distinguish two kinds of scarcity: first, scarcity arising from economic crisis based on traditional capital overproduction, i.e., a purely social scarcity; second, scarcity arising from economic crisis based on capitalistically produced scarcity of nature or production conditions generally. Both types of scarcity are ultimately attributable to capitalist production relations. The second type, however, is not due to "bad harvests, for example, but to capitalistically produced "bad harvests" as a result of mining, not farming, land; polluting water tables; etc.

[9] There are two reasons why Marx ran from any theory of capitalism and socialism that privileged any aspect of social reproduction besides the contradiction between production and circulation of capital. One is his opposition to any theory that might "naturalize, hence reify, the economic contradictions of capital. His polemics against Malthus and especially his rejection of any and all naturalistic explanations of social phenomena led him away from "putting two and two together." Second, it would have been difficult in the third quarter of the 19th century to argue plausibly that the impairment of the conditions of production and social struggles therein are self-imposed barriers of capital because historical nature was not capitalized to the degree that it is today, i.e., it is the historical conditions of the production and reproduction of the conditions of production that make an "ecological Marxism" possible today.

[10] State-of-the-art accounts of the problematic categories of productive forces and production relations are: Derek Sayer, *The Violence of Abstraction: The Analytical Foundations of Historical Materialism* (Oxford: Basil Blackwell, 1987) and Robert Marotto, "Forces and Relations of Production" (Ph.D. diss., University of California at Santa Cruz, 1984).

[11] To my knowledge, the phrase "ecological Marxism" was first coined by Ben Agger *(Western Marxism, an Introduction: Classical and Contemporary Sources* [Santa Monica, Calif.: Goodyear Publishing Co., 19871, pp. 316-339). Agger's focus is "consumption" not "production." His thesis is that the ever-expanding consumption required to maintain economic and social stability impairs the environment, and that ecological crisis has replaced economic crisis as the main problem of capitalism. The present chapter may be regarded as, among other things, a critique of Agger's often insightful views.

[12] Carlo Carboni also uses the expression "social reproductive conditions." I use "conditions of production' because I want to reconstruct the problem using Marx's own terminology and also because I want to limit my discussion mainly to crisis tendencies in the process of the production and circulation of capital, rather than to

the process of social reproduction, i.e., reproduction of the social formation as a whole. This means that I will follow Marx's lead and interpret "production conditions" in "objective" terms.

[13] External physical conditions include "natural wealth in means of subsistence" and "natural wealth in the instruments of labour" (*Capital 1,* op cit., p. 562).

[14] Karl Marx, *Grundrisse* (Harmondsworth, U.K.: Penguin Books, 1973), p. 533. See also Marino Folin, "Public Enterprise, Public Works, Social Fixed Capital: Capitalist Production of the 'Communal, General Conditions of Social Production,"' *International Journal of Urban and Regional Research, 3,* 3, September 1979.

[15] In a conversation with David Harvey, who pioneered the theory of the spatial configurations and barriers to *capital* (*Limits to Capital* [Oxford: Basil Blackwell, 1982]), the author was granted tentative "permission' to interpret urban and other forms of space as a "production condition."

[16] The following is a deliberate "Smithian' simplification of the traditionally defined economic contradiction of capitalism which neglects Marx's critique of Smith, namely, that it is the rising organic composition of capital, not a falling rate of exploitation, that causes the profit rate to fall, even though capitalism "presents itself" otherwise. To be absolutely clear, the following account is not meant to review Marx's critique of capital fetishism or Adam Smith et al. I put the contradiction of capitalism in its simplest terms with the twofold aim of (a) preparing a discussion of crisis-induced restructuring of the productive forces and production relations, and (b) setting up a standard by which we can compare the "traditional" with the "nontraditional" or "second" contradiction of capitalism based on the process of capitalist-created scarcities of external and human nature.

[17] "Cooperation" (e.g., "work relations") is both a productive force and production relationships, i.e., ambiguously determined by "culture, "technological necessity;' and "power" (see Chapter 1).

[18] David Knight, *The Age of Science* (Oxford: Basil Blackwell, 1986).

[19] This kind of formulation of the problem avoids the functionalism of the "state derivation school" of Marxism, as well as Weberian theories of the state that are not grounded in material relations and existence.

[20] So-called external barriers *may be* interpreted as internal barriers, if we assume that (a) external nature is completely commodified or capitalized, and (b) that new social struggles organized under the sign of "ecology" or "environmentalism' have their roots in the class structure and relations of modern capitalism, e.g., the rise of the new middle class or salariat, which is the backbone of traditional environmentalism in the United States.

[21] "External and universal nature can be considered to be differences within a unity from the standpoint of capital accumulation and state actions necessary to assure that capital can accumulate. Yet the difference is no less significant than the unity from the standpoint of social and ecological action and political conflict. The reason is that laborpower is a subject which struggles over health and the (natural) conditions of social health broadly defined, whereas the 'natural elements entering into constant and variable capital' are objects of struggle" (Robert Marotto, correspondence, October 1992).

[22] "Economists and business leaders say that urban areas in California are facing such serious traffic congestion that the state's economic vitality is in jeopardy" (*New York Times, 5* April 1988).

[23] "If schools cannot figure out how to do a better job of educating these growing populations and turn them into productive workers and citizens, then the stability of the economy could be threatened" (Edward B. Fiske, "US. Business Turns Attention to Workers of the Future, *International Herald Tribune,* 20-21 February 1988). Fiske is referring to minorities which today make up 17 percent of the population, a figure expected to jump to one-third by 2020. In the United States, health care costs as a percentage of GNP were about 6 percent in 1965; in 2000 *they are* expected to be 15 percent ("Health Care Has Become an Economic Cancer in This Country, *San Francisco Chronicle,* 14 March 1988).

[24] The well-known IPM program in Indonesia reportedly increases profits by reducing costs and also increasing yields. It depends on new training and education programs, coordination of farm planning, etc. (Sandra Postel, "Indonesia Steps Off the Pesticide Treadmill," *World Watch,* January-February 1988, p. 4).

[25] For example, organized industry and industry-state coordination in Germany successfully internalizes many externalities or social costs. This occurs without serious harm to profits because the Federal Republic of

Germany produces such high-quality and desirable goods for the world market that costs of protecting or restoring production conditions can be absorbed while industry remains competitive.

[26] Christopher J. Daggett, "Smog, More Smog, and Still More Smog, *New York Times, 23* January 1988.

[27] The idea that crisis induced by inadequate conditions of production results in more social forms of production and production relations is not new in non-Marxist circles. Schnaiberg linked rapid economic expansion to increased exploitation of resources and growing environmental problems, which in turn posed restrictions on economic growth, hence making some kind of planning of resource use, pollution levels, etc., essential. He interpreted environmental legislation and control policies of the 1970s as the start of environmental planning (Schnaiberg, op cit.).

The idea that crisis induced by unfavorable production (i.e., cost) conditions results in more social productive forces, as well as production relationships, can be found in embryonic form in works such as: R. G. Wilkinson, *Poverty and Progress: An Ecological Perspective on Economic Development* (New York: Praeger, 1973), which argues that epoch-making technological changes have often resulted from ecological scarcities; and O. Sunkel and J. Leal, "Economics and Environment in a Developmental Perspective" *(International Social Science Journal,* 109, 1986, p. 413), which argues that depletion of resources and scarcity increases the costs of economic growth because of declines in natural productivity of resources, hence that new energy resources and technological subsidies (implying more planning) are needed.

[28] Saul Landau, correspondence with the author, November 1994.

ADDENDUM ON THE TWO CONTRADICTIONS OF CAPITALISM

The question has arisen in discussions with coworkers here and abroad, What is the relationship between the first and second contradictions of capitalism? Do they compound or offset their respective effects on profits?

The first contradiction of capitalism may be stated simply: The rate of exploitation is both a sociological and an economic category. It expresses capital's social and political power over labor, and also capitalism's inherent tendency toward a realization crisis, or crisis of capital overproduction. If capital exercises much power over labor, the rate of exploitation will be high, and the risk of a realization crisis will be great; hence, the need for a vast credit structure, aggressive marketing, constant product innovation, and intensified competition will be greater. The first contradiction of capitalism is internal to the system; it has nothing to do with the *conditions* of production, whether these are interpreted economically or in sociopolitical terms.

The second contradiction of capitalism requires a more complex terminology couched in terms of use value[1]: the size and value content of the consumption basket and "basket" of fixed capital, the "costs of the natural elements entering into constant and variable capital, ground rent as a deduction from surplus value, and "negative externalities" of all kinds (e.g., congestion costs in cities insofar as these enter into the costs of individual capitals).

In the second contradiction, no single term has the theoretical centrality that the rate

of exploitation does in the first contradiction.[2] (This is one reason why there is a plurality of social movements today.) Yet all of the above terms are sociopolitical as well as economic categories (e.g., absolute rent reflects the power of landed capital over industrial capital; the costs of congestion reflect struggles over urban and regional transport systems; the cost of water reflects the power of ecology movements vis-à-vis capital; etc.). The point of listing these examples is to suggest that there is even less justification for an economistic-type theory of the second contradiction than there is for the traditional Marxist theory of the first.

The first contradiction strikes at capital from the demand side. When individual capitals lower costs with the aim of defending or restoring profits, the unintended effect is to reduce market demand for commodities, and thus to lower realized profits. The second contradiction strikes from the cost side. It states that when individual capitals lower costs – for example, when they externalize costs on to conditions of production (nature, laborpower, or the urban)-with the aim

of defending or restoring profits, the unintended effect is to raise costs on other capitals (and, at the limit, capital as a whole), thereby lowering produced profits. The first manifests itself in its purest form as a realization crisis; the second as a liquidity crisis. In the first case, there is no problem producing surplus value, hence for that reason there is a problem realizing value and surplus value. In the second, there is no problem realizing value and surplus value, hence for that reason there is a problem of producing surplus value.

The basic cause of the second contradiction is capitalism's economically self-destructive appropriation and use of laborpower, urban infrastructure and space, and external nature or environment – "self-destructive" because the costs of health and education, urban transport, and home and commercial rents, as well as the costs of extracting the elements of capital from nature, will rise when private costs are turned into "social costs."[3] In this account, capital and the state today can be interpreted as totally confused as to the new form of regulation that might provide a coherent framework for capital accumulation in the future. Individual capitals continue to lower costs in every imaginable way; by so doing they inadvertently tend to raise the costs of capital as a whole, at the same time threatening their own markets, as the first contradiction leads us to believe. Today, capital is faced with both rising costs and weak market demand, that is, with both the first and second contradictions. Is it any wonder that capital is thus obsessed with *both* process innovation *and* product innovation and market expansion? Any wonder that there occurs *both* a deterioration of the conditions of production *and* structures of equitable wage and salary income, as well as dangerously inflated credit structures? Any wonder that *both* Keynesian-type regulation *and* neoclassical, laissez-faire policies seem to be bankrupt?

NOTES

[1] James O'Connor, "Capitalism, Nature, Socialism: A Theoretical Introduction, *Capitalism, Nature, Socialism,* 1, Fall 1988.

[2] Or, in a more sophisticated model, that the organic composition of capital and the rate of profit do.

[3] Frank Beckenbach, "Social Costs in Modern Capitalism, *CNS*, 3, November 1989.

CHAPTER 9

ON CAPITALIST ACCUMULATION AND ECONOMIC AND ECOLOGICAL CRISIS

CAPITALIST ACCUMULATION

Compared with "ecological crisis," the meaning of "economic crisis" (in Marxist theory at least) is unequivocal. It means a rupture in the money, productive or commodity circuit of capital, or more generally, a disjuncture or break in the reproduction and accumulation of capital as a whole. Economic crisis signifies "turning point," the time when an economic boom may turn into a recession (or a depression or a period of stagnation). There is also another meaning: a "time for decision for individual capitals seeking to restructure production, technology, and marketing (problems that have obsessed hyper-capitalist business enterprise in the 1980s and 1990s) and also for labor and social movements seeking more effective forms of organized struggle and political intervention (also characteristic of the 1980s and 1990s, although less publicized than capital restructuring).

The theoretical problem is to find the inner connections between capitalist accumulation, economic crisis, and ecological crisis. A simple example "third world" debt in the 1980s made ecological conditions worse in the South; deteriorating ecological conditions widened and deepened poverty (already widespread partly because of foreign debt) and also engendered political resistance, both of which tended to deepen the debt crisis.

Capitalist accumulation is based on the exploitation of labor and the production of surplus value (prost). There are two sources of surplus value: absolute and relative. Surplus value is produced absolutely when individual capitals (very roughly, firms or companies) force their workers to labor longer or harder for the same pay. The most important source of surplus value, however, is relative surplus value, which is produced by the working class as a whole via the mechanism of technological change and capitalist competition. The mechanism works this way: When one company introduces a technological change that lower unit labor costs in production, it appropriates an extra revenue called "technological rent." If and

when the technical change is adopted by other companies, the innovating company loses

its advantage and the technological rent is ‘‘competed away.” The (unintended) effect of the diffusion of the technical improvement throughout the economy as a whole is to lower unit labor costs over a broad front. Competing companies (in product, labor, or capital markets) that adopt the new technology are able to produce the same output while exploiting fewer hours of labor time. Everything else being the same (e.g., prices), the average rate of profit increases. If prices fall or if workers are organized and militant and obtain higher wages or shorter hours, labor will get a smaller or a larger share of these profits. This last possibility roughly approximates U.S. capitalism during the twenty to twenty-five so-called golden years after World War II when wages as well as profits increased more or less in proportion to improvements in labor productivity, or reductions in unit labor costs.

In his mode of capitalist reproduction, Marx divided productive capital (capital producing surplus value) into two sectors or “departments.” One sector (Department II) produces consumer goods for final consumption. The other sector (Department I) produces capital goods, or commodities used to produce other commodities in both Departments I and II. Everything else being the same, the better the quality of capital goods employed in both departments, the greater will be labor productivity (or the lower will be unit labor costs) and the higher will be produced surplus value and profits in the economy as a whole. (In the unreal case of an economy producing only consumer goods, there is little or no room for productivity advances.) Given a certain quality of capital goods, the larger the ratio of capital goods/consumer goods production, the greater will be the productive capacity of the economy as a whole (where “productive” is again defined in terms of surplus value and profits). Similarly, the cheaper are what Marx called the “elements of constant and variable capital” (natural resources such as energy, raw materials, soils, water, etc., needed to produce both capital and consumer goods, respectively), the greater will be surplus value and profits (again, everything else being the same).

In consumer goods markets, individual capitals in Department II are the suppliers and workers and other consumers of final products are the buyers. In capital goods and raw materials markets, individual capitals in Department I are the sellers and capitals in both Departments I and II are the buyers. Department II markets are governed by consumer demand, and Department I markets for raw materials, fuel, machinery, production technology; and so on, are governed by the demand for profits by individual capitals in both departments. Individual capitals in both sectors increase their demand for Department I products, first, when there is little or no excess productive capacity relative to market demand, hence when realized profits are at risk; and, second, when market or production conditions are unfavorable and threaten produced profits, hence when individual capitals need cheaper materials and energy, better machinery, and so on, to cut costs with the goal of defending or restoring profits. The demand for equipment or technology as such by any given capital may be stagnant or falling during recessions or

periods of slow growth, but the demand for cheaper or more efficient productive equipment and technology often increases at such times.

Mainstream economics regards the demand for Department 1 products by capitals in Department II as "derived demand," that is, determined by the growth of consumer demand for final products. (So many machines are required to produce so many mattresses, according to models of the "accelerator." if the consumer demand for mattresses rises, so will the mattress manufactures' demand for mattress-making machinery.) In reality; something like the opposite is true: the demand for consumer goods is "derived" from the demand for capital goods, or what is the same thing, the demand for profits. In general, the rate of growth of consumer income (hence demand) is determined by the rates of growth of profit and accumulation—making consumer demand a passive, not an active, variable in economic growth models. In times of slow economic growth or economic recession, worker (consumer) income by definition is stagnant or falling, the exception being worker income in those Department I industries activated by increased orders for cheaper energy, better machinery, and more advanced technology; streamlined management services; and so on—orders placed by capitals in both departments seeking to cut costs and to restore or defend profits. Employment or wages or both rise in expanding Department industries, stimulating consumer demand for Department II products. Bad times in some sectors thus means good times for other sectors—hence Marx's expression "accumulation through crisis."

In sum, the "role" of Department I is to produce the means of expanding surplus value and profits both for itself and also for Department II. The secret of productivity and economic growth is an economically innovative, flexible, cost-conscious, and unregulated capital goods sector (especially 'knowledge-intensive' industries). Innovative, flexible, and cost-conscious because technological advance profits, and economic growth as a whole depend on Department I; unregulated because rigidities and high costs imposed by environmental, consumer, and other regulations tend to inhibit technological innovation and the spread of new production technologies throughout the economy as a whole.

CAPITALIST ACCUMULATION AND ECOLOGICAL CRISIS

In capitalist economy, profits are both the means and the ends of economic activity. Profits are the means in that they supply the money capital to expand and to make it possible to float new stock on favorable terms and also to secure expansion loans. Profits are the end of economic activity in that management and stockholder goals are to make ever more profit. Management seeks to maximize increases in production per unit of labor time; stockholders seek to maximize some combination of capital gains and dividend payouts. Individual capitals use profits to make more profits which become, in effect, "money in search of more of itself." This is one meaning of "self-expanding capital."

Capitalist self-expansion has no strictly economic limits. Moreover, since capital undervalues nature, it runs up against ecological limits only via economic crises. Natures economy, however, is organized (or organizes itself) on very different principles. As biological and physical systems, hydraulic cycles, heat/energy systems, soil cycles, ecosystem diversity, and so an) at some point on the production curve, nature s productivity is self-limiting – a "barrier to overcome" by capital. Thanks to the separation (alienation) of human producers from the means and objects of production, however, the reproduction of capitalist socio-economic relations is much less constrained by crises arising from specific natural conditions in particular places or areas than earlier modes of production. Capital can function independently of any *particular* natural condition; in Gary Snyder's words, capital "spreads its economic support system out far enough that it can afford to wreck the eco-system and keep moving on.

As we saw, capitalist accumulation is based on increasing productivity or lowering the cost of reproducing the working class (in Marxist terms, "relative surplus value"). An increase in productivity means that a given employed work force is able to process a larger quantity of raw materials. If the economy is expanding, the demand for raw materials will grow (everything else being the same). The result raw materials become a greater proportion of constant capital hence a greater share of the value of commodities (in other words, individual capitals must convert a larger portion of their profits into more raw-materials). In this case, increases in the demand for resources and expanded resource exploitation raise average costs, tending to depress the rate of profit and accumulation. Individual capitals (alone or combined with other capitals) then attempt to overcome bottlenecks by investing in equipment, technology, and infrastructure to open up new mineral and fossil fuel deposits, arable land, and so an. Relatively expensive raw materials and energy also create incentives for individual capitals to recycle, to use substitutes, or to produce or use a given quantity of materials or fuel more efficiently The latter is arguably the most important way that capital has prevented a general crisis arising front a profits crisis caused by high-cost materials (such as the cotton crisis in Britain during the U.S. Civil War). Industrial capital historically has found ways to use iron, aluminum, tin, and other materials more efficiently; the costs of resource extraction, with a handful of exceptions, has fallen; and the amount of energy needed to generate a given amount of electricity has declined.

By contrast, if there are increasing returns to scale (lower average costs at higher levels of production and use) in raw material sectors, costs and prices will fall, and the higher will be the average profit rate and the more rapid the exploitation of raw materials and capital accumulation.[1] Cheap raw materials pose the danger of rapid depletion and exhaustion of resources, not because they are cheap per se, but because when they are comparatively inexpensive profit rates are relatively high, hence the demand for resources and accumulation will be relatively rapid. A vicious cycle is created: high profit rates lead to high accumulation rates which in turn lead to a greater demand for raw

materials; higher levels of exploitation of raw materials lead to lower production costs which result in still

higher profit and accumulation rates. In turn, if raw materials are cheap, the rates of accumulation and depletion and exhaustion of resources will be relatively high; if raw materials are expensive, capital investments will be made to bring down their costs or to develop ways to use them more efficiently.

Whether the costs of raw materials, energy, and other "elements of constant and variable capital" are high and rising or low and falling, capital accumulation and economic growth depend on the expansion of investment (defined both quantitatively and qualitatively) in Department I (capital good industries). The more rapid the growth of Department I, the higher will be the average rate of growth of productivity, profits, and the economy as a whole. In turn, everything else being the same, the more rapid is economic growth, the higher will be the rates of depletion and exhaustion of resources, as well as of the production of unwanted by-products (pollution).

In fact, a given rate of economic expansion is likely to result in a greater rate of depletion and pollution. This is so because Department I, the fountain of economic growth, is also most harmful to nature. In the United States in 1987-1988, oil refining and opal products, chemicals,, primary metals, and paper and pulp (all capital goods, accounted for 22 percent of total industrial production, 13 percent of employment, and 78 percent of energy use and 88 percent of all toxic releases.[2] The chemical industry alone accounted for 58 percent of total pollution. Global warming, loss of biodiversity and ozone, acid rain, ocean deforestation, exhaustion of energy and metal ore reserves, soil lass, and other major ecological changes are all the result of two or more centuries of rapid growth in the industrial capitalist (and ex-state socialist) economies, which. in turn are in large part the result of the development and expansion of Department I industries.

ECONOMIC AND ECOLOGICAL CRISIS

Capitalism is a crisis-ridden system. Economic crises take the form of ruptures in the circuits of capital and present themselves to capital as "barriers to overcome." The best-known barrier is "capital itself" (Marx). This means (among other things) that productive capacity (capital) tends to increase faster than effective demand for commodities (capital realization), stalling capital accumulation or throwing the economy into a recession or depression.

Capitalism is also crisis-dependent; the system needs a periodic crisis The reason is that economic crisis is a powerful and necessary disciplinary mechanism. In boom periods, an individual capital bas the choice of getting a jump on competitors by lowering costs, offering better services, producing better products and so on; in crisis and bad times, lowering costs, increasing flexibility, expelling living labor, and making new and

higher quality products at the same time or even lower prices are matters of life and death for the individual capital, the industry, or the economy as a whole.

Economic crisis causes ecological crisis, but in somewhat different ways and of different types that the "normal" ecological degradation accompanying capital accumulation. Economic crisis is generally associated with hyper-competition and an obsession with efficiency and cost-cutting (i.e., an increase in the rate of exploitation), hence increased economic violence against, and biological exploitation of, workers, as well as greater externalization of costs, and therefore more environmental degradation. Economic crisis and cost-cutting also stimulate new modernizing technologies, hence new forms of ecological degradation (e.g., high-tech pollution) as well as a revival of older environmentally hazardous technologies previously banned (e,g., DDT in parts of the American Southwest). Economic crisis is also associated with attempts to reduce the circulation time of capital, which in turn typically means that business tends to become unusually careless about workers' health, the environmental and health imparts of the types of commodities sold, the viability of urban conditions and infrastructure, and so on.

In sum, capitalist accumulation causes certain types of ecological problems of a certain severity: economic crisis causes different problems of a different severity At any given time, both types combine (in uneven ways) and coexist.

On the other hand, ecological crisis may trigger economic crisis. Capital's self-induced ecological problems – shortages of raw materials that arise because of "normal" market forces, higher ground rents and congestion costs, greater energy costs, and so on, may have the effect of squeezing profits and/or threatening inflation, The negative economic effects of the "oil crises" of the 1970s are good examples.

Furthermore, environmental movements engendered by ecological crises may exacerbate economic crisis. This claim is based on the fact that social movements, political struggles and state policy mediate ecological and economic changes and transformations. Environmental movements (and labor, urban, and other movements)—fighting to protect the conditions of production (or conditions of life), to restore these conditions, or to help decide how these conditions will be restructured during crisis periods—may have the unintended effect of raising costs and reducing the flexibility or freedom of capital, hence threatening or impairing capitalist accumulation.

The above may be summed up thusly: Capitalist accumulation normally causes ecological crisis of certain types; economic crisis is associated with partly different and partly similar ecological problems of different severity; external barriers to capital in the form of scarce resources, urban space, healthy – and disciplined – wage labor, and other conditions of production may have the effect of raising wages and threatening profits; and, finally, environmental and other social movements defending conditions of life, forests, soil quality, amenities, health conditions, urban space, and so on, may also raise costs and make capital less flexible (see Figure 9.1).

Capitalist accumulation and crisis thus cause ecological problems, which in turn (Including the response of environmental and social movements to these problems may cause economic problems. There is a mutually determining relationship – at the levels of production, market relations, social movements, and

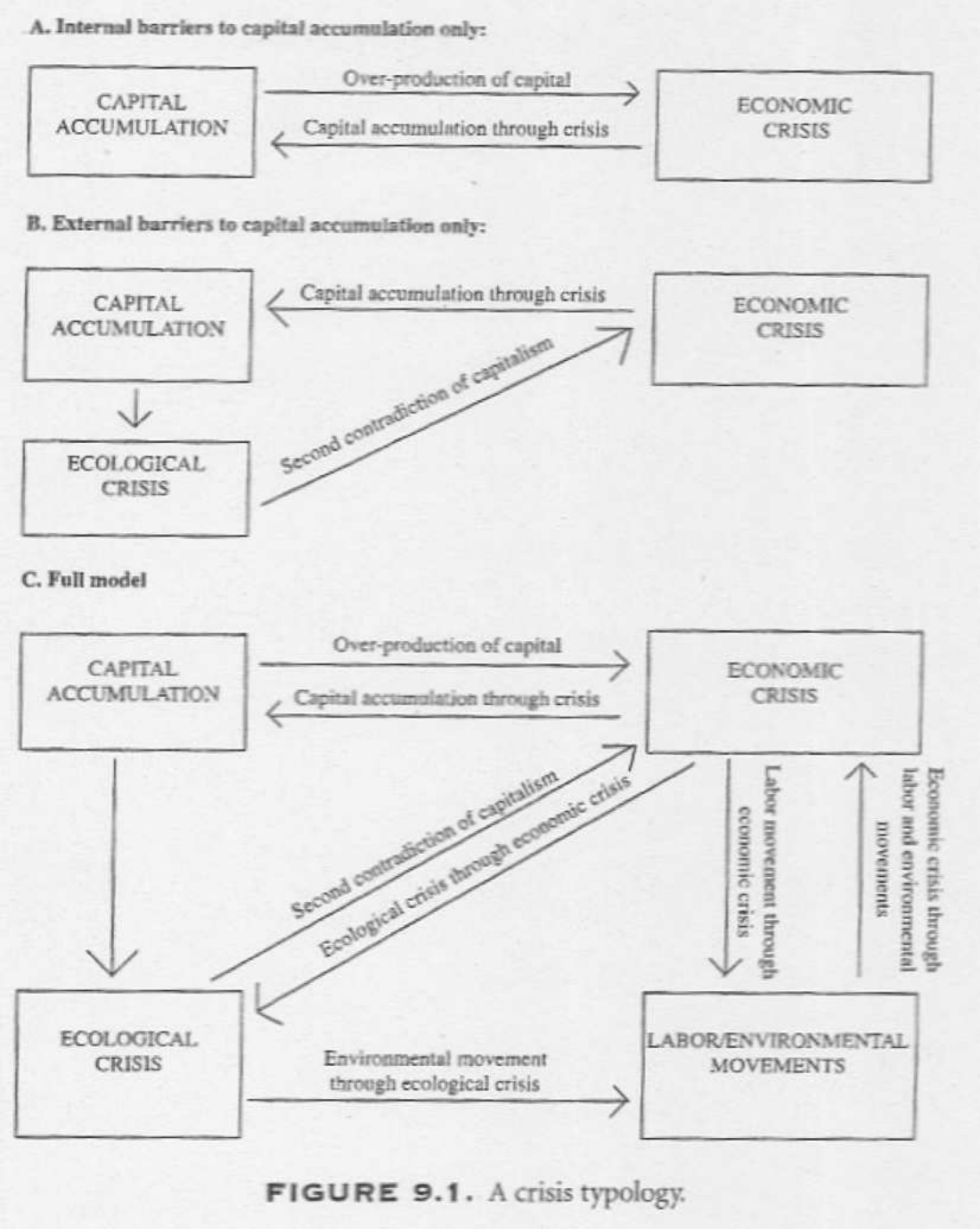


FIGURE 9.1. A crisis typology.

Politics – between economic and ecological crisis trends and tendencies. Capital tends to negate itself when it undermines or destroys. its own production conditions. Ecological and economic crises are in this sense self-induced, and environmental arid socioeconomic reforms are two different sides of the same general process. Or, to put the point differently, environmental policy that does not address the way that capitalism works (when it works) and the way that capitalism doesn't work (when it doesn't work), and economic policy that does not address the problem of the conditions of production in general and ecology in particular, are likely to fail, or even to contribute to the deterioration of environmental conditions.

CONCLUSION

Nature is a point of departure for capital but typically not a point of return. Nature is an economic tap and also a sink, but a tap that can run dry and a sink that can clog up. Nature as a tap has been more or less capitalized; nature as a sink is more or less uncapitalized. The tap is typically private property; the sink is typically the commons.

The tap is obviously a metaphor for depletion of resources; the sink a metaphor for pollution. There are, of course, complex inner connections between depletion and pollution (sec Chapter 10). Putting this aside, my final point is that capitalist production results in two (not one) types of depletion and two types of pollution. There are two ways to turn on the tap and two ways to use the sink (so to speak), hence two types of ecological crisis.

This claim is based on the premise that capital accumulates through economic crisis. Capitalist accumulation generally does not result in good times then bad times, but rather produces good times and bad times all or most of the time. This means that capitalist firms, industries, and regions in economic trouble are forced to defend or to restore profits by technical innovations, cost-cutting, speedup, and so on, and also by investing in new generations of consumer products. They cannot make more money by selling more of the same type of goods or by selling goods faster because (by definition) they face slowly growing, stagnant, or declining market demand. The demand for cost-cutting high-tech and many other capital goods and services thus increases, not because markets for final goods are strong or expanding but because they are weak or contracting. The result is that economic activity in high-tech capital goods sectors tends to expand—a large part of the nonmilitary business in Silicon Valley, for example, first arose because other industries in other parts of the country were in trouble.

At the risk of grossly over-simplifying a hugely complex process, the process of accumulation through crisis has two different kinds of effects on nature. Troubled industries or regions try to save money by neglecting environmental protection and cleanup. They also may reintroduce banned substances such as DDT Also, while

pollution in these industries may fall because total production declines, total pollution may increase because pollution per unit of output increases. At. nature's tap, capitals in economic trouble are likely to be more ecologically careless about exploration, extraction, and processing techniques; land use; and so on. The reason is that in periods of slow or no growth they are not seeking energy, metals, and industrial raw materials *per se*, but *cheap* energy, *cheap* metals, and so on, produced with less attention than normal to environmental protection. On the other hand, troubled industries or sectors will almost certainly try to use needed energy and raw materials supplies more efficiently.

Only empirical studies can determine the complex of new ecological problems at the tap and sink of firms, industries,, and regions that find themselves in economic trouble. What is certain is that these problems will in some way be

different from these in expanding industries or economic sectors. In the latter, there are by definition no problems of market demand (until classic signs of overproduction appear). But there are ecological problems associated with the rapid growth of new technologies, production, and demand. To meet expanding markets, resources will be depleted faster and energy and raw material efficiency will be a relatively low priority. While these industries can afford to unclog natures sink, or to keep it clean, they have no incentive to do so unless they are forced by social struggles and legislation. In the 1980s and 1990s, only the anti-toxics movement has had any real success thanks to a kind of "dare to struggle, dare to will" line within this movement the effects of militant local struggles on toxic disposal costs, and new legislation and regulations, hence the new interest in some sectors of capital in source reduction.

In sum, one set of industries or regions is obsessed with cost-cutting: this obsession creates new market opportunities for some capital goods industries. Troubled industries are likely to use nature's tap and sink in particular ways, booming industries in other ways (which are not necessarily more or less environmentally harmful). There are thus two ecological problems and crisis potentials (not one) and the need for two types of political demands and policy reforms (not one).

These observations suggest that Marxist-type theories have more to say about ecological crisis than liberalism and other types of mainstream economic thought. This is so because Marxists have an economic crisis theory (or, more accurately, crisis theories) that express the contradictions of capitalism. Crisis theory helps us to confront in theoretical and practical ways these contradictions between capitalism and nature. As a final word, I would urge progressive-minded economists working on ecological problems to pay heed to Marxist theory and the theoretical and practical insights it yields. And I would urge more Marxist economists and social scientists to use Marxism's powerful method to illuminate the real sources of the ecological crisis—to help to transform Spaceship Capital in ecological! socialist directions.

NOTES

[1] Harold Barnett and Chandler Morse (Scarcity and Growth [Baltimore : Johns Hopkins University Press, 1963]) once estimated that there were increasing returns to scale in extractive industries between 1870-1900 and 1957, forestry excepted. According to this famous work, the cost per unit of extractive commodities compared with non-extractive goods might he expected to rise over time. Again, with the exception of forestry, the opposite has been true.

[2] Michael Renner, "Saving Earth, Creating Jobs," *Worldwatch*, 5, 1, January-February 1992, p.13.

CHAPTER 10

UNEVEN AND COMBINED DEVELOPMENT AND ECOLOGICAL CRISIS

INTRODUCTION

No one has ever systematically theorized the effects of the uneven and combined development of capitalism on natural and human ecology. I suppose the main reason for this lack is that post-Marxism (or postmodernism) more or less replaced Marxism in the academy at about the same time that environmentalists and ecologists began talking about a "world ecological crisis." If so, we have another example of that old owl of Minerva folding her wings at daybreak. Or of tossing that baby (Marxist method) out with the bathwater (the USSR and all that). We do possess a plethora of new studies of ecological conditions in various parts of the globe, as well as some older ideas about "capitalist social formations," "modes of production,' and "uneven and combined development" (the latter concept is nearly a century old). Guided by these tried-and-true totalizing concepts (which, incidentally, postmodernists have never bothered to refute), we can hazard some provisional conclusions.[1] Before applying these concepts to the subject at hand (global ecology), however, we need to at least briefly recap the salient features of "uneven development" and "combined development." (The meaning of "mode of production" was alluded to in Chapter 1 of the present work.)

UNEVEN AND COMBINED DEVELOPMENT

Uneven development is usually defined in political economic and socioeconomic terms (relations between state and economy and relations between social class and economy, respectively). The object of study is the historically produced, uneven spatial distribution of industry, agriculture, mining, banking, commerce, consumption, wealth, labor relations, political configurations, and so on. Uneven

development is a vast subject, so only two or three examples relevant to the global distribution of resource exploitation and pollution will be given here. One is the historical process of "development" and "underdevelopment" (or, more accurately, the "development of underdevelopment"), first theorized by Paul Baran in the 1950s and elaborated by Andre Gunder Frank and other Marxist scholars (including the present

writer) in the 1960s and 1970s. These categories were used to describe the dualisms or polarities between, for example, regions supplying raw materials (the "third world") and those monopolizing the production of manufactured goods (the "first world" or "core" or "imperialist countries"). Or they were used to explain the production and distribution of wealth and poverty (including rich and poor countries) in the world of neocolonialism in the 1950s and 1960s. Or they were deployed to theorize why some countries or regions failed to develop forms of capital and wage labor, and forms of liberal democratic political rule, that were (and are) common in the North. At another theoretical level, uneven development may be defined as the exploitative relationship between town and country (imperial power/colony; center/periphery) as the basis for the reproduction of global capitalism as a whole.[2] No one has put it more graphically than Fidel Castro, when he described prerevolutionary Havana as the "swollen head on the shrunken body" of Cuba.

Combined development may be defined as a particular combination of economic, social, and political forms characteristic of "developed" regions with those found in "underdeveloped" regions (or town and countryside) – a mix of new and older forms of socioeconomic or political life (where "older forms" are understood as socioeconomic and political forms historically produced at some time in the past). Perhaps the most important example of combined development today pertains to the "new global economy" where capital (always obsessed with maximizing increases in profits) combines advanced technology, industrial organization, and division of labor with low-paid and/or superexploited labor. In effect, this represents a combination of 19th-century labor conditions and political forms with 21st-century technology, or of the most profitable features of development and underdevelopment into a new unity, financed by global banking and organized by global transnational corporations.

More concretely, uneven development means that industrial, finance, and commercial capital have accumulated more rapidly, in larger blocs or agglomerations, and with greater political power in some regions than in others. Capital was (and, to a degree, still is – although less so every decade) spatially compacted in certain regions in Europe, North America, and Japan. In 1900, for example, the twelve major population concentrations in the world were also major industrial centers (London, New York, Paris, Berlin, Chicago, Vienna, Tokyo, St. Petersburg, Philadelphia, Manchester, Birmingham, and Moscow). The "hinterlands" of these and other industrial zones were dependent on the industrial centers and exploited by them. The first form of exploitation in the modern era was the extraction of agricultural surplus to finance industrialization, to feed urban populations (in-

cluding the fast-growing proletariat), and to supply raw materials for industry. The global "urban hinterlands" – the mining and agricultural zones of Africa, Latin America, and Asia – were dominated by and integrated into the economies of the industrial (imperial)

powers. In time, as David Harvey has theorized, the extensive built environments of the industrial regions reduced capital mobility. Meanwhile, the hinterlands or periphery of world economy became better organized politically, in various reformist and revolutionary projects. At a certain point, the periphery began to function relatively less as a supplier of agricultural surplus and more as a supplier of human laborpower for the expanding factories and other facilities in the industrial core and urban development generally. Complex patterns of internal and international labor migration resulted in a relative decline in rural populations and a rapid expansion of urban and industrial populations. Many peripheries remained raw material suppliers, some became profitable markets for the cores' surplus manufactured goods, and all of them became more or less important outlets for surplus capital in the North.

With the great ruptures in the world market during World War I, the Great Depression of the 1930s, and World War II, nationalist industrialization programs were launched in the South, typically described as "import substitute industrialization" (ISI). However, with the decline of ISI, on the one hand, and the globalization of industrial (productive) capital from the 1960s on, a dependent, exported industrialization flourished in many old third world countries in the South. So, too, did semiautonomous industrialization in northeast Asia, and, by the 1980s, southeast Asia as well. Here, states were able to mobilize national and ethnic identities and to organize export-led industrialization with a growing home market, "relatively independently" of what in the West are regarded as "normal" capitalist class structures and class relations.

A long and still incomplete process of combined development is under way. By 2000, the twelve leading population centers are expected to be Mexico City, Sao Paulo, Shanghai, Tokyo-Yokohama, New York, Beijing, Rio de Janeiro, Bombay, Calcutta, Jakarta, Los Angeles, and Seoul, in that order, indicating how quickly the urbanization of the South is catching up with that in the first world. This projection, however, should not be interpreted as a complete reversal in center-periphery relations: despite combined development and global industrialization, seven countries (the United States, United Kingdom, Canada, France, Japan, West German, Italy, and Canada), which have less than 15 percent of the world's population today, account for well over 40 percent of global consumption. (On the other hand, these countries produce about one-third of grain supplies, meanwhile consuming only one-quarter of world grain.) Also, by the year 2000, the three most important zones of industrial capital are expected to be Tokyo-Yokohama, New York, and Los Angeles – all located in the first world.

Uneven development is related to, but not determined by, the global distribution of resources, for example, soils, forests, minerals, climates, and the like. Some resource-rich regions (North America) have become industrial powers,

some have not (central Africa). Some industrial powers are resource (especially energy) poor (Japan). The uneven distribution of industrial capital thus needs to be explained first

and foremost in socioeconomic and political economic terms.

Economically, the tendency for industrial capital to become concentrated and centralized in terms of ownership and control has been associated historically with spatial concentration. "The need to reduce circulation costs of capital, labour, and commodities," D. K. Forbes writes, "originally contributed to the geographic centralization of production in towns and cities."[3] In turn, agglomerations of capital and urbanization accelerated the growth of money markets, mass markets for consumer goods, and the pool of available laborpower. The existence of economies of large-scale production and external economies of scale, for example, reductions in costs when individual capitals use the same physical infrastructure and when component and spare parts are available locally, were also important. Further, profit rates tend to be higher in regions of "agglomerated" industrial capital, which means that money capital searching for investment outlets "naturally" gravitates toward big city banks and stock and money markets. Money capital generated in the hinterlands typically migrates to the big banking or industrial centers. It was more the rule than the exception, for example, for big industrial, financial, and commercial zones to milk agriculture and rural economy generally for profits ("uneven exchange"), which in many countries helped to underdevelop the latter.

Uneven development (as described above) tends to negate itself in two general ways: first, the geographic concentration of industrial capital sooner or later causes an increase in transport, labor, and other costs; second, growing supplies of commodified land and labor, markets, and "modernized" pliable governments are created in raw material zones. A push effect comes about because limits on space increase ground rent, because congestion costs increase, and because there develop increasingly rigid patterns of capital utilization and types and patterns of use of infrastructure (e.g., some have called Detroit a "composite commodity"). Meanwhile, the concentration of workers strengthens labor unions and labor's power in local government. There also develops a kind of "geographic inertia" inhibiting the geographical dispersal of capital, especially when local alliances between builders, landlords, banks, industry, and labor collaborate to keep their region(s) economically viable. At some point, however, there will be a "push" toward dispersal and decentralization of production, hurried along by new technologies that reduce communications and transport costs, miniaturize equipment, and so on. Capital assumes the forms of combined development because new technology makes capital increasingly flexible, and able to adapt practically to more contingencies, including whatever human (cultural) form laborpower presents itself in labor markets. At the same time, industrial capital tends to be pulled into older non-industrialized zones because the capitalization of world agriculture and "enclosure of the world's commons" create labor surpluses and potential markets. Antidemocratic governments that promise freedom from labor, environmental, and other regulations also exercise a "pull" on industrial capital.

UNEVEN DEVELOPMENT AND POLLUTION

The discussion that follows addresses first, uneven development and different forms of pollution; second, uneven development and depletion of resources; third, combined development and pollution and resource depletion; fourth, the way that resources are depleted indirectly as a result of pollution; fifth, and conversely, the way that pollution is an indirect result of depletion of resources. The treatment of the subject here is tentative and suggestive, not exhaustive or conclusive.

One thing is certain. The worst human and ecological disasters as a rule occur in the South and the "internal colonies" of the North. The human victims of ecological degradation are typically the rural poor – the landpoor and landless masses for whom ecological questions are a matter of life and death – and the unemployed and underemployed in the cities, as well as the oppressed minorities and poor in the North. Examples of the effects of soil depletion are mass poverty and starvation in the African Sahel, and the overexploitation of water resources by Israel causing their rapid depletion and salinization at the expense of the Palestinians (and ultimately perhaps Israel itself). Examples of the effects of pollution on oppressed peoples are the poisoning of Native American uranium miners; the decimation of farm laborers from Mexico, sick and dying from pesticide poisoning; the killing of dozens of people in Mexico City (November 1984) when *80,000* barrels of liquefied gas exploded; the killing of thousands and the injuring of many thousands more in Bhopal, India (December 1984) as a result of leakages of methyl isocyanate used to make pesticides in Union Carbide's plant in that city (the poison poured out from underground storage tanks; the plant, only five years old, was located in the middle of the slum part of the town). Examples of "natural disasters" that hit the poor and helpless much harder than those better-off materially are the earthquakes in Mexico City and Colombia in 1985, which killed thousands, mostly poor, whom their governments left unprotected from the possibility of volcanic eruptions; and the flooding of the Mississippi and other rivers, which typically hits poor blacks living along the river edge or on the flats much harder than the well-to-do whites settled on the high ground.

In capitalist economy, "nature" is the point of departure for production but typically not a point of return. Yet industrial, municipal, and household *waste* and industrial, municipal, and household *pollution* are two different concepts. Waste may be potentially harmful, but waste levels may be so small that they can be naturally recycled back into nature without danger to ecological systems or human beings, for example, cigarette smoke out of doors. Or waste may be of a type that makes it easy to recycle back into nature without harmful effects even if it exists in large quantities, for example, stubble from crops.

In either case, waste (or by-products of industry and consumption) that becomes highly concentrated spatially sooner or later becomes pollution; at some point, natural recycling cannot occur. The separation between town and country that developed in feudal Europe beginning in the 11th century was probably the

first major interference with natural recycling since ancient times. It seems to follow that the greater the uneven development of capital, the greater will be the spatial concentration of industry, households, and urban populations, and the more likely it will be that given amounts of waste of different types will be transformed into dangerous pollution. In the United States, the biggest source of air and noise pollution are automobiles in metropolitan areas; the biggest source of water pollution (excepting from agriculture) is municipal sewerage in the big industrial zones, where manufacturing and related activities and also population are heavily concentrated (about 40 percent of this waste consists of discharge from industry in the United States). The highly spatially concentrated electronics industry (e.g., Silicon Valley) transforms many waste products into toxic pollution simply because the wastes are geographically concentrated.

Another example of the effects of uneven development on pollution can be drawn from the experiences of the chemical and petrochemical industries. According to the Environmental Protection Agency, there are about six thousand plants in the United States that produce dangerous chemicals. Most of these plants are concentrated in working-class communities, especially oppressed minority or black working-class districts. Leakages and waste from these plants are spatially concentrated and have proved dangerous to human beings and natural systems. The implications are clear: decentralize industry and population and everything else being the same (which it never is), some dangerous pollution will automatically be transformed into harmless waste.

UNEVEN DEVELOPMENT AND DEPLETION/EXHAUSTION OF RESOURCES

The theory of uneven development and the destruction of nature was first put forth in simple outline by Marx himself. He argued that under capitalism there is inevitably a growing division between the city and the countryside (a division of labor between town and country) which disturbs the basic metabolism between human beings and the earth, that is, the return to the soil of the elements consumed by human beings and animals. He claimed that this division of labor violated natural conditions for lasting soil fertility, and history may yet prove him correct. Uneven development is not only the concentration of industrial production, commerce, population, and so on, in developed zones, but also the concentration of agriculture and raw material extraction in underdeveloped zones where the “basic metabolism’ between people and nature has also been disturbed.

In most of these zones, there now exists highly developed systems of agricultural specialization, at the limit, monoculture, or concentration on a particular crop or handful of crops for the export market. It is not too much to say that historically the balanced and integrated industrial structures concentrated in the North and in the industrial zones of the South required or presupposed imbalanced, specialized, and fragmented economies in the South; at least the facts

pertaining to 19th-century global economic development and development in the first half of the 20th century are consistent with this view.

One effect of uneven development in terms of resource depletion (e.g., one effect of the uncontrolled expansion of monoculture) has been to degrade soil conditions. A famous example is the uncontrolled expansion of sugar production in northeast Brazil, which ruined the land and pushed the region into deep poverty, from which it has never really recovered. A well-known contemporary example is the Sahel in Africa. This forms a large part of the old French West Africa and French Equatorial African territories where the environment has been ruined by a conjuncture of crop specialization for export, the pushing back of subsistence agriculture by export agriculture to more ecologically fragile lands, and the reduction of land available for cattle grazing. This has led to overgrazing and starvation of the cattle. In times of drought, the (well-intentioned) French government sank wells for the cattle – with the effect that the natural environments around these wells were destroyed by the concentration of cattle. The result has been the growing fragility of the environment and the economy, and the mass impoverishment of a people who once had a well-integrated and regulated subsistence economy based on exchange between farmers and cattle raisers. The latter were permitted to graze their cattle on the stubble on the former's farms in return for manure – the main source of fertilizer for crops of all kinds. There are other raw material export economies, specializing in one or a few crops, which have paid little attention to soil management during export booms – so hungry are the governments to earn foreign exchange – only to pay for this later in declining productivity and poverty, as has happened in Central America.

A second effect of uneven development is deforestation, the best-known contemporary example being the rapid destruction of tropical rainforests and the flora and fauna nurtured by rainforests. In the age of imperialism, under the aegis of colonialism and of mindless economic expansion, a vast deforestation of the world took place. In the United States, the destruction of original-growth forests is well known; they simply disappeared, along with prairies and prairie life (the last real prairie in Texas is now threatened by development) and wildlife. Deforestation came about for two general reasons, both related to the rapid growth of industry, trade and international capital exports in the 19th century. Least important was the direct exploitation of timber resources, such as hardwoods in rainforest zones, for export (there were exceptions, such as Burma's hardwood teak forests, which were so valuable that the British Crown put a stop to their uncontrolled commercial exploitation). The most important reason was the clearing of forest land for grazing and agriculture oriented to exports to the industrial countries or industrial or urban zones. Forest clearing (e.g., in the United States or in Burma, where the British cleared lowland forests to make room for a peasant-based export agriculture) was important to ensure the availability of supplies of cheap raw

materials and foodstuffs for the developed capitalist zones. Deforestation, and the droughts, flooding, and silting of rivers that invariably resulted, were crucial elements in the golden age of capitalism – an age that saw

the mass production of commodities and also mass drought, floods, and starvation. In short, in place of integrated agriculture-silviculture systems, permanent- or sustainable-yield forestry, and a respect for the diversity of life (biodiversity defined in different ways), uneven development and underdevelopment resulted in stripping the world of most of its forest cover. Only in the industrial countries, especially in Europe, did forest management prevent much, if not most, potential damage (attempts to reforest the Alps began in the early 19th century).

The third effect of uneven development has been the rapid exploitation of fossil fuels in the underdeveloped and developed countries. The combined effect of imperialism and colonial domination, together with the great power of the energy monopolies, has meant that energy resources have been exploited much faster than would have been the case in a world in which nature was a point of return, not only a point of departure, for material production, that is, in a world that paid attention to municipal waste as a source of energy, to wind power, and to solar energy. Imperialism, the oil monopolies, and short-sighted state policies all mitigate against rational energy policies. In Britain, in the 1980s, the equivalent of 6 million metric tons of coal were dumped into landfills annually (representing about one-half of Britain's industrial demand for energy at the time, excluding energy used in the production of electricity, iron, and steel). In the United States, there were only 120 refuse energy recovery plants operating or in the planning stage. Ninety-five percent of municipal wastes went into landfills – about 150 million tons yearly, or about 4 pounds per person per day of solid wastes. The energy equivalent was about 56 million tons of coal or 225 million barrels of oil.

Japan and, to a lesser degree, western Europe have been more careful. In Japan, municipal wastes going to landfill declined from 42 percent of total refuse in the 1970s to 32 percent in the 1980s. Energy and land costs, hence costs of capital, are so high in Japan that conservation is essential; in this way, some of the effects of uneven development on the depletion of energy supplies are mitigated. Thus the effect of the exponential growth of energy demand during the past 100 years – while coal has been mined for about 800 years, well over 50 percent of all coal produced in history was taken from the ground between 1940 and 1980 – on fossil fuel depletion/exhaustion has been partly offset by a combination of capitalist spatial concentration and physical spatial limits and state planning.

The ecological consequences of uneven development have been great not only as a result of soil degradation and loss, deforestation, drought and aridization, and mineral depletion, but also because of the effects on raw material zones of the out-migration of labor as people seek work in developing or industrial zones. In the farmlands, hills, and

mountains in regions where industrial capital is concentrated, land is neglected; labor shortages prevent traditional land management; there is little money for good crop practices; and there is extreme poverty. Examples are north Portugal where male workers migrated to industrial Europe or the Lisbon area in in the 1960s in search of jobs, and the hilly and mountain areas in the Lombardy region in Italy, which are turning into deserts.

A somewhat more complex model of uneven development and the degradation of nature could be applied to countries or regions that specialize in both agricultural and mineral production for export and in which pollution from tailings or waste or smoke from mining facilities results in agricultural degradation and soil depletion. The Falconbridge Corporation of Canada, for example, owns nickel mines in the Bonao district of the Dominican Republic where local farmers claim that smoke from the mines has adverse effects on soils and crop yields. Conversely, floods and droughts from deforestation (a kind of resource depletion) may have the effect of increasing water and other forms of pollution.

In the raw material zones, the situation in many poor regions has been summarized by African ecologist Calestous Juma this way: (1) The rapid growth of export agriculture in the South pushes subsistence farming into marginal, more fragile lands. Arguably the "worst case" is Haiti, where subsistence peasants are crowded on barren mountain slopes, while agribusiness owns the best valley lands. Export agriculture concentrates land in the hands of agribusiness. (2) The worsening terms of trade between the South and the developed countries (i.e., the declining prices of raw materials in terms of prices of manufactured goods) means that countries in the South often have to export more and more to maintain given levels of imports. (3) This means that land under export crops is exploited more intensively, using more chemical fertilizers and pesticides, together with more human labor power. The result is more serious occupational health problems (the chemical poisoning of farm workers is confined mostly to the export sector where the majority of chemicals is used). (4) The expansion of export crops requires more deforestation, as well as the transfer of fertile land from the poor to the rich, which forces landless and land-poor peasants into ever-more marginal areas with fragile ecosystems. (5) Within a particular underdeveloped country, especially in Africa, more and more resources are consumed in urban areas. (6) Low food prices maintained to keep social order among the urban working classes create constant pressure on farmers producing local food crops to expand production – thus producing more environmental degradation. (7) All of this has produced terrible social changes-for example, the resurgence of parasitic infections and chronic diseases of one kind or another. Intensive agricultural systems have accelerated the prevalence of malaria and schistosomiasis. All in all, world capitalism, given uneven development, has been a disaster for hundreds of millions of people.

Uneven capitalist development, then, tends to cause mass pollution in the

industrial zones and mass degradation of land, soils, plant life, and so on in the raw material zones. It also causes overpopulation (in the sense of over-proletarianization and mass poverty) in the underdeveloped zones, which accelerates the degradation of nature (meanwhile, in the developed countries agriculture becomes ever more energy-intensive). In the context of movements of the world economy as a whole, during economic hard times export agriculture and subsis-

tence producers attempt to maintain their incomes by expanding production, hence pushing nature more against its ecological limits.

What has happened, historically, and is still happening, is that the soils and resources of the South and the raw material zones of the North were and are, in part, exported through the vehicle of commodity production and exchange and capital accumulation, only to make their appearance in the industrial zones in the form of waste and pollution. It is interesting to speculate about the possibility that industrial pollution is indirectly or directly a form of physical matter that once assumed the form of rich soils, fossil fuels, minerals, forests, and so on in the raw material zones. In this way, soil exhaustion, the depletion of forests, and the like, and pollution and mass poverty in the South constitute a single historical process – "one big fact."

COMBINED DEVELOPMENT: POLLUTION AND RESOURCE DEPLETION

Combined development means that capital seeks to combine socioeconomic forms in the most profitable way. This occurs in at least two ways simultaneously: first, there is the migration of landless and land-poor people from the South's countryside to the city and from the South to the North – also a feature of uneven development. Second, there is the out-migration of industrial, financial, and related capital and technology seeking cheap, disciplined labor and fresh markets in countries where governments are only too happy to repress unions and ignore environmental regulations in the interests of attracting capital. In the United States, the government has encouraged combined development through the regionalization and globalization of capital. In May 1986, "a Federal court issued a decision that gives U.S. multinational corporations the freedom to deploy their factories overseas regardless of the hazards they pose to the people there.... The judge also sent a clear signal that other multinationals can avoid full responsibility for deleterious global practices by hiding behind subsidiaries, partnerships, and various economic and technological agreements."[4]

In the first case, cheap labor, illegals, and workers without rights are drawn into the older industrial zones; wages tend to fall for everyone; work conditions tend to deteriorate; unions are weakened; occupational health and safety problems grow and environmental conditions tend to get worse. Meanwhile, rural zones are deprived of more of their best young workers, both men and women, leading to more land neglect and

ecological damage generally. The Lombardy countryside and north Portugal have already been noted; parts of rural Turkey and Appalachia in the United States can also be mentioned in this connection.

In the second case, the out-migration of capital creates new zones of industry in labor surplus (cheap labor) regions and capitalizes agriculture. Northern pollution is "exported" to the South. Dangerous chemicals banned in the North find their way into industrial and agricultural production in the South. Older and

more exploitative styles of labor relations are used; occupational health and safety are neglected; and urban-industrial zones grow out of control, creating housing, waste disposal, traffic, and other problems.

Air pollution levels in Southern cities (such as Ankara, Bangkok, Bombay, Buenos Aires, Cairo, Calcutta, Caracas, Manila, Mexico City, Rio, Sao Paulo, Seoul, and Teheran) are much worse than those of large cities in the developed world. Engine exhaust fumes are the worst culprit. The use of wood, dung, and charcoal for cooking and heating intensifies the problem. Some cities suffer thermal inversions and a lack of air circulation. In Korea, Seoul, with eight million people, suffers because of the high sulphur exhausts produced by cars; from briquette gas from household smokestacks; and from the use of bunker-C oil as heating fuel in many high-rise buildings and factories.

In cases where advanced management, methods of finance, and technology are combined with more traditional methods of agricultural production in the export sector, combined development deepens uneven development with attendant ecological damage. The "green revolution" is the best-known example. The capitalization of agriculture in the South under the sign of the green revolution means that farmers "pick the 'best' seeds, plant uniformly over the largest area possible, and dose with chemical fertilizers. The reduction of agriculture to this simple formula leaves crops open to attack and soils highly vulnerable to deterioration.... Such reductionist agriculture turns chemical fertilizers and pesticides into necessities to cover for its built-in vulnerabilities."[5] High-yielding seeds need much water and fertilizer, are less resistant to disease than "native" seeds, and are more sensitive to drought and flood conditions.

In sum, combined development means the export of pollution and the export of dangerous products – both means of production and the means of consumption. What is transferred from the North to the South is not just capital and technology but also a cluster of social and environmental costs. If we view the world as an arena of capital accumulation in which both forms of combined development occur within the context of uneven development, we can make the following tentative hypotheses. First, low-wage, unorganized labor in the South and weakened labor organizations in the North are unable to resist environmental destruction and harm to the health of workers and communities. Second, the combination of high technology with cheap labor increases "social costs" and externalities and the rate of exploitation globally, hence the rate of profit, hence the speed

at which resources are used and destroyed and also the rate of pollution in all its forms. The result is a self-perpetuating spiral of ecological and human destruction.

CONCLUSION

In particular countries and regions of the globe, there are specific, unique patterns of nature destruction. To understand the causes of ecological damage in any part

of the world, therefore, "concrete analysis of concrete situations" is needed; no generalization, no matter how theoretically sophisticated, will capture the uniqueness of particular regions and countries. Specifically, the effects of the rate and pattern of capitalist accumulation, the size and organization of capitalist firms, and the kind of technologies used, as well as the particular form of uneven and combined development that manifests itself in any given region, among other factors, need to be taken into account. Puerto Rico was a good example (and still is, in limited ways) of the effects of uneven and combined development together. Here, there is soil degradation and loss, deforestation, air and water pollution, public health and urban sewerage problems, oil spills, toxic waste dangers, and pesticide poisoning. Uneven development has resulted in the destruction of many natural resources; combined development has added pollution, toxic waste problems, and so on. When uneven and combined development of capital are themselves combined, it would appear that super-pollution in industrial zones may be explained by super-destruction of land and resources in raw material zones, and vice versa. Depletion and exhaustion of resources and pollution depend on one another; they are the necessary result of the same universal process of capital "valorization."

Depletion/exhaustion and pollution are thus not independent issues. The natural wealth of the world is depleted and turned into garbage, often dangerous garbage, through global capital accumulation. And the unwanted by-products – pollution – have the effect of depleting/exhausting resources. Put formally, the greater the profit rate, the greater the accumulation rate, the greater the rate of depletion/exhaustion that indirectly leads to a greater rate of pollution. For example, oil extraction and production depletes fossil fuel resources; oil is turned into petrochemical products that harm people and nature. Uranium mining depletes resources and damages the health of miners and others, meanwhile resulting indirectly in more pollution (e.g., through leakages from nuclear plants). Also, everything else being the same, the greater the profit and accumulation rates, the greater the direct pollution, and the greater the indirect depletion and exhaustion of nature.

NOTES

[1] The present account of the problem is one-sided, hence limited. This essay does not address the ways that

capitalism's and imperialisms destruction of natural and human ecologies is a form of self-destruction-that is, how it has the unintentional effects of raising costs, limiting variability of labor and capital, etc. Nor does it address the crucial problem of social and political resistance to ecological degradation, which is almost everywhere associated with poverty, social movements and social action, and national liberation struggles, which themselves have powerful, independent effects on the costs of capital, flexibility of capital, etc.

[2] This chapter is based on a simple development/underdevelopment model. For a more complex, concrete model of dependent development and disarticulated accumulation, see Daniel Faber, "Dependent Development, Disarticulated Accumulation and *Eco*logical Crisis in Central America, *Capitalism, Nature, Socialism,* 1*,* Fall 1988.

[3] D. K. Forbes, *The Geography of Underdevelopment: A Critical Survey* (London: Croom Helm, 1984), p. 130.

[4] Larry Everest, "More Bhopals;' *Nation,* 21 June 1986.

[5] Frances Moore Lappé and Joseph Collins, *Food First: Beyond the Myth of Scarcity* (Boston: Houghton Mifflin, 1977), p. 164.

CHAPTER 12

MURDER ON THE ORIENT EXPRESS: THE POLITICAL ECONOMY OF THE GULF WAR

> *The continuing stagnation of the world economy and the shift toward other energy sources have slowed the growth in demand for oil products…. The Communist bloc . . . has collapsed. . This collapse has accelerated a trend toward privatization of the oil industry, as state ownership has been labelled a failure and private ownership touted as the only way forward. The result of all these factors has been that Third World countries, including those of the former Communist bloc, have been opened up to the international oh companies on a scale not seen since the 1950s, and on terms which are a throwback to that era of oil company dominance.*
>
> —Michael Tanzer, "The International Oil Industry: Recent Changes and Their Implications for Mexico" *(Monthly Review,* September 1994, p. 2)

The workings of liberal democratic states have been theorized in various ways by three or four generations of Marxist writers and other radical social scientists. One view (to which I subscribe) is that there are in effect not one but two states in liberal democratic societies. One is the "capitalist state," which pertains to the relationship between the state and capitalist economy (political economy). The other is the "state in capitalist society," which pertains to the relationship between the state and civil society (political sociology). The real or empirical state (and its governments) is said to have two corresponding functions. The first is to promote capital accumulation in various ways (e.g., providing infrastructure, a favorable tax code, subsidies of different kinds, etc.). The second function is to politically legitimate the state itself (e.g., regular elections with secret ballots, freedom of speech, one person-one vote rule, etc.) and state economic policy in particular (e.g., tax cuts on capital gains to generate more "economic growth" [to make the

rich richer], subsidies to capital to create "more employment" [to increase profits], etc.).

The present writer has argued in *The Fiscal Crisis of the State* and in *Accumulation Crisis* as well that the so-called accumulation and legitimation functions of the state are, in fact, contradictory; that is, that one tends to cancel e other out, or the state

economic and social policy typically embody both functions in ways that "satisfies" neither. In this view, most if not all state economic and social policies tend at least to be ineffective, and often to create more problems than they solve via a process of displacement of contradictions. Economic and social policy rarely, if ever, have the clearcut purposes and effects that the business classes would like, and much less the aims and results that the working classes would regard as purely beneficial. Note that I have qualified this theory of the state, economy, and society (and their contradictions) with words such as "typically," "tend to;' "of least," and so on. This is because there are a few crucial exceptions to the rule that the accumulation and legitimation functions are contradictory. One is money and monetary policy, which in the contemporary world aims to prevent inflation rather than to increase production and employment, hence nakedly reflects the interests of finance capital. Another is "law-and-order policy," which so clearly favors capitalist property over self-earned property and the propertyless.

A third exception would seem to be "energy policy," specifically, oil policy. Here, governments are typically at the beck and call of the oil monopolies, in a more or less undisguised way, indicating the crucial importance of oil in the process of capitalist production and accumulation. Here, too, governments are typically blind or indifferent to the devastating ecological effects of the "life cycle" of oil, which are inarguably more extensive and more damaging than those of any other single commodity. It is not that governments fail to try to legitimate their oil policies (which almost always require theft or force); it is, rather, that such legitimation tends to be weak and transparent, a kind of afterthought, as it were.

One example of the transparent nature of attempts to legitimate oil policies organized by and for the interests of the oil monopolies and capitalist classes generally is discussed in this chapter (a second is taken up in the next chapter). In 1991, the United States tried to legitimate its massive military intervention into the regional affairs of the Middle East via the transparently self-serving doctrine of the "New World Order." (In the second case, the British government sought legitimation for its policy [driven by the oil monopolies] to exploit North Sea all to the fullest, transforming the Shetland Islands in the process.) Both studies strongly suggest that the power of oil is very great, and that the oil monopolies normally get what they want, usually backed 100 percent by their governments.

Peace activists were divided into two schools of thought on Iraq's annexation of Kuwait and the United States war against Iraq. One school had an economic theory of the war, the second a political theory. The economic theory stressed the importance of the control of Gulf oil and of oil and oil revenues in U.S. capitalism and world economy. "The war with Iraq is because of oil," said Senator Bennett

Johnson, chairman of the Energy and Natural Resources Committee, in February 1991. The political theory emphasized the exigencies of Middle East politics, the rote of the

United States as global policeman, and the imperatives of the national security state, established alter World War II to "contain communism" and beat back national liberation struggles. The aim of the war with Iraq is to help to consolidate a "new world order' said President George Bush.

Politically, the economic theory held that radical changes in U.S. capitalism – in particular, the types and patterns of energy production and consumption, consumer demand, and investment priorities of big business – were needed to restructure a national and world economy in which the "race for resources" and wars of imperialist rivalry would be no longer desirable or possible. The political theory held that a reform president and Congress, together with a radically diminished rote for the Pentagon and the military-industrial complex, would go a long way toward preventing imperialist adventures in the future. Accordingly, while both theories converge on the need to abolish the military-industrial complex and drastically change federal budget priorities, the economic theory stressed the importance of democratizing investment decisions and creating green economic alternatives, while the political theory emphasized the need to get a reform Democrat in the White House who would help the country redefine "national security,"

These two theories, at first sight mutually exclusive, in fact complement each other. Both have history, logic, and the facts on their side. But both are partial truths, two ways of explaining the same event at different levels of theoretical and historical abstraction.

The reason that there are two theories is that in capitalist society economic rule does not automatically confer political rule. The capitalist state is "relatively autonomous" as a result of the long struggle by European and North American bourgeoisies to enforce a clearcut formal distinction between economic and political power, civil society and the state. Economically, this took the form of separating the king's purse and the public budget, the king's land and the public domain, and the king's enterprises and private business. Politically, it took the form of liberalism. Ever since, capital has had to organize itself politically to win and keep political power. If anyone needs to be reminded of this basic fact they need only remember the corporate PACs of the late 1970s and early 1980s that helped to put power at the federal level squarely in the hands of the capitalist class, led politically by Ronald Reagan.

But the case of oil is special. Petroleum refining is the biggest industry, and oil sales and profit per employee are the highest of all corporations listed in *Fortune's* Global 500. Industries with less strategic importance have to scramble for power in the federal government. They need to capture and neutralize federal regulatory agencies or to find what Nicos Poulantzas called "refuges" within the capitalist state. Or they enjoy the negative power of noncompliance with government policy, the supreme example of which is a capital strike. However, oil and energy capital—even though they, too, have their own industrial associations,

regulatory commissions, and refuges—enjoy a privileged place in the political economy. The "energy question" is not seen as an issue in international trade but rather as a question of "national security" in the United States and Europe.[1]

The reason is that oil is the secret of the production of capital, value and surplus value, as well as the realization of value, and the circulation of capital in general. Fossil-fuel energy powered the Industrial Revolution and powers mining, agricultu.re, industry, and commerce today. Fossil fuels generally and oil in particular liberate capital from its dependence on human physical energy, hence are powerful weapons against the working-class movement. Oil-based plastic products freed capital from its reliance on one of the most militant groups of workers in capitalist history: the metal workers. Oil enhances the productivity of labor, hence the production of surplus value, more than any other commodity. Electricity, the first science-based commodity in history, is mainly produced by oil and coal. And oil has made it possible to realize capital in the marketplace by fueling the vast automobile market and a car culture, not to speak of creating markets for countless other commodities.

Besides being the key factor in the production and realization of capital value, oil wealth is a crucial component of the circulation of capital worldwide. Oil is truly "black gold," and, in the opinion of some, when the old gold standard broke down, the world went on an oil standard. In sum, without oil there is no productivity, no markets, no profits, no petrodollars to help to fuel the world's financial system, and no Pentagon. There is no capitalism as we know it. This cannot be said of any other commodity, not even of computers. This is why oil and U.S. capitalism and oil and U.S. imperialism have been synonymous for a long time, and why oil economics and politics have been and remain the dirty side of each other in American history.

In the transcontinental empire called the United States, an unstated premise of foreign and domestic policy is that abundant, stable, and cheap oil supplies, and plentiful oil revenues, are crucial to economic prosperity. No other commodity has the economic magic of oil.

The United States consumes over 25 percent of world oil production (including 100 billion gallons of gasoline every year). The country imports almost 50 percent of its supplies, over one-half from the Middle East (until the war, almost 7 percent from Iraq itself, up from 0 percent in 1980).[2] The other two engines of world production, Japan and Germany, import most of their crude from the region, which contains over two-thirds of the globe's known oil reserves (up from 59 percent in 1980).[3] Between 1980 and 1990, the Middle East's share of the oil market increased by more than 1 million barrels per day each year: "The world is again as dependent on the Persian Gulf as it was in 1980."[4] By the year 2000, this dependence will be even greater.[5] It is thus no exaggeration to say that the prosperity of the North depends more on Persian Gulf crude oil than on any other single economic factor. This was particularly true when the Bush administration decided to continue to neglect energy conservation and the development of alternative energy sources in favor of "free market solutions."

Second, the United States and world economy depend on stable oil supplies. Reliable oil production and imports keep fluctuations in oil prices within manageable ranges, hence help to stabilize the U.S. balance of trade. A steady stream of oil also means a steady flow of petrodollars, which helps to stabilize the U.S. balance of payments and to finance federal government deficits. Stable oil production presupposes a safe, friendly, politically stable Middle East.

Third, the United States needs cheap oil, and Gulf oil has always been cheap, except in the 1970s when OPEC was able to quadruple prices in 1973 and double them again in 1979. Gulf oil was cheap until the 1970s because of its high quality and low costs of extraction, and also because the West enjoyed political hegemony over the region from the day that oil was discovered there. While England wielded political power in the Gulf, the "seven sisters" exercised hegemony over the oil fields. Socal, Texaco, Exxon, and Mobil ran Aramco in Saudi Arabia; Socal, Texaco, Gulf, Exxon, Mobil, Shell, and British Petroleum dominated the Iranian Consortium in Iran; and Gulf and British Petroleum monopolized the Kuwait Oil Company in Kuwait.

However, these monopolies did not act like monopolies are supposed to act. Instead of restricting production and selling oil dear, they expanded production and marketed oil all over the world. Crude oil prices thus fell more or less steadily during the decades preceding OPEC—which suggests the importance of cheap oil in world economy, a fact underlined by the almost perfect inverse correlation between the growth of GDP in the West and the price of crude oil.

By the 1960s, Western imperialism's control of Gulf oil began to weaken. British power and influence waned. Instead of rushing in to fill the vacuum, the United States, with its hands full in Vietnam, tried to rule via political surrogates, for example, the Iranian monarchy. Only after the Yom Kippur War, when OPEC, led by Saudi Arabia, put the screws to countries supporting Israel (arid only after Earth Day and a new public discourse on "finite resources"), did the United States under President Jimmy Carter give serious attention to its "vital" interests in the Gulf. "Oil security" became a dominant theme in U.S. politics; the United States improved its relations with Saudi Arabia; and expanded world production, energy conservation, and the recession of the early 1980s pushed oil prices down, where they stayed throughout the decade. Although US. oil interests would like to see high oil prices, U.S. banks and industrial corporations support an "abundant-supply approach," the is, low prices. And the defeat of Iraq may be regarded as the finishing touch on the project of safeguarding low prices during the 1990s—a period that is expected to be economically rocky.

Fourth, plentiful oil revenues—petrodollars—have been (and still are, to a degree) integral to the health of U.S. finances. Most oil is priced in dollars and most surplus oil wealth is invested in the West or recycled through U.S., U.K., and offshore banks. In principle, oil revenues help to maintain the dollar as the world's reserve currency, which in turn assists in keeping up the facade of U.S. economic omnipotence. The fact that oil is typically denominated in dollars also helps U.S. and U.K. banks maintain their strength in

a world in which the ten largest banks are Japanese.

in practice, there were many more petrodollars in the 1970s, when oil prices were high, than in the 1980s, when prices fell and also when Japanese and European money helped to finance the U.S. foreign trade and federal deficits. In the 1990s, however, the Germans are turning eastward in their own backyard for Investment outlets while the Japanese have their eye on their growing Asian interests. The widely perceived result is a capital shortage, higher interest rates in Germany, and a decline in capital imports into the United States in 1990 of over 50 percent.

Moreover, the U.S. trade deficit has become increasingly intractable, partly because of the flood of U.S. investments in overseas production facilities during the first half of the 1980s, when the dollar was very strong. Today, a weak dollar generates relatively fewer US. exports than in the past because comparatively fewer commodities are produced for foreign markets in continental plants. This means that petrodollars are even more important for U.S. finances than appears at first sight (especially given that the U.S. Central Command spent $50 billion in 1988 to keep Western access to Gulf oil). In this political economic conjuncture, control of oil revenues and the role of petrodollars assume a new importance for global financial stability.[6]

The United States opposed Iraq's radical nationalism from the beginning of the Iraqi revolution in 1958. In 1975, when the shah of Iran took away Iraq's Gulf port access, the United States backed him up. And when the Camp David Accords removed Egypt from a leadership role in the Middle East, Saddam Hussein tried to fill the resulting power vacuum, to the United States's distress. When Iraq attacked Iran, the Reagan administration quietly supported Iraq against what was regarded as the more radical nationalist, fundamentalist revolutionary Iran, but this support ended when Iraq and Iran made peace. By 1988, Iraq had greatly enlarged its armed forces to back its ambitions in the region, and the United States looked for ways to cut Saddam down to size.

Iraq's annexation of Kuwait was widely seen as a threat to both freely flowing oil and oil revenues and also U.S. influence and power in the Gulf. Iraq-Kuwait together doubled the former's oil reserves and posed a political and military threat to Saudi Arabia and the United Arab Emirates (UAE), as well as to Israel. Since the political stability of the United States-allied sheiks and kings in the Gulf is essential to the stability of all supplies, and since Israel's security is essential (among other reasons) to the security of the West's imperialist project in the Middle East, one can easily imagine the shock waves running through political and business circles when Iraq grabbed Kuwait.

Iraq tried to justify the seizure of Kuwait on the grounds that the latter was guilty of economic aggression against Iraq—a perception that was widely shared in the Arab world. Besides the issues of Iraq's access to the Gulf and the terms of repayment of its debt to Kuwait incurred during the Iran-Iraq War, one key point of dispute in 1989-1990 was the price of oil.

The factors determining oil prices alter 1985, and, in particular, in 1989-1990, were complex. After peaking in 1981, crude prices fell steadily until 1985, when an OPEC conference in October failed to agree on new export quotas. Saudi

Arabia then increased production from 3.2 thousand to 4.8 thousand barrels daily between 1985 and 1986.[7]

Oil prices plummeted from $27 to $15 a band, eventually reaching a low of $7 a barrel. One source claims that the Saudis aimed to cripple Iran's economy-and to strengthen Iraq's war effort. Another states that Saudi Arabia wanted to punish other OPEC members that were producing more than their official quotas.[8] Another reason might have been that the Saudis wanted to slow down the development of oil exploration and production in other oil-producing countries to protect Gulf markets. Saudi Arabia then retreated, cutting back production to 4 thousand barrels per day in 1987, only to reverse itself and expand supplies to 5.1 thousand barrels in 1988.

In 1989-1990, the results of a three-cornered struggle over oil prices between Iraq, the United States, and its Gulf junior partners anticipated the result of the war itself: Iraq was the dear loser. At the May 1989 Arab summit, Saddam Hussein focused his belligerence against his southern neighbors exclusively in terms of overproduction of oil and low oil prices. By July 1990, Aer a greater flood of oil fell on the market during the first half of the year, Saddam actually won a formal agreement from the Saudis and Kuwaitis to reduce production. But Kuwait, the main culprit cheating on its OPEC quota, apparently had no intention of living up to the agreement. The agreed-on price marker of $21 per barrel was an empty formality; Saudi crude was selling for $13 in June 1990. Further, Saudi Arabia alone had significant production capacity in excess of demand, and, together with Kuwait and the UAE, more capacity than their OPEC export quotas.[9] By contrast, Iraq had no excess production capacity; Saddam could raise oil revenues only by forcing OPEC to restrict production and increase prices. As a result of United States urging, Kuwait continued to violate OPEC quotas, reportedly squeezing Iraq to the tune of $1 billion per year for every $1 drop in the price of a barrel of oil.)[10]

On 31 July 1990, although seemingly willing to appease Iraq, Kuwait abruptly broke off further talks at the insistence of the United States, which opposed any deal that would strengthen Iraq in its bid for regional power.[11]

In the struggle over oil prices, the United States clearly asserted its self-defined strategic interests in the Gulf. Bush's (and Kuwait's) economic aggression against Iraq needs to be understood at two levels. First, the United States and its junior partners knew that Iraq lacked spare productive capacity, hence required higher oil prices to increase revenues. The opposite was true for Kuwait, the Saudis, and the UAE. At a deeper level, Iraq, with a relatively balanced oil/people ratio, invested most of its oil revenues in its military, economic development, and social welfare at home. Iraq thus may be described as a rentier-mercantilist state with a powerful incentive to raise ground rents and

merchant monopoly profits by restricting output to push oil prices up.

By contrast, the Gulf sheikdoms and kingdoms have a high oil/people ratio and invest most of their oil earnings in the West—in Kuwait's case, in strategic ways defined in terms of political influence in Washington and Whitehall. In 1986

and 1988, Kuwait's income from foreign investments actually exceeded oil revenues. Like Kuwait, the Saudis have large investments in the Western capitalist growth machine, for example, a one-half share of Texaco's refineries and gas stations in the Eastern United States. Saudi Arabia also plans to build refineries in Asia where the growth of demand for oil is greater than in Europe and the United States. "Saudi Arabia has long been eager to make the shift from a crude-oil producer to a fully integrated international power in crude production, transport, refining, and retailing.[12]

The interests of Saudi Arabia and Kuwait thus resemble those of an industrial capitalist state, which gives them a powerful motive to keep the West well lubricated with oil and money by expanding production and keeping oil prices low: is always a tension between the interests of Saudi Arabia, which has huge reserves and wants a low price so that the world stays reliant on oil, and countries like Iraq and Iran that want high revenues to spur development."[13] US. capital is served by low prices—despite adverse effects on high-cost domestic producers—especially when surplus oil revenues are recycled back into the U.S. economy. .In sum, Iraq's objective interests as an oil power are precisely the opposite of those of the US. "coalition" in the Gulf.[14]

The economic theory of the Gulf War has much to commend it. However, the economic theory is only a half-truth, and a "background" half-truth at that. There was a political logic running more or less parallel with the economic logic, and Bush's political motives peacefully coexisted with US. economic motives.

The political theory of the war gives the place of honor to the exigencies of Middle East politics, on the one hand, and the "imperatives" of the US. national security state, on the other. First, Iraq dearly believed that its "defense" of the Arab world against the Persians to the east and the Israelis to the west would win support from most, if not all. Arab states for its move against Kuwait.[15] From Iraq's point of view, Israel's unwillingness to permit a Palestinian state on its borders could only be undone if an Arab power enjoyed military superiority over Israel, specifically, a credible military deterrence. Saddam Hussein thus saw Kuwait's "economic aggression" in 1989-1990 not only as anti-Iraqi but also anti-Arab and pro-Israel. His mistake was obviously to exaggerate pro-Iraq and anti-Iran, anti-Israel sentiment in the Arab world—meanwhile underestimating the United States's commitment to defend both Israel and its oil-producing clients.

Second, and more important from the standpoint of the future of American politics, are the dynamics of the U.S. national security state: the imperial presidency, the Pentagon and the national security apparatus, and the military-industrial complex, as well as the American cold war culture generally. The political argument is that the "new world

order"—defined not as a new order in the world but as a world ordered by the New World (i.e., the United States)—is in reality an "old world order" established by the United States after World War II to contain communism and third world revolution, as well as to permit U.S. capital unhindered access to raw materials, labor, investment outlets, and markets in the South. Seen this way, the "new world order" is simply a "Pax Americana."

While the economic theory defines geopolitics as the geological politics of oil, the political theory defines geopolitics as the geographic politics of client states, friendly governments, and spheres of influence.

The political theory starts with the global ambitions of the United States since World War I, and the political conjuncture at the end of World War II, when the United States inherited much of the decayed and defeated empires of the Allied and Axis powers. With no real debate, the U.S. policy establishment decided against domestic reforms and in favor of an expansionist path in the context of a global policy of anticommunism. Real reforms at home were shunted aside as the United States assumed the role of global policeman. The national security state emerged as the country's dominant set of institutions. The Pentagon was vastly enlarged during the Korean and Vietnam Wars; the presidency became an imperial presidency; the military-industrial complex became a driving force of U.S. capitalism; and the cold war and nuclear threat became a way of life.

Despite the "loss" of China and Cuba in 1949 and 1959, respectively, American power was projected successfully in most of the rest of the world. The United States typically supported the most reactionary political elements in countries already freed from colonial rule, for example, Greece, the Philippines, Guatemala, and Iran. Korea was the model case; the Americans sided with the Koreans who had collaborated with the Japanese invader in the South against those in the North who had led the resistance against the Japanese occupation. At the same time, the United States presented itself as a friend to anticolonial forces in Asia and Africa undergoing formal decolonization. In those countries that dared to experiment with radical nationalism, for example, Indonesia and Ghana, U.S. foreign policy makers turned against the nationalists.

But the American defeat in Vietnam and Southeast Asia threatened to break up this configuration of a United States-dominated world order. The Tet Offensive in 1968 spelled the beginning of the possible end of the "credible" projection of power in the world. Watergate, the Church Committee's CIA revelations, the growing "Vietnam syndrome," victorious national liberation struggles in the front-line states in southern Africa, the final overthrow of fascism in Spain and Portugal, the dominance of labor and social democracy in Britain and Europe, and the rise of Eurocommunism threatened to open the "credibility gap" beyond repair, and to unravel the national security state. Under the weak presidencies of Gerald Ford and Jimmy Carter, the 1970s was a time of political confusion and dismay among national security managers and the ruling elite generally. A

political vacuum opened up (which McGovern tried to fill in 1972), but the new social movements were too oriented to single-issue politics and too politically uninspiring to fill the void. Ronald Reagan and the Republicans, with a powerful economic (neo)liberal and social conservative line, and backed by the new corporate PACs, were not. By all accounts, the solemn vow of the national security managers was that U.S. "credibility" in the world would be restored one way or another. A decade

of military buildup, American aggression in Central America, and a symbolic politics of U.S. world power followed.

Then the completion of the cold war and the growing weakness of national struggles in the South suddenly removed the principal justification for the U.S. national security state and military-industrial complex. So did the triumph of the ideology of free markets in the third world and many socialist countries, as well as in the labor and social democratic states of Europe. In 1989-1990, liberal Demo crats, environmentalists, feminists, military conversion advocates, and many other reformers and social movements began to try to fill the political void. many local governments, while financially strapped, had been converted to reform politics. Isolationist sentiment was higher than at any other time since the early 1970s[16] and domestic reform began to be taken seriously for the first time since the 1960s. Talk of a "peace dividend" was again heard, as was "tax the rich" rhetoric. In the federal budget battles of 1989-1990, liberal Democrats and others began to question the need for many military programs and called for a reordering of national priorities. A non-expansionist, domestic reform agenda seemed to be a distinct possibility, if not a probability.

Meanwhile, the imperial presidency and the Pentagon were deprived of their 'main reasons for being. Credibility deficits were at an all-time high, given that the gap between symbols of U.S. power in the world and its real ability to project power was so great. However, a successful and popular war could close the gap in a way that Reagan's symbolic cold war politics and the invasions of Grenada and Panama could not. Such a war would also enhance respect for the military at home, as well as foreclose domestic reform—the prospects of which were greater as the United States slid into a recession in late 1990. Perhaps most importantly, ex-CIA director and World War II aviator George Bush, faced with a weak domestic economy, doubtless wanted an "unbeatable" 1992 re-election plan as well as a winnable large-scale war to "restore America's greatness" and to guarantee him an honored place in U.S. history.

Motivation for a war policy in the Bush administration was therefore strong, despite opposition from leading establishment figures. The weapon—the high-tech armaments drive of the 1980s—was at hand. Grenada and Panama had worked as practice runs with respect to control of the media and war propaganda techniques. Iraqi aggression against Kuwait provided the opportunity. The Pentagon could play its terrifying Nintendo games in the Gulf, testing its new and deadly toys, meanwhile

forestalling anti-militarism and meaningful reforms at home, projecting U.S. power and "credibility,' and giving the warfare state and expansionism a new lease on life, all under the guise of establishing a "new world order'

The political theory of the Gulf War is at least as compelling as the economic theory. And in terms of understanding the political aims of Bush's war policy, the political theory is doubtless correct. But there is one important sense in which the difference between economic and political motives is illusory. Putting aside both

oil and George Bush, the "War President," there is a direct linkage between profit and power, which President Eisenhower long ago called the "military-industrial complex"—the keystone of U.S. economic, social, and foreign policy in the 1980s... How this came about requires another glance back into the 1970s and 1980s.

In the late 1970s, while the situation facing U.S. political leaders and national security managers was deteriorating, the picture for American business leaders . was equally dismal. World economy stalled. The average rate of profit had declined. One reason was the oil shock of 1973 (followed by a second in 1979), which was an expression of the weakness of the West's control of the Middle East, and the new economic independence of many of the world's major oil producers. Economic problems of all kinds surfaced. The United States faced growing competition for overseas and home markets from northeast Asia and Europe. A new economic configuration called "stagflation" baffled the economic planners. Hyperinflation at the end of the decade terrified the banks and the "financial community" generally.

Most important, the rate of growth of world demand for commodities fell. Worldwide, business responded to the crisis by a policy of relentless cost-cutting to defend profits. President Carter called for energy-conservation and independence to cut energy costs (meanwhile building up the U.S.'s Rapid Deployment Forces to defend foreign oil supplies). Obsessed with higher productivity and reducing dangerous rates of inflation, business supported the planned recession of 1981-1982. Real wages continued to decline and unemployment grew. But the sacred "costs of production" were beginning to go down.

Cost-cutting strategies deployed by economic crisis managers threatened to further lower world demand for goods and services—the inevitable result of reduced real wages, unemployment, small business bankruptcies, and an impending farm crisis. With Reagan and the expansionists in power, a policy of reform, and wealth and income redistribution, hence an increase in working-class income and effective demand for goods and services, was not considered. Instead, while business held down costs of production, helping to control inflation, the financial System and Federal Reserve engineered the greatest expansion of credit money (and, finally, debt) in the history of capitalism. Credit spending by consumers, business, and the federal government bolstered effective demand. Consumer credit buying (and debt) in relation to consumer income rose to all-

time highs. Business and the federal government also borrowed more money in relation to their capital and income, respectively, digging themselves deeper into debt.

While consumerism, speculation, and greed drove the consumer credit boom and business borrowing, respectively, the national security managers and Pentagon procurement specialists propelled the federal deficit. A relentless policy of military Keynesianism was pursued. In the early and mid-1980s, military spending grew twice as fast as civilian spending in the United States and abroad. The military budget rose by over 40 percent in the 1980s, and all other budget spending, excepting transfer payments, fell. Also, private and public R&D budgets became more dependent on Pentagon largesse. The U.S. military and transna-

tional corporations oriented U.S. high-tech development mainly to increasing the communications, coordination, and control capacities of the Pentagon and big business. Military-related industry became the boom industry of the 1980s, as well as a successful export sector. Finally, the military-industrial complex was the proxy for a U.S. social policy, with respect to housing, health, and education subsidies and payroll and pensions, especially in what Ann Markusen has called the "gun belt," a half-crescent stretching from Seattle to Los Angeles, through the Southwest and Texas, and sweeping up from Florida to Route 128 in Boston.

A supply-side administration thus adopted a demand-side policy of military . spending to maintain effective demand, to create a substitute for real domestic reform and social policy, to restore U.S. "credibility" in the world, and to win respect at home for the military and a law-and-order culture. The United States dangerously resembled a military state. American imperialism and individualism, dangerously pathological twins, flourished as never before. No wonder that Bush felt that he could go down in history as the first president to win a war since Harry Truman, and that the average American citizen finally gave Bush full support.

The lines of analysis presented above strongly suggest that George Bush had many motives to go to war with Iraq. In the language of structuralism, the Gulf War was "overdetermined." In Weberian discourse, economic, political, social, cultural, and ideological factors bearing on the war had an "elective affinity" for one another. In the language of the detective story, the war was *Murder on the Orient Express,* the Agatha Christie mystery in which Hercule Poirot discovers that every suspect harbored a motive to murder, and in fact took part in the murder of a thoroughly bad guy.

The fact that Bush's war motives were numerous and structurally linked, and that the war was politically legitimated by the need to create a "new world order," dramatically underlines the problems facing the peace movement and other social movements—including the environmental and labor movements—in the 1990s. The obstacles that confront social movements seeking to prevent future wars and bring about radical reform at home are as great in the 1990s as in any period in recent U.S. history.

Oil and U.S. power, the nature of the economy and U.S. foreign policy, are at stake, as is the leading role of the military-industrial complex. Oil can now be seen as the means to economic and imperialistic ends. Politics, the Pentagon and military-industrial complex, and the banking System are in their own ways means to the end of oil. Threaten oil and you threaten the national security state and U.S. "credibility Threaten the Pentagon and the military-industrial complex and you threaten oil. Economics and politics thus collapse into an almost impenetrable black hole.

An effective peace movement, therefore, must also be an effective reform movement at home, and vice versa. The peace movement cannot leave any important aspect of U.S. foreign policy anywhere in the world unchanged; the reform movement cannot leave any important aspect of American life at home unchallenged or immune from radical change. This is one sobering lesson of the Gulf War: single-issue movements and movement "purity" are now barriers to

social change. Given the international structure of the ecological crisis and economic and social inequality, especially important is the need to combine or sublate ecology with issues of economic and social justice. Finally, an effective peace-reform movement, including red green politics, presupposes a political movement of the traditional type in the trenches of presidential politics. Without an anti-imperialist, reform president, no real challenge to the national security state and everything it stands for can be made.

Reasonable red greens will disagree on the precise ways to prevent future wars of expansion and to bring about radical reform at home. But one task seems to be essential. This is for the movement to give the highest priority to dismantling the national security state, now an anomaly even on its own terms. The success of such a project requires a long confrontation with the U.S. expansionist enterprise and its economic and political infrastructure in a massive and united effort. The struggle against U.S. imperialism and militarism is also a struggle for radical reform at home, and vice versa. While black leaders from W E. B. DuBois and the Messenger group in the 1920s and 1930s to Malcolm X and Martin Luther King in the 1960s to Jesse Jackson in the 1980s learned this basic datum of American politics well, the linkages between foreign and domestic policy, including those between imperialism abroad and individualism at home, remain obscure to most Americans, even many on the left.

This means that the popular support for Bush's war may set back chances of domestic reform for years to come. An expansionist Warrior State that celebrates the military and castigates liberals and leftists as unpatriotic, and which proffers consumerism as a substitute for reform, is a real and frightening prospect. But we must always bear in mind that "new world order" need not mean a world ordered by the New World, and that Pax Americana can mean an America committed to peaceful solutions to regional and international political conflict and equitable and rational solutions to the plethora of economic and social problems on the home front.

NOTES

[1] Daniel Yergin, "Energy Security for the 1990s' *Foreign Affairs,* Fall 1988; "Whoever controls a people's energy supplies is also able to define their system of wealth, power, and values, and . . . any major change in the energy base of civilization, as is now occurring worldwide, is bound to be accompanied by an intensification of social conflict both within and between nation-states" (Mark Reader, *Aleh-Zon,* February 1991, p. 2). Oil "is an essential feedstock to almost every aspect of economic activity" ("Price Hikes . . . ," *Oil and Gas Journal,* 13 August 1990, p. 2). Nicholas Georgescu-Roegen speaks of the "indissoluble binding of grand politics with mineral resources," a lesson the great economist learned well as the basis of the struggle for oil in his own country, Romania (quoted by Leonard Silk, in "Economic Scene," *New York Times,* 14 December 1990).

[2] The United States imported less than 2 million barrels daily in 1960; 3 million in 1970; almost 7 million in 1980; and nearly 8 million in 1990. Between 1983 and 1990, oil imports doubled, from just over 4 million in the former year. As "the Reagan administration sought to eliminate virtually every government program aimed at reducing oil dependence;' U.S. oil production outside of Alaska fell steadily between 1970 and 1990. Including Alaskan oil, domestic production fell between 1970 and 1975, rose from 1975 to 1985, and dropped from 1985 to 1990. "The U.S. energy picture is growing closer to that of Europe and Japan, which lack cheap domestic energy sources" (Christopher Flavin, "Conquering U.S. Oil Dependence;' *World Watch,* January-February 1991, pp. 28,30-31).

[3] The "coalition" states of Saudi Arabia, Kuwait, and the UAE have 255 billion, 94 billion, and 98 billion barrels of oil reserves, respectively; Iran and Iraq have 92 billion and 100 bam_ barrels; Venezuela and Mexico together have over 110 billion barrels; the USSR has 59 billion and the United States only 26 billion barrels.

[4] Flavin, op cit., p. 30.

[5] The number of countries that have substantial oil supplies available for export will decline by 2000 to a few Gulf states. "Nearly all of the world's spare capacity to produce oil is in the Persian Gulf" (Mathew Wald, *New York Times,19* July 1990). And "six families, put in place by the British and kept there by the West, control 34 percent of the world's oil reserves" (Allan March, "What Was Kuwait?' *Toward Freedom,* 39, 8, December 1990-January 1991, p. 4).

[6] In 1990, the world's banks owed $24 billion, $7.5 billion, and $9.1 billion to Saudi, Kuwaiti, and UAE banks, respectively *(Left Business Observer,* 43,28 January 1991).

[7] According to OPEC's *Annual Statistical Bulletin* (1988).

[8] Marion Farouk-Slugett and Peter Slugett, "Iraq since 1986: The Strengthening of Saddam." *Middle East Report,* November-December 1990. According to this source, the Saudis expanded oil exports from 2 million to 4.5 million barrels between 1985 and 1986; Louis Uchitelle, "Gulf Victory May Raise US. Influence in OPEC' *New York Times,* 5 March 1991.

[9] "Price Hikes, Fears of Oil Supply Crisis Trail Iraq Attack on Kuwait," *Oil and Gas Journal,* 13 August 1990, p. 17; Farouk-Slugget and Slugget, op cit.

[10] See articles in *Time,* 6, 13, and 20 August 1990.

[11] *Intelligence Newsletter,* 29 August 1990.

[12] Carl Goldstein, "Chain Reaction;' *Far Eastern Economic Review,* 14 February 1991, p. 38.

[13] Mathew Wald, *New York Times,* 11 February 1991.

[14] The analysis of the political economy of oil on the eve of the Gulf War summarized by Ted Wheelwright ("Oil and the World Economy;' *Arena,* 95, 1991) deserves mention. Wheelwright stresses that low oil prices were creating more hardship among U.S. domestic producers (supplying about one-half of the United States's needs), as well as favoring the United States's two main competitors, Germany and Japan, in the struggle for markets. In this account, the United States actively encouraged Saddam Hussein to pressure Kuwait to reduce production to try to raise the price of crude. In June 1990, on the eve of Iraq's deployment of troops on the

Kuwait border, crude oil sold for $14-16 per barrel. In July's OPEC meeting (26 July), Iraq gained support for raising prices to $21 per barrel (less than the $25 per barrel Iraq was seeking). The Invasion of Kuwait came on 2 August. This analysis, which is based on an article in *South* (February 1991) by Helga Graham, indicates that U.S. oil policy was more contradictory than I have described above, i.e., that U.S. and Iraqi interests were similar when the price of crude was very low, but ceased to be so when oil prices were relatively high.

[15] Walid Khalidi, "The Gulf Crisis: Origins and Consequences," *Journal of Palestinian Studies, 20,* 2, Winter 1991.

[16] A survey of opinion pieces and editorials in leading U.S. newspapers in August-November 1990, conducted by Thomas Barnett and reported in the *Far Eastern Economic Review,* revealed that only one-quarter supported a go-it-alone policy in the Gulf; about one-third was multilateralist, and another one-third isolationist. Clearly, a war policy of liberating Kuwait by force and especially of destroying Iraq as a major power in the region had little support at home, at least until the U.N. Security Council's fateful 15 January deadline. Clearly, too, Bush's strategy was to win the support of the multilateralists and to isolate the isolationists, to create the conditions for a unilateralist war policy. The slogan "Give the sanctions time" had little or nothing to do with the delay in mounting a unilateral war policy; indeed, the sanctions were taking their toll. The delay was needed to get "international cooperation," hence the support of the multilateralists at home.

CHAPTER 13

BRITISH RULE IN SHETLAND

One of the least-known oil deposits in the world lies under the North Sea between Britain's Shetland Islands arid Norway, at the gateway, if not the doorstep, of industrialized Europe. Discovered in 1971, North Sea oil was widely hailed as a solution to Britain's balance of payments problem and a bonanza for the British economy generally. The great oil terminal on Shetland's hauntingly beautiful Sullom Voe (the biggest oil port in Britain and possibly in all of Europe), built in a kind of "forced draft industrialization" frenzy (although not yet complete), is expected to handle almost 1.4 million barrels of oil daily by mid-1980, and up to 3 million barrels thereafter, more than enough to supply Britain's needs. British and U.S. oil monopolies own about 75 percent of North Sea reserves, the development of which will require a minimum investment of $25 billion by the early 1980s.

If the North Sea is becoming known for its oil wealth, Shetland itself is becoming famous for its reputation as David, against the oil companies' Goliath. Shetland is acquiring a reputation for what is becoming widely believed to be, especially among planners and environmentalists from abroad, the power that the Shetland Islands Council wields in relationship to Westminster (i.e., the British government) and the oil monopolies over the economic and social conditions of oil development. Planners from many countries are beginning to visit the Council's small planning office next to the Harbor Authority in Lerwick, Shetland's main port, to witness this miracle of local autonomy and learn how a community of barely 20,000 people has actually harnessed the biggest energy corporations in the world. The current revival of regionalism and populism in the advanced capitalist world fortifies the growing interest in this latest "Shetland experience."

Earlier "experiences" are exemplified by what many local people call the "Shetland way of life" generally and, more particularly, by the history and daily life of the Borough of Cunningsburgh, half a dozen settlements discretely scattered on green undulating headlands, which on the Shetland – South Mainland ordnance survey map resemble a leaping sheep. The island of Mousa, where the ruins of an ancient broch (a round stone tower, a kind of fortress) wait forlornly

for an occasional tourist, straddles the waters to the south. On those rare days when the sun shines, Lerwick, sticking out into Bressay Sound, is visible twelve miles north.

Rising gently to the west are peat-scarred hills covered with heather,. crumbled stone fences and farm buildings and small new farmhouses, new wire fencing enclosing improved grassland, and freshly shorn sheep. Snaking through the headlands is Cunningsburg's voe (inlet) where the rotting skeleton of a 45-foot herring boat lies half-buried in the tidewaters. Below the headland bluffs looking over seas shrouded with fog, schools of seals flounder on slippery rocks. In the fog beyond the headlands and seals, North Sea oil beckons to the east.

On the long summer days the people of Cunningsburgh, like most Shetlanders, out and dry hay, stack peat for the winter, shear sheep, and weed their potato and turnip patches. Some of the farmers used to fish, but compared with the old days the residents of Cunningsburgh (also like most Shetlanders) are landlocked. The Dutch have a monopoly on the herring fisheries; lobsters are harder to find; crabbing is uneconomical; and the biggest fish – undersea oil – like the big cod and herring fisheries in the days of yore, is firmly controlled by "foreigners."

The people of Cunningsburgh also build and improve homes and crofts with wages earned on oil-inspired road work and other construction; drive lorries (trucks), buses, and taxis; and maintain the airport for the dozens of oil company-chartered daily airplane and helicopter flights (although the best jobs and big money go to "foreign" construction workers housed in barracks at Sullom Voe). Most other Shetlanders have gotten their hands on some "oil money," although they often individually dissociate themselves from oil because they have their own stake in the "Shetland way of life." Like Cunningsburgh, most settlements, especially four towns near Sullom Voe, are in their own way "boomtowns," which in Shetland—where the islanders are famous for their "moderation" and "common sense," as well as their "self-reliance" and "individualism"—means that oil money is being spent on practical things.

According to the Shetland Council's archivist, Cunningsburgh is famous for the struggles, a century or so ago, in which the local tenants engaged the land-lords – struggles fought with moderation and common sense. Which meant that one day the tenants actually tore down one fence that one laird (squire) built to enclose one common field. Visitors to modern Shetland learn that underlying this moderation and common sense is a "you can't fight city hall" attitude deeply ingrained within the consciousness of people who have been colonized for centuries. There is also a willingness to follow authority in the person of Shetland's Liberal MP, Jo Grimond, who is a keystone of the Labour Party's parliamentary alliance with the Liberal Party. The farmers' and crofters' unions wield sufficient power to prevent land speculation and the consolidation of small and middle farms, and also (as of last year) to prevent landowners from refusing to sell crofts to tenants. But in relation to oil development, despite the island's reputation for "taming the oil giants," the visitor quickly learns that local political participation consists largely of endless complaints about the twenty-five merchants, small manufacturers, fishing operators, farmers, and their socioeconomic kin who

constitute the Shetland Islands Council. Bewildering changes in family and communities because of the hundreds of new jobs for women in the Sullom Voe construction camps, long working hours for men and women at the oil terminal, the constant stream of "strangers," and widespread feelings that oil is a mixed blessing at best, contribute to the Shetlanders' political passivity.

Yet on these remote islands, where residents still believe that they are more Scandinavian than Scottish, there is much "continuity through change." Nearly a century ago British liberalism brought the Shetlanders the Crofters Act, which for the first time gave the small farmers secure tenancy—something that their moderation, common sense, and individualism could not win for the tenants. In the 1960s, the British working class, through the vehicle of the Labour Party, brought Shetland the welfare state, which in Cunningsburgh is exemplified by a cluster of small houses along the main road where elderly and handicapped local people reside. This same moderation, common sense, and individualism helped bring the island's economy to ruin until the Highlands and Islands Development Board and the Labour Party, also in the 1960s, heavily subsidized and modernized fishing, crofting, and knitting, bringing the islanders a measure of prosperity, although hardly shaking the Shetlanders' sense of themselves as individualistic and independent. The 1960s state-underwritten development also not so incidentally proletarianized many Shetlanders, preparing the way ideologically for the rapid expansion of wage labor with oil development And this very same moderation and common sense, that is, ultraconservatism, keep child care, birth control, and other services from "contaminating" many Shetland working mothers and teenage girls, as well as creating suspicion of collective action—for example, the crofters still sell their wool largely individually to two wool buyers who monopolize the trade, and they have yet to organize themselves to acquire a cooperatively owned spinning mill which one sheepman told me is "the crofter's greatest need."

Cunningsburgh is also famous for possessing the only sidewalks in Shetland (outside Lerwick and the other real towns), which also testifies to local moderation and common sense. This has meant the handing over of local power to the local version of Mayor Daley, whose machinations in the Council assure the borough of its "fair share" of the public revenues indirectly flowing from oil, and who has been known to put her personal favorites into the new Council housing (public housing) that straddles two small hills (much like Frank Lloyd Wright's Marin County courthouse), leaving young couples with children living in trailers (which must be weighted down with large stones against the winters gales) squatting here and there on the headlands.

Above the main road across the street from the old people's housing project there is a Pickwickian store which, owing to the religious convictions of the owner, sells neither tobacco nor spirits. His morose teenage daughters will sell you what you would expect to find in a country store in a district sliding downhill economically, but not what you would expect to find in a boomtown. There is another store near the main Council housing settlement, but the same man owns this establishment as well. Cunningsburgh's moderation has saddled its residents with his

monopoly of trade, which, like most other features of the borough, reproduce on a small scale Shetland as a whole.

The reason is that Cunningsburgh, like Lerwick and Shetland generally, is a Proudhonist paradise: all private property, no competition. British protection of the local petty bourgeoisie—especially the merchants, who are most moderate and commonsensical, and who practically run the Islands Council—British subsidies to small industries, and last but not least the perpetuation by the local "ruling class" of the myth that Shetland is indeed Scandinavian, tradition-bound, and different give the island's small capitalists a monopoly over local commerce and trade, knitting, farming, and fishing. Local monopoly appears to be the price that the petty bourgeoisie has exacted from Britain for turning over oil development to the international oil monopolies, reminding the visitor of nothing so much as the Compromise of 1873 in the United States, whereby the Southern propertied classes were granted local rule in exchange for turning over local resources for exploitation by Northern capital.

Like the late-19th- and early-20th-century American South, Shetland's petty bourgeois and landed utopia displays a grim side beyond high prices and poor-quality goods. The condition of the local working class is what you would expect in a Liberal stronghold: the shopgirls are grossly underpaid; Bressay workers live in grubby trailers lurching against the smelly fish-meal factory on that small island; the knitting-machine operators are half-deaf from noise pollution, underpaid by even British minimum-wage standards, with their hands deformed by too many years on the machines. The condition of the working class not employed in oil-related (hence highly paid) activities is in inverse proportion to the prosperity of Shetland's ruling petty capitalists. It is true that oil development keeps down local unemployment, hence strains the capacity of local business to superexploit its workers, but the Council itself (a large employer) deals with this manifestation of the law of supply and demand by the simple expedient of making its employees ineligible for oil employment.

As noted above, the Islands Council is becoming famous for its presumed power over the oil monopolies. In the early 1970s, Jan Clark, a young accountant on the rise and past Council chief executive, left behind the reputation of playing David to oil's Goliath. Clark's three big victories were "forcing" the oil companies to (1) concentrate their terminal facilities in Sullom Voe (which is economical from oil's standpoint anyway); (2) hire a certain number of Shetlanders in skilled construction work (the facts are that the majority of the 800 construction jobs filled by Shetlanders—there are at present 4,000 jobs in all – are unskilled and semiskilled and that many if not most of the permanent 400 to 1,000 jobs that will open up to Shetlanders when oil commences to flow through the pipe lines will also be in nontechnical, nonmanagement employment); and (3) put aside a reserve fund (about $7 million), which however has not been used to the benefit of the ordinary Shetlander to date.

Visitors lucky enough to have access to the right Shetland Council officials quickly suspect that "Shetland control of oil" is merely another ideology perpetu-

ated by local and/or outside interests. It is certain that the marginal crofters, lorry drivers, knit workers, fish-processing workers, shop clerks, and so on da not control anything—not even the trade unions because there are no unions to control. A few questions quickly reveal that the local petty-bourgeois interests have little control either. The Council is, in fact, oil's very junior partner. The Council borrows money to help finance the oil terminal; builds roads and transport facilities for oil; breaks its own regulations by quarrying one of the island's famous tourist sites for building materials used by oil; keeps secret all major and minor economic transactions engaged in by its joint enterprises with oil, negating even the preconditions of democratic rule; clears crofters and tenants from land needed not only for terminal facilities themselves but which may in the future be used for an oil refinery, if and when world oil-refining capacity becomes short again; builds houses for oil-terminal workers; and generally is one step in front of the oil companies in the sense that the king's food taster hired to prevent royal assassination is one step in front of the king at dinner time.

More questions to local observers reveal that all decisions relating to oil development—no matter how much Shetlanders themselves are affected—in reality are made by the oil monopolies themselves in partnership with the British government, in what is no doubt the last of Britain% imperialist adventures. This exercise in "internal colonialism" assumes two forms. First, many decisions are made directly by the British civil service and imposed on the people of Shetland on the grounds that they are merely technical-administrative matters and not political questions at all. Second, to maintain the myth of Shetland control of its destiny the local Council is, in effect, compelled to approve oil-industry plans; otherwise the oil barons would appeal Council decisions to the Scottish secretary of state, who, it is understood, would approve the plans on the grounds that they are in the interests of Britain as a whole. This eventuality would, of course, destroy the precious ideology of home rule. The Council apparently understands the reality of the situation, including Shetland's dependence on Britain for everything ranging from social services to fishing and crofting subsidies, and hence grants (and even anticipates) oil's demands, thereby keeping vital and fresh the image of being in charge. This farce has, it is true, certain preconditions. One is that the chief executive, with the Council's blessing, has to make deals with the oil industry behind the scenes so that they can subsequently be presented as faits accomplish. This procedure fools everyone but the ordinary Shetlander whose own powerlessness is assumed as a matter of course, and who believes more often than not that the main beneficiary of oil development is the Council itself.

Another precondition is that the Council's planning staff must go through the motions of consultation, planning, and so an under the pretense that Shetland has some

independent voice concerning the course of events. The latest maneuver is oil's application to introduce 800 more construction workers to the Shetlands (originally the companies said they would require no more than 1,200 workers) and house them in two ships that would be anchored in Sullom Voe. Council workers, charged with preparing an agenda for the Council meeting, "go through the motions," knowing

that a deal has already been made that the official Council meeting will merely rubber stamp.

Driving on the tortuous Shetland roads that snake around the island omnipresent voes and lochs, the visitor is struck by the isolation of Shetland villages and farms. Shetland's physical geography is as unlike that in the U.S. Midwest as it is possible to imagine, but its social geography is more akin to the scattered farmsteads of the U.S. heartland than to the clustered villages of Europe. This geographic and social Separation itself does not permit much organized cooperation beyond the local peat hill and hay field. In fact, it is a perfect setup for classic British colonial policy: divide and rule by pretending that local peoples are self-governing. This is supplemented by Whitehall's absence of any coherent energy policy toward North Sea oil (this has begun to change recently in relation to exploration permits), as reflected in British government indecision during the debates in Parliament over the *scope* of Shetland's home rule and power to control oil. The absence of policy, whatever the real causes and the intentions of government officials, functions to make oil-industry policy de facto British government policy.

This may be puzzling until it is understood that British state interests in North Sea oil are not very different from those of the oil monopolies. The latter want to pump oil through the two pipelines terminating at Sullom Voe (and three other terminals in Scotland and Orkney) as fast as possible to recoup their investments in exploration, rig construction, drilling, and so on. The British government wants oil flowing into Britain and Europe as soon as possible, to support its balance of payments, and also to keep down wage demands by lowering fuel, gas, and oil-product prices, or at least to keep prices from rising as fast as they have been. Neither the Labour Party, the state bureaucracy, nor oil capital will permit 20,000 Shetlanders (predominantly Liberal and Tory voters) to stop maximum production and profits. By a small stretch of the imagination, Prime Minister Callaghan's promise of last year to the European Economic Community to keep British wages down to 5 percent during the upcoming Fourth Round can be linked to the availability of abundant supplies of oil to fuel British capitalism and keep the British working class warm and mobile at the least expense to capital and the state.

The myth of Shetland control of oil development on the island is as important as the reality that home rule is nonexistent; to one degree or another the latter depends on the former. The British government thus does not have to take responsibility for political decisions that are formally in the hands of the Shetland Council. Civil service and Labour

can dissociate themselves from the negative side effects of oil development, including the ruination of some local offshore fisheries, social disruption, and pollution of Sullom Voe (which are already facts), and, above all, the dangers of a major oil spill or pipeline breakage. It has also been observed that Britain may use the myth of Shetland "uniqueness" to dilute Scottish nationalism, fast becoming a thorn in Westminster's side. The British government thus protects itself from playing Goliath to Shetlands David; the heavies in the drama will be the oil companies themselves and their local partner,

the Shetland Council. "The Shetlanders have only themselves to blame" will be heard in London when the inevitable disaster occurs. This imperial tour de force is reinforced by the local petty bourgeoisie which has its own stake in "home rule" and self-determination. While the tourist brochures speak of the Viking heritage and the local petty capitalists reenact yearly the symbolism of the Viking myth and pretend that there is a "Shetland way of life," the people of Cunningsburgh, like most Shetlanders, stack peat, cut hay, speak Scottish dialects, dress Scottish, and live for all practical purposes like the Scots.

Finally, the political interests of Ja Grimond (like many Scottish and Welsh Liberals, he depends on petty capitalist support and voters) reproduce the island's class structure and perpetuate its ideologies. Thus Cunningsburgh's and Shetland's common sense and moderation mean finally the perpetuation of the status quo: politically, Shetlanders have no real control of their destiny; economically, they remain dependent on British subsidies and the welfare state; socially, Shetlands own way of life is largely a figment of the imagination; and personally, Shetlanders may think of themselves as independent and individualistic, but these beliefs simply deny the existing realities and serve political apathy. There appears to be little chance that this will change until the process of proletarianization, begun in the 1960s and accelerated in the 1970s, fundamentally modifies Shetland's at-present predominantly petty bourgeois and small-producer class composition. The layers of local self-deception are as varied as the layers of archaeological remains on the island; like most places in the world this would be unremarkable were it not for the fact that these self-deceptions, and deceptions, lurking in their shadows are an important, albeit dimly understood, part of the story of modern oil imperialism in the North Sea.

CHAPTER 14

IS SUSTAINABLE CAPITALISM POSSIBLE?

INTRODUCTION

There are few expressions as ambiguous as "sustainable capitalism," and such sister concepts as "sustainable agriculture," "sustainable energy and resource use," and "sustainable development" This ambiguity runs through all of the most important discourses on economy and environment today: UN. and government reports, scholarly research, popular journalism, and green political thinking. This very obscurity leads so many people so much of the time to talk and write about "sustainability"; the word can be used to mean almost anything one wants it to mean, which is part of its appeal.

"Sustainable capitalism" has both a practical and a moral ring to it. Who in their right mind would be against "sustainability"? The earliest meaning of "sustain" is "to support," "to uphold the course of;' or "to keep in a state of being." What corporate chief, treasury minister, or international civil servant charged with preserving capital and expanding capital accumulation wouldn't embrace this meaning as his own? Another meaning is "to provide with food and drink, or the necessities of life." What underpaid urban worker or landless peasant wouldn't accept this meaning? Still another definition is "to endure without giving way or yielding." What small farmer or entrepreneur doesn't resist "yielding" to the expansionary impulses of big capital and the state, taking pride in "enduring"? There is a worldwide struggle to determine how "sustainable development" or "sustainable capitalism" will be defined and used in the discourse on the wealth of nations. This means that "sustainability," in the first place, is an ideological and not an ecological and economic, question.

In the present account, the word "sustain" is taken to apply to all three of the above senses: to "uphold the course" of capitalist accumulation globally; to "provide the necessities of life" for the peoples of the world; and to "endure without yielding" by those whose ways of life are being subverted by the wage and commodity forms. The question of sustainable capitalism thus pertains in part to whether or not sustainability defined in all three ways can be achieved, and how it can be achieved.

There is a fourth meaning of "sustain," namely, "ecological sustainability;' even though there is little agreement among ecological scientists about the exact meaning of this expression. For example, "biodiversity" or "planetary health" are rarely problematized in

terms of ecological science and the ideologies embedded this science; nor is the expression "ecological crisis," which is widely used by popular writers without benefit of a dear definition (Chapter 6). Population ecologists and conservation biologists normally correlate population changes of a particular species; changes in "carrying capacity" defined narrowly in terms of the needs of that species; and some coefficient that measures the relationship between the species and the carrying capacity in question, on the one hand, and the rest of the ecosystem, which the species in question may depend on in indirect ways, on the other. All of these terms have some explanatory power. But this multiplicity of determinants means that there is no obvious way to really know whether or not threats to an individual species are self-inflicted, so to speak, or arise because of changes in the ecosystem as a whole, for example, due to the intrusion of other species life. If this is so, talk about the "sustainability" of particular species may be less precise, and the concept of "environment crisis" more problematic, than would superficially appear to be so.

These ambiguities become even more pronounced when ecologists or Greens combine social and economic with biophysical dimensions, and discuss . the "sustainability" of whole ecosystems or bioregions. In California's Monterey Bay region, for example, excessive pumping has lowered the water table, causing salinization from sea water, which threatens the viability of agriculture. Is this a "crisis"? In economic terms, no, not if the region imports water; in fact, imported water might breathe new life into local agriculture, and even more housing, commercial, and industrial development. "Sustainable agriculture" means one thing if a strict bioregional perspective is adopted and something else if the perspective is widened to include other bioregions. In this particular case, it turns out that the debate over importing water has less to do with the "sustainability" of local agricultural capital and water quality, and more with normative judgments pertaining to what kind of community and culture people in the region want to have (in Pajaro Valley, whether to keep its present Mexican cultural flavor or open it up more to commuter populations from Silicon Valley on the other side of the coastal range). Defining "sustain" in these four ways, the short answer to the question "Is sustainable capitalism possible?" is "No," while a longer answer is "Probably not." Capitalism tends to be self-destructing and in crisis; world economy makes more people hungry, poor, and miserable; the masses of peasants and workers cannot be expected to endure the crisis indefinitely; and nature, however "sustainability" is defined, is under attack nearly everywhere.

In this chapter, we review some evidence bearing on the problem of "sustainable capitalism," highlighting along the way some of the different concepts of "sustainability" deployed by Greens and business. A brief account of the conditions of economic sustainability (or of profitability and accumulation), narrowly

defined, is offered. We then discuss the "internal" or "first" contradiction of capitalism,

and the crisis-ridden and crisis-dependent nature of capitalist accumulation, appending a short review of the gathering world crisis in the 1980s. The argument is made that the prospects of global economic management are as dim as those of global environmental regulation. Next, we discuss another seemingly intractable problem (the "second" contradiction) facing capitalism today, a "cost-side" profit squeeze generated by the contradiction between capital and nature (and other conditions of production), together with the adverse economic effects on capital of environmental and other social movements. The ways in which capital is trying to confront these crises are discussed. Capital's capacity to successfully deal with not only the "first" but also the "second contradiction" is discounted, due to the nature of the liberal democratic state and capital itself. The very uncertain political—hence economic and ecological—consequences of a general economic depression are underlined. Finally, following a short review of environmental conditions in the poor countries (the South), some conclusions are drawn about the possibilities of radical environmental or "red green" social and political movements. While the prospects for some kind of "ecological socialism" are not bright (so the argument goes), those of a "sustainable capitalism" may be even more remote.

ENVIRONIVIENTAL POLICY AND THE DISCOURSE ON SUSTAINABILITY

The evidence favors the judgment that capitalism is not ecologically sustainable, despite the recent flood of talk about "green products," "green consumption," "selective forestry," "low-input agriculture," and so on. In the 1992 U.S. presidential campaign, not one of the three major candidates made the "environment" an important issue. Since Bill Clinton's victory, the new U.S. administration has compromised itself on issues ranging from the use of federal grazing land to logging old-growth forests to fighting pollution (often abandoning tried-and-true methods of pollution control for "market solutions"). State and local governments neglect the environment in their competition to attract scarce capital. In federal law, the definition of "wetlands" is being narrowed, as is that of "endangered species." Occupational health and safety enforcement is being undermined. National and state parks are more commodified, as managers search for ways to turn a profit. While nuclear power is temporarily stalled, some capital goods industries such as paper and pulp have begun to install cleaner technology, and organic farming has benefited from a surge of consumer interest in pesticide-free products, the majority of union leaders oppose or are indifferent to most demands made by environmentalists, and established environmental organizations (with two or three notable exceptions) are more willing to compromise their positions in the name of "economic growth."

In most countries, green parties remain small or are compromising their

positions in national and local politics. In Europe, the environment is not a central

concern of the bureaucrats who ran the powerful European Commission, despite representation by Greens in the European Parliament. International agreements on ozone layer depletion are weak and on global warming are merely symbolic. Agreements with respect to protecting the world's "commons"—watersheds, forests, rivers, lakes, coastlines, oceans, and air quality—are, more often than not, honored in the breach. Whaling may be revived and fisherpeople everywhere clamor to empty the waters of their bounty. Oil as an instrument of economic wealth and national power is more important than ever. Energy and mining companies (often the same) are poised to massively exploit more mineral resources from upstate Wisconsin to Siberia. In the South, many governments are eager to sell their natural birthrights to transnational corporations, often under the pressure of big external debts, in the name of "development," and the landless and land-poor masses of the world's countrysides and the urban poor are forced to deplete and exhaust resources and pollute water and air, respectively, simply to survive. The environmental records of the East Asian "tigers," the Southeast Asian "little tigers," and Mexico, Brazil, and other Latin American growth centers are not encouraging.

One necessary step, practically speaking, toward a sustainable capitalism—. defined in some sense of "ecologically rational or sound"—would be national budgets that put high taxes on raw material inputs (e.g., coal, oil, nitrogen) and certain outputs (e.g., gasoline, chemical building blocks), meanwhile slapping value added taxes on a wide range of environmentally unfriendly consumer products (cars, plastic products, throwaway cans)—complete with an enforceable Green Label policy that would exempt genuinely green products, "green" defined in terms of ecological impacts at every stage of the production, distribution, and consumption process. Another step would be national expenditure policies that heavily subsidize solar energy and other benign alternative energy sources; technological research that leads to eliminating toxic chemicals and other substances at the source; innovations in mass transit, occupational health and safety conditions, and national, regional, and community enforcement procedures; and a redefinition and reorientation of scientific and technological priorities generally. Nowhere is this kind of green budget—with appropriate changes in methods of national income accounting being developed, except on paper by a small group of green economists and activists.

At the level of the discourse on "sustainability;' the prospects for an ecologically sound capitalism, recognizable as such to Greens, seem problematic at best. In fact, behind a seeming convergence of vocabulary is a disjuncture or gap between green and capitalist discourse, with both sides talking past each other. One problem is the discourse of much of the environmental movement, supported by capitals that seek to green themselves, or at least present a green image to the public. This discourse seeks to find ways for corporations to reform their economic practices to make them consistent with the sustainability of biodiverse forests, water quality, wildlife preservation, atmospheric conditions, and so on.

Focus is placed on production processes, technology, recycling and reuse, and. energy efficiency, as well as on broader questions pertaining to the structure of. consumption, finance, marketing, and corporate organization, and also government policies. For example, the reform-minded World Resources Institute recently... stated that sustainability presupposes an "unprecedented transformation" of technology. For reformist Greens, then, the problem is *how to remake capital in ways'. consistent with the sustainability of nature.*

In the boardrooms of most corporations, however, the problem is discussed in different terms. At a superficial lever, the issue is simply how to present a plausible green image to consumers and the public (es., the US. Chemical industry planned to spend $10 million in 1992 to paint itself as environmentally reasonable and friendly).[1] It is also a question of how to reform production in ways that save energy and raw materials, which is largely economically motivated. Far from being a problem for capital as a whole, energy and material efficiency in a period of slow growth is economically, as well as, perhaps, ecologically, desirable. To take one instance, as much as 75 percent of aluminum produced by US, companies today is made from recycled aluminum cans and other products. New wood industry practices that make posts and beams from trees too small to cut up for timber, hence utilizing what would otherwise be waste, is another example, Also, "recycling" rhetoric and (selective) practices can be used to facilitate new waves of planned obsolescence under the banner of environmental friendliness—thus legitimating consumerism and maintaining profitability.

But at a deeper level, corporations construct the problem of the environment in a way that is the polar opposite of that in which Greens typically think about reform, namely, the problem of *how to remake nature in ways that are consistent with sustainable profitability and capital accumulation.* "Remaking nature" means more access to nature, as "tap" and "sink," which has political and ideological as well as economic and ecological dimensions, for example, the assault on the lives of indigenous peoples. Remaking nature also means reworking or reinventing nature (the political and ideological aspects of which are also important). Examples include "even-age industrial plantations" of pine and fir in the U.S. southeast and northwest—a monoculture that has been called "forestry's equivalent to the urban tower block[2]; genetic alteration of food to reduce crop losses and increase land yields[3]; microorganisms used in the semiconductor industry to "eat" toxic wastes; and genetically altered ragweed plants that clean soil contaminated by lead and other metals. However, each has its potential dangers: plantation forestry destroys biological diversity and genetic changes in food crops and the use of microorganisms to reduce costs contain unknown biological dangers. Here we enter a world in which capital does not merely appropriate nature, then turn it into commodities that function as elements of constant and variable capital (to use Marxist categories), but rather a world in which capital remakes nature and its products biologically and physically (and politically and ideologically) in its own image.[4] A precapitalist or semicapitalist nature is transformed into a specifically capitalist nature. And just as the labor movement forced capital to move from

a mode of absolute surplus value to one of relative surplus value production, for example, from lengthening hours of work to reducing the costs of wages, so the green movement may be forcing capital to end its primitive exploitation of precapitalist nature by remaking nature in the image of capital – also to lower the costs of capital, especially the costs of reproducing laborpower (or the cost of wages)

Seen this way, at some point in the future, nature would become unrecognizable as such, or as most people experience it. It would be, rather, a physical nature treated as if it is governed by the law of value and the process of capitalist accumulation through economic crisis, like the production of pencils and fast foods. Discourse theory then will have as much to say about the problem of sustainability as political economy and ecological science do now. The reason is that the capitalist project to remake nature still in its infancy – is also a project to remake (pretendedly) science and technology in the image of capital. What this image is or will be depends on complex issues of representation, images of nature, and problems of social solidarity, legitimation, and power within scientific and university communities.

DEMAND CRISIS: EXPANSION AND CONSUMPTION

A systematic answer to the question, "Is an ecologically sustainable capitalism possible?," is, "Not unless and until capital changes its face in ways that would make it unrecognizable to bankers, money managers, venture capitalists, and CEOs looking at themselves in the mirror today." This assertion, widely rejected by national politicians and spokespeople for big business, requires for its justification a brief account of how capitalism works, why it works when it works, and why it doesn't work when it doesn't.

Until the rise of ecological economics, which, despite precursors dating back more than a century, is still at the fringes of the profession, economists discussed the sustainability of capitalism in purely economic terms, for example, money capital, investment and consumption, profits and wages, costs and prices. The physical or material world appeared in models of economic growth mainly in two guises: first, in the form of location and rent theory; second, in the concept of the "accelerator," or the amount of physical product that new productive capacity can be expected to produce (e.g., at a given rate of utilization, so many machines are needed to produce so many refrigerators).

From an economic point of view, sustainable capitalism must of necessity be an expanding capitalism (and represented as such). A capitalist economy based on what Marx called "simple reproduction" and what many Greens call "maintenance" is a flat impossibility—the (unpaid) maintenance work of domestic labor and (paid) work organized by the state excepted. There is little or no profit in maintenance; capitalistic sustainability depends on accumulation and profits. A positive overall rate of profit means

growth of total product ("gross domestic

product," as measured in capitalist national income accounts). Profit is the means of expansion, for example, of new investments and technologies. Profit also • functions as an incentive to expand. Profit and growth are thus means and ends of one another, content and context, as it were, and the average money manager does not really see or care about the difference between them. While there are many variations of economic growth theory, all presuppose that capitalism cannot stand still, that the System must expand or contract, in other words, that it is both crisis-ridden and crisis-dependent, and, in the last analysis, that it must "accumulate or die' in Marx's words.[5]

In the simplest (and most simple-minded) model of capitalist, the rate of growth or rate of accumulation of capital depends on the rate of profit.[6] The higher the profit rate (everything else being the same), the more sustainable is capitalism. A negative profit rate spells economic trouble; at the least, a recession, at the most, a general crisis, deflation of capital values, and depression. In this model, anything or anybody that interferes with profits, new investment, and expanding markets threatens the sustainability of the system, that is, an economic crisis with unknown and unknowable economic, social, and political consequences.

In traditional Marxist theory, capital is its own worst enemy. Capital threatens its own profitability because of what Marx called the "contradiction between social production and private appropriation." One interpretation of this contradiction is that the greater capital's political power over labor, the greater the exploitation of labor (or the rate of surplus value), and the more potential profits will be produced. However, precisely for this reason, the greater will be the difficulty of realizing these potential profits in the market, or to sell goods at prices reflecting costs of production plus the average profit rate. Here, we identify the contradiction between capital's political power and the ability of capitalist economy to work smoothly (or, at the limit, to work at all).

This "first contradiction of capitalism" (or "realization" or "demand crisis") states that when individual capitals attempt to defend or restore profits by increasing labor productivity, speeding up work, cutting wages, and turning to other time-honored ways of getting more production from fewer workers, meanwhile paying them less, the unintended effect is to reduce the final demand for consumer commodities. Fewer workers, technicians, and others in the labor process produce more, hence, by definition, are able to consume less, absent a deflation of prices. Thus, the greater are produced profits, or the exploitation of labor, the smaller are rea1i7ed profits, or market demand—all other things equal. Of course, other things are never equal: government budget deficits, mortgage and consumer credit, business borrowing, and an aggressive foreign trade and investment policy, among other possibilities, may buoy up demand to keep capital "sustainable."

Today, a sustainable economy presupposes a global political economic system able

to identify and regulate this "first" or "internal" contradiction of capitalism. This means, first and foremost, the capacity for macroeconomic regulation on a global scale, or, at least, between the industrial powerhouses of the Group of

Seven (G7), that is, an international Keynesianism of the type installed in the leading national economies from the 1950s through the late 1970s. Defined in this immediate and practical way, world capitalism may be much less sustainable than most economists think. First, the systems of national Keynesian regulation have weakened or self-destructed since the late 1970s. Second, the central role of the United States in global economy until the post-cold war period—as a kind of world cash register—is ending. This means that until the weak recovery from the recession of 1990-1991, the U.S. economy was driven by consumer and military spending and private and public borrowing. The post-1991 recovery, however, is the first since 1876 to be led by export spending, with investment spending a dose second. All of Germany's recent recoveries have been export-led, and the German government has said that any recovery from its present economic doldrums will be export-driven. If and when Japan recovers from its present economic troubles, exports will expand faster than domestic consumption, investment, and government spending. Finally, all of the so-called newly industrializing economies are export-driven. These facts suggest that in a period in which a consumerist United States can no longer absorb the world's surplus commodities, global macro-economic management of a Keynesian type will be needed to avoid a general deflation and depression.

In fact, there is a sort of global macro-management, called the central bankers and finance ministers of G7, the International Monetary Fund, and the Bank for International Settlements. This quasi-global capitalist state, however, is in the hands of big capital in general and finance capital in particular. Hence, with the exception of G7 attempts to lower interest rates and stimulate demand in countries with export surpluses (especially Japan), the global state follows an anti-Keynesian policy, one that forces individual capitals and whole countries to cut costs and increase efficiency and lower government spending, respectively, without a second thought about the effects of this policy on capital overproduction on a global scale—of the type Marx identified long ago—not to speak of the dangers of trade wars, creative forms of beggar-my-neighbor policies, growing social decay, political instability, regional trading blocs, and ecological disaster. Put another way, there is no Global Parliament to pass minimum wage laws and protective legislation, no World Ministries of Labor, Social Welfare, and Environment, and no legitimate power spreading Keynesian economic literacy on an international scale. Instead, in the United States, for example, ex-President George Bush said that the United States will become an "export superpower" and President Clinton's economic advisers council an "increasingly aggressive" export policy.

The prospects of global regulation today, organized in a truly cooperative spirit,

are as poor as those of national regulation in the overproduction crisis of the 1890s, namely, zero. In those days, nationalist policies of dumping, monopoly, and colonialism helped to create two wars of imperialist rivalry and the Great Depression. Superficially, there might be two mitigating factors today: one is that Europe is an economic entity; France, for example, is joining not fighting, Ger-

many economically. The other is that capital is no longer national in scope, but rather increasingly global, hence theoretically more open to global regulation. But G7 has done a poor job (worse every year) of macroeconomic regulation to date, and global finance capital and the rentier class living off interest on the huge piles of debt accumulated in the 1970s and 1980s are powerful enough to prevent governments from reflating their economies.

COST CRISIS: CONDITIONS OF PRODUCTION

Today, this kind of economic thinking, while still valid, is (and always was) one-sided and limited. The reason is that it presupposes limitless supplies of what: Marx called "conditions of production." This traditional model presupposes that capitalism can avoid potential bottlenecks on the "supply side," that growth is demand-constrained only. However, if the costs of labor, nature, infrastructure, and space increase significantly, capital faces a possible "second contradiction," an economic crisis striking from the cost-side. Examples are the English "cotton crisis" during the U.S. Civil War, wage advances in excess of productivity in the 1960s, and the "oil shocks" of the 1970s. However, we are here concerned with phenomena that are much more structured or generic than these isolated examples by themselves would suggest.

Cost-side crises originate in two ways. The first is when individual capitals defend or restore profits by strategies that degrade or fall to maintain over time the material and social conditions of their own production, for example, by neglecting work conditions (hence raising the health bill), degrading soils (hence lowering the productivity of land), or turning their backs on decaying urban infrastructures (hence increasing congestion or policing costs) – to take three examples.

The second is when social movements demand that capital better provide for the maintenance and restoration for these conditions of life, when they demand better health care, protest the ruination of soils, and defend urban neighborhoods in ways that increase capital costs or reduce capital flexibility – to stay with the same three examples. Here, we are talking about the potentially damaging economic effects to capitalist interests of labor and women's movements, environmental movements, and urban movements. This problem of "extra costs" – and the threat to profitability – obsesses mainstream economists and capitalist ideologists; the leaders of labor and social movements rarely discuss this issue in public, however.

In the real world, both types of cost-side crises combine and intermingle in complex and contradictory ways that no one has ever systematically theorized (See Chapter 8). For example, from a quantitative standpoint, no one knows exactly how much urban congestion costs are the results of the celebration of the automobile and neglect of urban mass transport, and how much the effects of community struggles to keep freeways from scarring their neighborhoods.

We need a more refined theoretical approach to the problem of what Polanyi called land and labor' Marx inadvertently supplied a start for such an approach with his concept of "conditions of production."[7] As we have seen, conditions of production are things that are not produced as commodities in accordance with the laws of the market (law of value) but which are treated as if they are commodities, in other words, they are "fictitious commodities" with "fictitious prices." According to Marx, there are three conditions of production: first, human laborpower, or what Marx called the "personal conditions of production"; second, environment, or what Marx called "natural or external conditions of production"; third, urban infrastructure (we can add "space"), or what Marx called "general, communal conditions of production."

Sustainable capitalism would require all three conditions of production to be available at the right time and right place and in the right quantities and right qualities, and at the right fictitious prices. As noted, serious bottlenecks in the supply of laborpower, natural resources, and urban infrastructure and space threaten the viability of individual capital units—and even of entire sectoral or national capitalist programs. If generalized, these bottlenecks would thus threaten the sustainability of capitalism by driving up costs and impairing the flexibility of capital. "Limits to growth" thus do not appear, in the first instance, as absolute shortages of laborpower, raw materials, clean water and air, and urban space, and the like, but as *high-cost* laborpower, resources, and infrastructure and space. This imminent threat to profitability leads the state and capital to attempt to rationalize labor markets, supplies, and markets for fuel and raw materials, and urban and rural land-use patterns and land markets to reduce costs of production.[8]

Supply-side bottlenecks or shortfalls pose especially difficult problems for capitalist enterprises and policymakers when the economy is weak, or faces a demand-side crisis or fresh competition from other countries. Stagnant or falling profits force individual capitals to attempt to reduce the turnover time of capital, that is, to speed up production and to reduce the time that it takes to sell their products. This obsession -with making money faster and faster to compensate for low or falling profits runs up against, for example, union-organized labor markets, OPEC-influenced oil markets, and traditional agriculture's defense of "inefficient" uses of the soil and water. On the other hand, money capital seeks more of itself faster and faster; on the other, what Polanyi called "society" and what we can ironically call out-of-date patterns of land and labor utilization, and land and labor markets, combined with the resistance to capitalist

rationalization by labor and social movements, all constitute themselves as obstacles, or "barriers to overcome." At the very least, capital must deal with social indifference and inertia.

One of capital's solutions to this dilemma, at least in the short term, is as simple as it is economically self-destructive. Money capital abandons the "general circuit of capital," that is, the long and tedious process of leasing factory space, buying machinery and raw materials, renting land, finding the right kind of laborpower, organizing and implementing production, and marketing commodities, and finds its way into speculative ventures of all kinds. Money capital, based

on the expansion of credit, or money that cannot find outlets in real goods and. services, jumps over society, so to speak, and seeks to expand the easy way, via the purchase of land, the stock markets, the bond markets, and other financial markets. Hence, the present economic anomaly: the value of claims on the surplus or profits grows much faster than the real value of fixed and circulating capital. This tends to make a bad economic situation worse, as it causes growing indebtedness and the danger of a financial implosion. It also tends to worsen ecological and other conditions of production; as financial interests assume hegemony over productive interests, the latter tend to be neglected.

During earlier periods of capitalist development, and defined in functional terms, there was sufficient precapitalist laborpower, untapped natural wealth, and space. This was true, in fact, and also in terms of the perceptions of early generations of bourgeoisies. The (fictitious) prices of laborpower, natural resources, and space were thus held in check. Nor did environmental movements or urban movements raise political and social barriers to capital that capital itself (with the help of imperialism and state oppression) could not overcome. Over time, capital seeks to capitalize everything and everybody, in other words, everything potentially enters into capitalist cost accounting. For millennia, human beings have been "humanizing" nature or creating a "second nature," and this has often been destructive; deforestation and drought/flood cycles under the Roman plantation system; the devastating ecological consequences of the Punic Wars; and soil depletion and water scarcity in Mayan civilization are well-known examples. But in capitalist social formations, this second nature is commodified and valorized at the same time as it is being degraded. From the point of view of those who want capitalism to be ecologically sustainable, this is when problems start to appear. Labor markets become tight, and the North has to rely on imported labor from the South—with all attendant economic and social costs and problems. Examples are the economic cost of settling newcomers who use a different language and the social costs of a resurgence of racism. Raw materials and unpolluted commons become scarce, driving up what Marx called the "costs of the elements of capital," for example, U.S. domestic oil and gas, trees and lumber, and supplies of clean water And, last but not least, urban infrastructure and space

become scarce—creating rising congestion costs, ground rents, and pollution costs. Los Angeles is a good example; Mexico City and Taipei are better ones.

In sum, the capitalization of the conditions of production in general and environment and nature in particular tend to raise the cost of capital and reduce its flexibility. As noted, there are two general reasons: First, a systemic reason, namely, that individual capitals have little or no incentive to use production conditions in sustainable ways, especially when faced with economic bad times of capital's own making. Second, precisely for this first reason, labor, environmental, and other social movements challenge capital's control over laborpower, environment, and the urban (and, increasingly, the rural as well, especially in the South). Examples in the United States are regional toxics coalitions, occupational health

and safety and right-to-know struggles, direct action to save wild rivers and original-growth forests, and anti-freeway and anti-development movements.

Put simply, the second contradiction states that when individual capitals attempt to defend or restore profits by cutting or externalizing costs, the unintended effect is to reduce the "productivity" of the conditions of production, hence to raise average costs. Costs may increase for the individual capitals in question, other capitals, or capital as a whole. For example, chemical pesticides in agriculture at first lower, then ultimately increase, costs as pests become more chemical resistant and also as the chemicals kill the soil. Permanent yield mono-forests in Sweden were expected to keep costs down, but it turned out that the loss of biodiversity over the years has reduced the productivity of forest ecosystems and the size of the trees. In the United States, nuclear power promised to reduce energy costs. But bad design, problems of finance, safety measures, and, most of all, popular Opposition to nuclear power had the effect of increasing costs. As for the "communal" conditions of production, new highways designed to lower the costs of transportation and the commute to work tend to raise costs when they attract more traffic and create more congestion. And in relation to "personal" production conditions, it is clear that the U.S. education system, which is supposed to increase potential labor productivity, produces as much stupidity as learning, impairing labor discipline and productivity

It is important to stress that the conditions of production are not produced in accordance with laws of the market. And market regulation of capital's access to these conditions when and if they are produced is selective and partial and often defective. There must be some agency, therefore, whose task it is to either produce the conditions of production and/or regulate capital's access to them. In capitalist societies, this agency is the state. Every state activity, including nearly every state agency and budgetary item, is concerned with providing capital with access to laborpower, nature, or urban space and infrastructure.

In the United States, for example, there are the labor and education bureaucracies;

the U.S. Department of Agriculture; the National Park Service and similar state agencies; the U.S. Bureau of Land Management and U.S. Bureau of Redamation; and urban planning bodies and traffic authorities. Examples of specific functions related to the three conditions of production are: first, with respect to laborpower, child labor laws and laws governing hours and conditions of work and work safety; second, in relation to environment, laws governing access to federal lands, and regulating coastal development and pollution; third, with respect to urban infrastructure and space, zoning laws, traffic planning, and land-use regulation. There is hardly any state activity or budgetary item that does not concern itself in different ways with one or more conditions of production. This also includes monetary and military functions, which safeguard and facilitate legitimate" access by capitalist mining companies, banks, merchants, and other enterprises to needed resources and markets. George Bush's war in the Persian Gulf is only the latest, and most dramatic, example of the role of the military in capitalist societies;

the World Bank and International Monetary Fund (at the supranational level) are the most obvious examples of monetary functions oriented to capitalist expansion.

MANAGING COST CRISIS

What is the solution to these cost-side crises? From the standpoint of individual capitals and also from that of capital as a whole?

The worst case is when individual capitals, squeezed between higher costs and lower demand, cut costs even more, thus intensifying both the first and the second contradictions. But this result is not the only possibility. As noted, in relation to the environment, there are many examples of individual capitals responding to green consumerism, for example, the public demand to reduce waste and recycle, by finding new uses for waste products; and also examples of companies that upgrade their capital equipment when forced to reduce their pollutants and other companies that specialize in environmental cleanup.

The best solution for capital as a whole *(not* for society, nor even "nature;' which would presuppose a logic of reciprocation, not the logic of capitalist exchange value) is to restructure the conditions of production in ways that increase their "productivity." Since the state either produces or regulates access to these conditions, restructuring processes are typically organized and/or regulated by the state, that is, politically. Examples are: banning cars in urban downtowns to lower congestion and pollution costs; subsidizing integrated pest management in agriculture to lower food and raw materials costs; and shifting emphasis from curative to preventative health (e.g., the fight against AIDS in the United States) to lower health care costs. However, to attain a real solution, huge sums of monies would have to be expended to restructure production conditions in ways that

restored or increased their "productivity" and thus lower the costs of capital. Long-term productivity would be enhanced, but at the expense of short-term profits. New industries would produce environmentally friendly products, urban transport, and education systems, which (like the examples cited above) effectively lower the costs of the elements of capital and of the consumption basket, as well as ground rent; at the same time, the level of aggregate demand would be increased, attacking the first contradiction in potentially noninflationary ways. (By contrast, if new systems of forest management, pollution control spending, urban planning, etc., have no effect on costs, the result is an increase in effective demand and inflation or a reduction in profits.)

So much for the *idea* of sustaining capitalism; practice is another question. In liberal democratic states, the normal political logic of pluralism and compromise prevents the development of overall environmental, urban, and social planning. The logic of the state administration or bureaucracy is undemocratic, hence insensitive to environmental and other issues raised from below. And the logic of self-expanding capital is anti-ecological, antiurban, and antisocial. All three logics

combined are contradictory in terms of developing political solutions to the crisis of the conditions of production; hence chances of a systematic "capitalist solution" to the second contradiction are remote.

Put differently, there is no state agency, or corporatist-type planning mechanism, in any developed capitalist country, that engages in overall ecological, urban, and social planning. The idea of an ecological capitalism, or a sustainable capitalism, has not even been coherently theorized, not to speak of becoming embodied in an institutional infrastructure. Where is the state that has a rational environmental plan? Intraurban and interurban planning? Health and education planning organically linked to environmental and urban planning? Nowhere. Instead, there are piecemeal approaches, fragments of regional planning at best and national political spoils allotment systems at worst.

Every day, therefore, new headlines announce another health care crisis, environmental crisis, and urban crisis. In many regions, the ultra-image we have is of an increasingly illiterate labor force, many of whom are homeless because of low wages and high rents, living in fear in a polluted city, immobilized by gridlock, and unable even to obtain clean water. This picture may not fit Rome or New York yet, but it comes closer in Mexico City and New Delhi, which by any measure are parts of the capitalist world.

ECOLOGICAL CONSEQUENCES OF A GENERAL ECONOMIC DEPRESSION

However sustainability is defined from an ecological standpoint, one thing seems fairly certain. If capitalism is not sustainable in terms of international macro-economic regulation, there will be a global crisis, a general deflation of capital values, and a

depression. In this event, no one knows or can know how individual capitals and governments and international agencies will respond.
It may be that great economic pressures from the demand side (or the cost side, or both at the same time) arising from capital overproduction (or underproduction or both) would force individual capitals to try to restore profits by externalizing more costs, that is, by shifting more cost to the environment, land, and communities, with states and international agencies looking on helplessly. In fact, there is plenty of evidence that the slow economic growth since the mid-1970s has resulted in such cost-shifting, especially by transnational corporations. There is also evidence that in many cases this has backfired in the sense that cost-shifting by one capital has increased costs for other capitals. Also, it can be shown that in many cases environmental struggles and environmental regulation have forced individual capitals to internalize costs that would otherwise fall on the environment.

There is a kind of war going on between capital and environmental movements—a war in which these movements might have the effect (intentional or not) of saving capital from itself in the long run by forcing it to deal with negative short-term effects of cost-shifting.

There is also the possibility, however slight, that a real economic depression might be the occasion for a general program of environmental restoration. In the: United States in the 1930s, the New Deal created the political conditions for two types of environmental change. The first consisted of efforts to restore the degraded soils of the Great Plains and the ecologically damaged South arid western rangelands. In this sense, the depression was an "environmentally sound" event. The second type of environmental change consisted of even greater efforts to start up or speed up giant infrastructure projects, such as huge dams and water projects, and great bridges and tunnels, which were indispensable for urbanization in the West and post-World War II suburbanization everywhere in the country. Without these projects, suburbanization, consumerism and the culture of the automobile could not have flourished in the 1950s and 1960s. These projects in important ways helped to create the present structure of individualist consumption, which is ecologically unsound.

The next depression may make environmental conditions much worse; or it may be the occasion for vast changes in the structure of individual and social consumption, for example, green cities, integration between cities and surrounding lands, public transport that people look forward to using, and so on. Or both, to varying degrees, in different places. What will actually happen, of course, will be decided by the course of political struggle, institutional adaptation, and types of technological innovation.

All of which is to say that environmental destruction, environmental and related social movements, government policies and budgets, policies of international bodies, and economic conditions are as interrelated as any complex ecosystem modeled by

professional ecologists. Anyone trying to think about these interrelations will run up against the same epistemological and methodological problems that ecologists face when they try to model the fate of some particular species, that is, the problem of atomism and reductionism versus holism. Worse, while bald eagles and microorganisms do not organize themselves politically as social agents, people sometimes do. Hence a strict systems theory approach to the question of the ecological effects of a general depression is of questionable usefulness. In the last analysis, everything depends on the balance of political forces, and the visions of those who want to transform our relation with nature, hence our material relationships with one another – in short, the political objectives of the environmental, labor, women's, and other social movements. "Is sustainable capitalism possible?" is in the last, as well as the first, instance, a political question.

CONDITIONS IN THE SOUTH

The crisis of the conditions of production is especially severe in the South, thus the appearance of the discourse on "sustainable development," which has become an ideological and political battleground of growing importance. As we have

noted, practically everyone uses the expression, with different intentions and meanings. "Sustainability" is defined by environmentalists and ecological economists to mean the use of only renewable resources and also low or non-accumulating levels of pollution, The South may be, in fact, closer to "sustainability" seen in this way than the North; but the North has more capital and technological resources than the South as means to attain sustainability. Capital, of course, uses the term to mean sustainable profits, which presuppose long-run planning of the exploitation and use of renewable and nonrenewable resources, and of the "global commons." Ecologists define "sustainability" in terms of the maintenance of natural systems, wetlands, wilderness protection, air quality, and so on. But these definitions may have little or nothing to do with sustaining profitability. In fact, there is an inverse correlation between ecological sustainability and short-term profit. "Sustainability" of rural and urban existence, the worlds of indigenous peoples, the conditions of life for women, and safe workplaces are also inversely correlated with sustainability of profits—if the history of the late 20th century is any guide.

Independent of the question of the desirability of the South following the industrial, consumerist path of the North is the possibility of doing this. Industrial capitalism in India, Brazil, and Me2dC0 (to take three examples) develops at the expense of vast poverty and misery and also erosion of ecological stability, . however this expression is defined. East Asia is doing well economically, and some Southeast Asian countries even better (in terms of growth of GDP), but these regions have yet to prove that they can be industrial powerhouses and also pay good wages and provide decent working conditions, progressive social policies, and meaningful environmental

protection. Most of the rest of the South (including the North's and East Asia's internal colonies) is an economic, social, and ecological disaster zone. There are many barriers to capitalist development in the South, for example, weak markets, due to a hugely unequal distribution of wealth and income, the absence of agrarian reform favoring small and middle farmers, and instabilities in the demand for, and supply of, raw materials. Also, there are problems of foreign debt and balance of payments crises, not to speak of maintaining ruling blocks of propertied interests and stable governments. These problems exist independent of the state of ecological conditions in particular and the conditions of production in general. Needless to say, this situation creates permanent social and political instability; new migration patterns to the North; more economic and ecological refugees; and so on—which, in turn, spell continued trouble in the North.

POLITICAL POSSIBILITIES

Most of the center-right and rightist governments that governed most of the world between the late 1970s and the early 1980s through the late 1990s are incapable of steering capitalist development in ways that improve the conditions of life,

labor, the cities, or the environment. These governments are too intent on expanding the "free market" and international division of labor; deregulating and privatizing industry; forcing economic "adjustments" on the South and "shock therapy" on the old socialist countries, hence marginalizing up to half the population of some third world countries; and pretending that the "market" and neoliberalism generally will solve the growing economic crisis. By and large, things are likely to get worse before they get better, especially in the South.

Meanwhile, there has been a growth of various green and "red green"‘ movements in different countries. A few labor unions in some countries are addressing environmental issues more seriously. Conversely, environmental movements are addressing economic and social issues that five or ten years ago they ignored or downplayed. In a multiple of forms, labor and feminist movements, urban movements, environmental movements, and movements of oppressed minorities have organized themselves around the general issues of the conditions of life. While the prospects for a sustainable capitalism are dim, there may be hope for some kind of ecological socialism – a society that pays dose attention to ecology along with the needs of human beings in their daily lives, as well as to feminist issues, antiracism, and issues of social justice and equality generally. Globally, it is around these issues that there is movement and organization, agitation and action, which can be explained in terms of the contradictions of capitalism and the nature of the capitalist state discussed above.

Politically, this means that, sooner or later, labor, feminist, urban, environ-mental, and other social movements need to combine into a single powerful, democratic force –

one that is both politically viable and also capable of radically reforming the economy, polity, and society.[9] Individually, social movements are relatively powerless in the face of the totalizing force of global capital. This suggests the need for three general and related strategies.

The first is the self-conscious development of a common or public sphere, a political space, a kind of dual power, in which minority, labor, women's, urban, and environmental organizations can work economically and politically. Here, there could be developed not the temporary tactical alliances among movements and movement leaders that we have today, but strategic alliances, including electoral alliances. A strong civil society, defining itself in terms of its "commons," its solidarity, and its struggles with capital and the state, as well as of democratic impulses and forms of organization within alliances and coalitions of movement organizations – and within each organization itself – is the first prerequisite of sustainable society and nature. The second is the self-conscious development of economic and ecological alternatives within this public sphere or "new commons" – alternatives such as green cities, pollution-free production, biologically diversified forms of silviculture and agriculture, and so on, the technical aspects of which are increasingly well known today. The third is to organize struggles to democratize the workplace and the state administration, so that substantive contents of an ecological, progressive type can be put into the shell of liberal democracy. This presupposes that the movements not only use political means to

economic, social, and ecological goals, but also agree on political goals themselves, especially the democratization of some national and international state apparatuses, and the elimination of others.

These ideas may seem to be as unrealistic as that of an ecological capitalism. Perhaps this is the case. But we need to remember that while the existing structures of capital and the state do not seem to be capable of anything more than occasional reforms, social movements worldwide grow every day—hence that at some point there is a possibility of a general social and political crisis, as the demands of these movements clash with existing profit-oriented economic and political structures. At which point, all kinds of "social morbid forms" will appear. Some will say that this is precisely what is happening today—that the social and political fabrics are unraveling, and that the resurgence of racism, nativism, discrimination against foreign workers, male and antienvironmental backlash, and other reactionary trends and tendencies are becoming increasingly great dangers. Others link the revival of right-wing populism and reaction to rightward shifts in the political and economic mainstream. There are other analyses of the current world political situation—including the line that the globe is witnessing a war of the rich against the poor, a rebellion of the well-to-do against the demands of the poor, the welfare state, redistributive economic policies, and the like. Or all of the above may be true. Whatever the case(s), from the standpoints of progressives, red or left Greens, and feminists, the

last thing in the world we need is factionalism, sectarianism, "correct line-ism"—instead, we need to scrutinize critically all time-worn political formulae and develop an ecumenical spirit, and to "celebrate our commonalities or 'new commons' as well as our differences."

NOTES

[1] *New York Times,* 12 August 1992.

[2] Edward Goldsmith et al., *The Imperialist Planet* (Cambridge, Mass.: MIT Press, 1991), p. 94. Most timber in the United States is produced on industrial plantations.

[3] Wheat has been experimentally genetically altered by the University of Florida and the Monsanto Company to increase yields. They introduced a foreign gene into wheat that produces an enzyme that makes many herbicides harmless to the wheat. All staples—corn, rice, soybeans, and other foods, including a potato that kills its own pest, the Colorado potato beetle, by emitting a protein fatal to the insect have been genetically altered today. Of course, the gene introduced into the wheat is a trade secret *(New York Times,* 28 May 1992),

[4] No more is it then only a question of capital appropriating what is already found in nature, then breaking it down and recombining its elements into a commodity, but rather of creating something that didn't exist before. I know that there is no hard line between the two; nevertheless there is a qualitative difference once you compare the extremes.

[5] All growth theories presuppose certain relationships between the "real" and money economies, physical production and incomes, and increases in investment and consumption goods, on the one hand, and profits and wages, on the other. Disproportionalities between the investment/consumption good and profit/wages ratios can cause economic trouble ("disproportionality crises"). The main type of crisis inherent. in capitalism, however, is a "realization crisis."

Marxists regard capitalism as "crisis-ridden." But the system is also "crisis-dependent" in the sense that economic crises force cost-cutting, "restructuring; layoffs, and other changes that make the system more "efficient," i.e., more profitable. Marx wrote that "capital accumulates through crisis," meaning that crises are occasions for the liquidation of some capitals and also for the appearance of new capitals and the reorganization of old capitals, not to speak of the diffusion of new and more "efficient" technology throughout the *systems* (e.g., computerization).

Before the development of ecological economics, the question, "What exactly is growing?" was relatively neglected. Today, more economists are willing to admit that growth not only includes some vector of outputs (commodities, services, increments of durable stocks of goods) but also outputs of "wastes" and increments of stocks of durable wastes. This complicates an already complex and arbitrary system of income accounting.

[6] "Most simple-minded" in part because while there is a general tendency for the rate of profit in different industries to become roughly comparable (via movement of capital away from low-profit and toward high-profit sectors), profit rates vary widely from industry to industry, even from capital unit to capital unit. There are many reasons for this, among which (and arguably the most important) is that big capitals not only appropriate larger profits defined in absolute or total terms than small capitals, but also the former "earn" a higher profit *rate* than the latter. The reason is that small capitals typically cannot compete with big capitals, while big capitals cm compete with small capitals (as well as with each other).

[7] "Inadvertently" because Marx used the concept of "conditions of production" in different and inconsistent ways; he never dreamed that the concept would or could be used in the way that I use it in this chapter; and no one *could* have used the concept in this way until the appearance of Karl Polanyi's *The Great Transformation* (New York: Farrar and Rinehart, 1944).

[8] This "rationalization" also includes "re-privatization" defined as a shift from paid labor to unpaid labor in the home and community, or the revival of "self-help" ideologies that throw more of the burden of reproducing laborpower and environmental and urban conditions of life on what Martin O'Connor calls "autonomous

subsistence," always a key undergirding of capitalist accumulation, but assuming more importance during crisis periods. This issue raises the larger subject of whether or not, e.g., unpaid domestic labor constitutes the exploitation of women by men, functions as a subsidy to capital, etc., questions that were much debated by feminists, Marxists, and Marxist feminists in the 1970s.

[9] No one knows or cm know when a "single, powerful democratic force" will develop, or even if it will develop at all. Very difficult questions must be answered, practically and theoretically. For example, whether the very concept of such a "force" is fatally grounded in the modernist/humanist tradition of Western political philosophy, a "liberal" tradition that has been less than truly tolerant of "difference," yet one that remains firmly grounded in individual rights vis-á-vis the state. Some believe, in Martin O'Connor's words, that it is important "at this moment in time, i.e., the late 20th century, to explore what it means to have a coexistence of many, somewhat discordant voices, having in common their repudiation of capital's domination, yet ill-reconciled in many other ways. This is an aspect of *realism,* of things being to get worse before they get better "The present writer agrees, with the proviso that there may not be time to work through all of the tensions and fully and mutually hear the plurality of voices, different grounds of knowledge, etc., existing between and within social movements as they stand today. The need for unity *against* capital and for a nonexploitative, socially just, ecological society may be too great, given the configurations of political forces today, to delay the development of a unified political strategy truly capable of confronting global capital and the developing global quasi-state (e.g., IMF, World Bank).

PART III

SOCIALISM AND NATURE

All philosophy lies in two worlds, sustain and abstain.
—Epictetus

There isn't anything that money can't fix, but everything stays broke.
—John Straley

The materials in Part III of this work indicate some lines of political economic and political sociological thinking about "ecological socialism" that might be useful to radical ecology movements in the North and (in some respects) the South. It is often said that the meaning of political ecology in the North is very different from that in the South. Environmentalism in the North (so goes the argument) has been driven by the leisure values of a "post-scarcity" society, while the "environmentalism of the poor" in the South is seen as a "rebellion of the poor for survival" (in the words of Juan Martinez-Alier). There is more truth than not in both of these propositions, for the environment of the North is typically viewed as an amenity, or as a means of consumption, while the environment of the South is usually regarded as a means and object of production. This difference reflects the uneven and combined development of capitalism in North and South. In the former, most people live in metropolitan areas; in the latter, most people are still tied to the land. But the "ecologism of affluence" and the "ecologism of survival" (Alier) are in some ways intersecting in both North and South. On the one hand, the sustainable agriculture movement; the struggle to reduce the production of toxics (source reduction), and the green cities movement in the North address the environment in whole or part as a means or object of production and reproduction. In the North, the historically determined "decent standard of living" (and perhaps our very survival) depends on a shift to "green production" generally. On

the other hand, the growth of industry and cities in the South, and the proliferation of desperate poverty within the urban reserve armies of labor in Africa, Asia, and Latin America, mean that the urban environment is being seen more and more as a "means of

consumption," or as an amenity. These changes in the.: relation between humankind and nature in the North and in the South, based on changes in the world division of labor, and also on the aims and strategies of ecology movements in both parts of the world, hardly eliminate the enormous differences between North and South "ecologism," but they do indicate a growing arca of gray, where these aims and strategies might be overlapping to a significant degree.

The lines of analysis introduced or developed in Part III by no means exhaust the growing stock of radical green and green radical ideas and practices in the North, and much less so those in the South. I should also add the disclaimer that these writings were not made to build or elaborate a model of what red Greens call "ecological socialism." While there is a growing literature on "sustainable development," "green budgets," and green production generally, the selections in Part III are not a contribution to the paper search for a model of a socially and environmentally just, equitable, and ecologically rational society. Nor do these chapters fall into the futurist camp, where predictions of what the future might be or will be are made with varying degrees of (im)plausibility. My premise is somewhat different, namely, that if, in fact, ecological socialism is a real historical possibility, its animating spirit and power, socioeconomic scope and limits, forms of political practice, and norms and values are problems that will be (are being?) solved practically and collectively, in the course of real social and ecological struggles by the hundreds of thousands of formal organizations and informal groups fighting today on a variety of fronts, confronting a wide range of ecological, socioeconomic, and political issues.

This introduction was prepared to contextualize the ideas in these essays in terms of the political economy and politics of ecology in the old "real socialist" countries, led by the Soviet Union. The aim is to create an intelligible background to better illuminate the writings herein themselves, especially to draw a sharp distinction between the ecology of the old USSR and that of evolving radical democratic ecological movements, including ecological socialism.

A reasonable question is, given the extent of nature destruction in the ex-socialist countries. Why would anyone speak of "socialism and nature" in any but the most negative terms? After all, the socialist countries used up their nonrenewable resources as fast as (or faster than) the capitalist world and polluted the air, water, and land as much, if not more, than their capitalist counterparts. Many environmentalists therefore conclude that it is not capitalism and socialism as economic systems that deserve the onus for causing environmental degradation. Rather, they attribute blame to "industrialization," "urbanization," "technology," "bureaucracy' and a "production at all costs" mentality—all of which appear to be common in both the capitalist and the socialist worlds.[1]

Another axiom found in mainstream academia and the media is that the old socialist system exemplified by the Soviet Union and capitalism as exemplified by the

United States were models that existed (as if in a laboratory) independently of each other. In fact, really existing socialism and capitalism were formed in interaction—often violent interaction—within and between each other during the 20th century. The primary cause of environmental destruction in this century is war, and the most destructive wars (World Wars I and II) have been initiated by capitalist nations, or between imperial powers and third world liberation movements or fledgling states. In 1945, the United States detonated two nuclear weapons over Japan and for decades thereafter its (and the USSR's) testing of unclear weapons continued to degrade land, sea, and air. These were ecological watersheds.

In the post-World War II era, U.S. war-fighting policies in Vietnam did mayhem to the environment. In much of Central America in the 1980s, the United States, in support of rightwing allies such as the Contras, drenched agricultural areas with toxic pesticides and chemical fertilizers that made the region into a zone of eco-disaster. In the African subcontinent, South Africa did not hesitate to destroy agricultural areas in the front-line states as part of its military strategy to deprive liberation forces of cover, and to weaken governments sympathetic to democratic goals in the region. The ecodestruction caused by aggressive expansionist socialist states, for example, the old Soviet Union in Afghanistan or the Chinese in Tibet, pales in comparison with that produced by inter-capitalist wars and imperial wars of counterrevolution.

To put the point as bluntly as possible, socialist revolution has proven to be less ecologically harmful than capitalist imperialist rivalry and counterrevolution. And, while the ecological history of war in the 20th century needs to be written in terms of this rivalry and of revolution and counterrevolution, we do not as yet have any such general history, nor any general complementary account of the integration of war into political economy and political ecology.

While "socialism" and "capitalism" should not be compared as if they developed independently of one another, they *can* be legitimately compared insofar as they developed on the basis of different property relations, legal relations, ideologies, and relations of political power. In fact, the standard Western view that "industrialization," "technology," and so on are the causes of environmental destruction in both the West and the East falls to distinguish between a society's productive forces and its production relations, that is, its technological base, labor process, and production system, on the one hand, and its property, legal, and political relations, on the other. In any comparison between socialism and capitalism, such a comparison, and the theoretical implications of different property and political systems for the causes and consequences of environmental degradation, is useful to make.

To the degree that socialist countries imported technology and systems of production and labor control (indeed, root *conceptions* of technology and production) from the West, the causes of environmental destruction in socialist

countries were similar to those in the capitalist countries. Also, to the extent the economic growth and development were overriding priorities in the social world, the causes and consequences of nature degradation were roughly the same. Finally, insofar as the socialist countries integrated themselves into the world capitalist market, the same kind of systemic forces were at work in the East as the West.

To the degree that property and legal relations were different in the socialist countries than in the capitalist world, however, the causes and effects of environmental destruction were not the same. This can also be said about the two political systems and the corresponding differences in the relationship between civil society and the state.

In fact, in the ex-socialist countries, the productive *forces* were not that dissimilar to those in the West, excepting that they were typically less "advanced." The production *relations* in the socialist world *were* quite different from those in the capitalist countries, hence the specific forms of technology, and the particular ways in which agriculture, mining, industry, and so on, developed within the socialist world, were also different. Finally, the differences in political systems had important effects on the processes of both ecological degradation and environmental struggle and reconstruction. The causes for environmental destruction in capitalist and socialist societies were thus both the same and different.

Since the similarities between capitalism and socialism are fairly well known (just because they are similarities), it is important to focus on the differences between the two systems. What were the main ways in which socialist property/production relationships and political systems led to different or modified technological choices, industrial structures, allocations of social labor, patterns of scientific development and application, forms of consumption and urbanization, and so on? And, in what ways were socialist *solutions* to environmental problems different than those in the advanced capitalist countries?

There were many variations in the forms of the production relations and productive forces, and their relation to the conditions of production, within the socialist world. The extent and kinds of market relationships, cultural traditions, and political systems also varied widely. Yet there were certain broad similarities. First, in all socialist countries the major means of production were nationalized although not socialized—that is, there was no strong tradition of democratic control of the means of life, even though there existed substantial degrees of local control of resources in their presocialist past. Nationalization, or state ownership, without socialization, or democratic social control, of the means of production meant that the socialist countries were characterized by central planning arid party/bureaucratic political rule. Second, all socialist countries had constitutional guarantees, not always practiced, especially in the last years of liberalization, that workers have the right to access, utilize, and exercise control over the means of production.

Third, most, if not all, socialist countries had a history of extensive rather than intensive economic development based on educated labor and high-tech

production, because socialism appeared in relatively "backward" regions of world Thus, the socialist countries attempted to "catch up with the West" they called this effort "socialist construction"). This was determined by the Communist Party's perceived need for national security against the West and its proclaimed goal of surpassing the Wests ability to improve the material and social conditions of the producing classes. An uncritical acceptance of certain aspects of Western-style development often led to their mechanical imitation in the
socialist countries—a "mistake" that present-day red green movements and political parties da not make. In the course of the East-West conflict, the idea of a qualitatively different type of progress, one measured by the quality of life rather than by the quantity of technology or consumer goods, or by use value rather than any exchange value, was systematically suppressed; this was another "error" that red Greens today avoid like the plague (or should).

Further, nearly all of the socialist countries collapsed in the face of economic and political crisis associated with the phasing out of extensive economic development and the transition to more intensive types of development in the context of a supply-constrained economy. In this crisis, the demand for Western capital equipment, including pollution control and abatement technology and consumer goods, was high and rising rapidly. Meanwhile, in the West, the hyper-capitalistic, obsessively cost-cutting major economies found themselves with a surplus of both capital and consumer goods. This was due mainly to increased rates of labor exploitation and growing income and wealth inequalities, together with intensified competition from Asia. These basic economic facts helped to set the stage for political moves in both the East and the West to end the cold war, and to renew investment and trade between the old socialist and new capitalist worlds, which have had important effects on the ways that the ex-socialist countries exploit their environments and conditions of production generally.

In principle, state ownership and central planning permit the state to minimize resource depletion, "negative externalities" such as pollution, and the destruction of environmental amenities. The key role of science and scientists in socialist planning reinforces this principle. Thus, huge sums can be allocated to pollution abatement investments by political fiat (e.g., the Brezhnev-era decision in the USSR to reduce pollution by industry located on Lake Baikal). Also, industry can be removed by fiat (e.g., Gorbachev talked about dismantling the Baikal mills), and decentralized by fiat, partly transforming harmful pollution into harmless waste. Further, the leaders of the USSR for over two decades stated that ecological science is one key basis for rational, scientific, economic planning.

No matter how enlightened or unenlightened those at the top of the old socialist hierarchies may have been, workers, fanners, scientists, and technicians trained to recognize and deal with ecological problems had little or no political power. The combination of state ownership/planning and party/bureaucratic rule—or the absence of popular power with an "ecological consciousness"—meant that managers, technicians,

and workers in particular enterprises were politically divided from those in other enterprises. There was thus a structural

tendency to be indifferent to the environmental effects of one's own enterprises on other enterprises and communities "downstream." Insofar as ecologically conscious cadres had no common organization, the root of this problem was clearly political.

A further point is that the political division of the working class in party/bureaucratic-ruled socialist states was associated with the weak development of internal democracy; absence of freedom to organize and agitate independently around specific environmental issues; lack of public information about pollution levels; bureaucratic secrecy and disinformation about the environmental effects of new investments; and, last but not least, political cynicism and indifference. . "Negative externalities" or "social costs" were often not identified as such because of the lack of a free flow of information, of ministry and enterprise accountability, of independent access to technical data, and of institutional channels that could be used to change existing practices. Thus, environmental problems were comparatively speaking, invisible; hence the kinds and extent of pollution and resource depletion were relatively unknown. There were certain obvious exceptions to this rule, for example, Chernobyl, the drying up of the Aral Sea, and the . salinization of soils in drained areas.

Yet ecological science traditionally played a role in economic planning. Historically, because the Soviet conservation movement was dominated by scientists, it had more legitimacy within the state than conservationism historically had in the capitalist world. Moreover, "ecological glasnost" opened up independent channels of protest and organization, within student movements in particular, which began to make the invisible more visible and the uncertain more knowable.

Central planning itself had both positive and negative implications for the environment. On the positive side, the absence of "economic crises" of the inherent in capitalism—hence the absence of capitalist-type struggles between enterprises for market shares—meant that enterprises had less incentive to pollute than do capitalist companies, which are often forced to externalize costs as the price of survival in the market. Oil the negative side, central planning encouraged large, ecologically unsound mining, construction, and other projects, and centralized energy production and distribution. The worst example is nuclear power production which everywhere is associated with centralized political power, military ambition, secrecy, and rule by technocrats. In the last analysis, Chernobyl (where the reactors' design was copied from an American model) might have been as much the result of a powerful state and a weak society (i.e., the lack of democracy), as a lack of quality control and weak worker motivation, which, in turn, were related to undemocratic and inefficient forms of politics and economy, respectively.

In socialist countries, full employment and job security were the norm and not the exception (as they are in the capitalist world). Full employment and job security had

profound effects on the ways that socialist economies worked. These effects included limited horizontal, upward, and downward mobility of labor; limited ability of enterprise managers to use laborpower in flexible ways (as

"variable capital" in Marxist terms); and limited ability of enterprises to draw on, plus labor reserves. With little "slack" and much "rigidity" in the economy which probably could not have been removed without subverting norms of full employment and job security), socialist economic growth (as Kornai theorized) was *resource constrained.* "Resource constraint" is here defined in the economic sense, not as an "ecological constraint." This is in sharp contrast with capitalist economies which historically have been *demand constrained.* The effects of resource- constrained economies on the environment in principle seem to depend on a number of factors. First, enterprises in resource-constrained economies were notorious for "hoarding" labor, raw materials, fuels, component parts, and other inputs. Markets were infamous for "shortages" and "queuing," which seemed to have both positive and negative effects on the environment. On the minus side, natural resources were appropriated even when there was no immediate use for them. On the plus side, resource-constrained economies were likely to grow slowly until the shift to intensive development was made (and also during the transition to intensive development), hence they were Eddy to deplete and pollute resources at a slower rate.

Second, full employment and job security constraints reduced management incentives to make labor-saving technological changes (hence the relative stagnation of the Soviet economy). A priori, there is no way to know whether older technologies depleted resources and/or polluted more than new technologies. On the one hand, in China, small iron foundries and other industrial facilities constructed in the countryside with the purpose of integrating agriculture and industry and evening out economic development were famous "polluters." Technical backwardness was also associated with the absence of up-to-date pollution control equipment. On the other hand, the relative backwardness of Bast Europe and the USSR in high-tech sectors minimized the kind of high-tech pollution that is common in the Western industrialized economies. In general, full employment and job security and the relative absence of capitalist-type market discipline meant that socialist enterprises were not driven by the need to continuously adopt new technology of any kind. This is, of course, a comparative judgment. The USSR, for example, exported manufacturing licenses for water purification plants, blast furnace evaporation plants, and other innovations to Western firms, and many "ecologically clean technologies" were adopted in dozens of Soviet industries. However, the USSR was technologically backward in most respects compared with the leading Western capitalist countries.

Third, full employment and job security meant that management, technicians, and workers had powerful incentives to keep their enterprises going at all costs independent

of changes in technology and market conditions. As already indicated, workers and management were basically "enterprise conscious," not "society conscious," hence had incentives to externalize costs, for example, by polluting. On the other hand, full employment and job security constraints (with central planning) also limited processes of uneven and combined economic development that are characteristic in the capitalist world (hence limited the

resulting ecological horror stories). Some socialist countries used central planning mechanisms to try to reduce regional inequalities of wealth and productive capacity, which appeared to have had both positive and negative effects on the environment. On the positive side was the dispersion of "waste," which helped to prevent waste from becoming "pollution." One negative effect was that economies of scale in waste disposal systems were difficult to realize when industry is decentralized—which led to severe local pollution problems. As a rule, though, socialist industry was centralized, and had environmental effects similar to those under capitalist industry.

There are other important differences between resource- and demand-constrained economies. One is that the latter waste resources through advertising, packaging, style changes, model changes, product differentiation, product obsolescence, and credit buying—all of which are needed to keep the system afloat. This "sales effort" not only wastes resources but also results in more pollution of the environment Socialist economies were much less guilty in this respect. Another difference is that demand-constrained economies are based on the wage form of labor and on the commodity form of need satisfaction. By contrast, socialist economies stressed collective consumption, for example, mass transit, collective recreational and vacation facilities, and apartment living. On these grounds, socialist economies used and wasted fewer resources than capitalist economies, and socialist personal consumption created less pollution. Still another difference is that capitalist economies are subject to the rule, "accumulate or die." Growth is not a means to the end of economic and social well-being but an end in and of itself. Although economic growth was also a key goal in socialist countries, the same *systemic economic* imperative to grow was absent. Growth was rather a political decision pertaining to economic development and the desire to "catch up with the West' The relentless and unplanned nature of resource extraction/pollution in capitalism may not be inherent in socialist economies, where in principle production was for use, not profit, and growth was regarded as a means, not an end in and of itself—although *in practice* this dearly has not been true. Yet it is worthwhile to stress that enterprises seeking to fulfill their quotas under a central plan in theory operate under different performance principles than capitalist firms whose profit margins must continuously expand.

Finally, in these socialist societies, norms of economic and social equality governed political and economic decisions more than in capitalist societies. In the latter, the tragedy of poverty-stricken masses pushed into marginal lands by international capital

and forced to degrade the environment out of sheer survival needs has little or no counterpart in the socialist world. A comparison of Cuba with, for example, the Dominican Republic or much of Central America would be instructive in this connection.

In most socialist countries, the Party came to power in relatively backward, peripheral, or semi-peripheral regions of world capitalism. The socialist countries underwent a period of extensive development—capital-widening investments, heavy industry, huge power projects, proletarianization of the peasantry, and so

on—which the developed capitalist countries experienced in an earlier period. "Socialist construction" and "catching up with the West" in the context of the cold war and Western hostility to the USSR reinforced the environmental effects of extensive economic development, especially in the resource-rich USSR. All major countries passing through extensive development have "specialized" in polluting industries, for example, paper and pulp, fossil fuel power production, oil refining, heavy chemicals, petrochemicals, and other basic capital goods industries. Thus the "miracle" of Eastern European industrial growth from the end of World War II through most of the 1960s was environmentally costly because of the rapidity of extensive development. This was more apparent in East Germany, for example, than it was in the USSR, because population density and per capita income was much lower in the latter. Also, smaller countries (e.g., Denmark) with much better environmental records have benefited by situating themselves in an environmentally more favorable position within the international division of labor. They have been able to import oil and gas, chemicals, and so on, without having to suffer the costs of pollution and pollution prevention and control characteristic of the big industrial countries.

The shift to intensive development – the start of which was symbolized by *glasnost* and *perestroika* in the USSR – would have produced different environmental problems and opportunities. First, many socialist countries would have been likely to make much greater use of price mechanisms, which would lead enterprises to economize on natural resources, that is, to stop undervaluing resources, hence utilizing them too rapidly or inefficiently, or utilizing the wrong kinds of resources. Second, the demand for Western goods included high-tech capital goods to modernize manufacturing facilities and also environmental protection equipment. Third, it is interesting to speculate on what the goals and strength of the environmental movement in the socialist world might have been. The base of the early environmental movement in the advanced capitalist countries is the urban/suburban salariat, professionals, and educated groups generally. These classes exist because of two generations of intensive industrial development and because of the subsequent rapid growth of financial services, communications, corporate administration, research and development, and so on – all a consequence of the new international division of labor since the early 1970s. The capitalist salariat has no intrinsic material interest in heavy industry. In the USSR, by contrast, engineers, managers, and

others employed in heavy manufacturing industries were important in the environmental movement They were not "cut off" so much from interests in continued industrialization as were their Western counterparts, which might have limited their capacity to support an economic shift from "socialist construction" to "socialist reconstruction."

It is impossible to say in principle whether resource-constrained economies deplete resources and pollute the environment more or less than demand-constrained economies in *similar stages of development.* It can be said that some of the main *reasons* for depletion and pollution are different in the two types of economies, and also that depletion and pollution in socialist countries

were more political than economic questions; that is, that massive environmental degradation is probably not *inherent in* socialism (although no socialist count ever demonstrated this proposition), as it appears to be in capitalism. Certainly, environmental degradation was intrinsic to industrial progress in the USSR because its leaders believed that their country had to match the United States bomb for bomb, hence had much less to spend an environmental protection because the Soviet economy was so much smaller than that of the United States. Centrally planned economies, with or without extensive market mechanisms, can, in principle, coerce enterprises into internalizing possible negative externalities and social costs generally. This is true, however, only to the degree that the central planners and enterprises, and the politicians and people, want it to be true. In the USSR, what emerged in current debates on the economy in the Soviet press was that (in William Mandel's words) the planners' lodestar has been growth rates,: and everything else be damned." The emphasis on growth is obviously connected with the USSR's perceived need to catch up with the West, in the context of the. cold war, anticommunism, hostility to socialism by the capitalist powers, and, last but not least, the arms race. In other words, as stated earlier, any real understanding of the environmental issue in socialist countries must be framed within the context of the political-economic-military-ideological struggles against socialism by the leading Western powers since the early 20th century, and also in the context of the cold war since the end of World War II. It is too early to teil whether new "reforms" in the ex-socialist world that aim to produce "slack" in the economy in order to give management more incentives to economize on labor and resources, more flexibility in production, and so on will lead to increases or decreases in rates of and kinds of depletion/pollution. This will depend on the :. exact nature of the "reforms," methods of implementation, and development of democratic political forms. It is also too early to assess the effects of the global ecology movement, especially the (to date, weak and divided) international movement for ecological socialism, on traditional socialist attitudes against the "idealization of virgin nature," that is, in favor of what are regarded as scientifically based "rational" attitudes toward nature. It is, however, the right moment to try to debunk *some* of the standard views on the political economy of ecology of socialism and capitalism.

In sum, the party/state made it difficult and often impossible for environmental organizations to develop and grow, to organize protests and pressure the government, and even to find needed basic information. Second, the party/state system meant that workers, technicians, and managers had little or no power within the central planning mechanisms, a situation that prevented the development of an ecological and social consciousness that went beyond the enterprise.

Third, the party/state legitimated itself by guaranteeing full employment and Job security, which reduced or eliminated both pressures and opportunities to make technological improvements of a type that would not impact the environment unfavorably. In these senses, the gap between government rhetoric and the potential for ecological planning, on the one hand, and the reality of the structure of

the state, on the other hand, sabotaged whatever good intentions were held by top planners and the party apparatus. Present-day ecological socialists, beware—and live and learn.

Chapter 15 of this book, "Socialism and Ecology," attempts to identify some points of contrast and comparison between the labor and environmental movements, and also between traditional socialist thought and modern ecological thinking. Chapter 16, "A Red Green Politics in the United States?," is best described as a search for politically radical elements within the U.S. green movement broadly defined. Chapter 17, "Flatland Politics," proposes a green/labor/community alliance based on a synthesis of multicultural and bioregional politics and organized along working-class lines. Chapter 18, "Think Globally, Act Locally? Toward an International Red Green Movement," is a critique of one of the main slogans of green activists and calls for a theory and practice based on both the "local and the "global." Chapter 19, "Ecology Movements and the State," discusses what I think is (implicitly) one political goal of new social movements generally and green movements in particular, namely, the struggle to democratize the state. Chapter 20, "The New Global Economy and One Alternative," surveys the socioeconomic context created by the new global economy, analyzes a central flaw of present-day hyper-capitalism, and discusses what I can, for lack of a better expression, the Preservation First! movement. The final chapter, titled "What Is Ecological Socialism?," compares and contrasts the universalistic and quantitative critique of capitalism put forth by traditional socialists with the "site-specific" and qualitative (theoretical and practical) critique developed by ecological socialists. WM12 the present work begins on an abstract and theoretical note, it (hopefully) ends on a more concrete and practical note—seen from the standpoint of both *praxis* and *telos.*

NOTE

[1] "Socialism" and "capitalism" in this account are constructed from the experiences of the industrial capitalist and socialist countries. Although some references are made to other countries (e.g., in the South), many of these cannot be wholly subsumed under the respective imaginaries of "socialism" and "capitalism."

CHAPTER 15

SOCIALISM AND ECOLOGY

It seems to me that today there are three general socioeconomic trends giving rise to the possibility of a red green politics. The first is a global economy that is undergoing a process of "accumulation through crisis" that is impoverishing tens of minions of people, destroying communities, degrading hundreds of thousands of bioregions, and exacerbating a global ecological crisis. Crisis-ridden and crisis-driven capitalist accumulation is wrecking the conditions of production, and ..:creating more poverty, unemployment, inequality, and economic insecurity and marginalization, on the one hand, and (often fatally) harming human health, urban and rural communities, and ecological systems, on the other. The second trend is the rise of environmental, urban, labor, peasant, and other social movements to defend the conditions of production and the conditions of life for workers and peasants, women, communities, and the environment These movements are divided in a thousand ways, running ideologically from religious fundamentalism and reactionary nationalism to old-style Marxist-Leninist-Maoist armed struggle to a broad range of "new social movements." The third premise is that solutions to the ecological crisis presuppose solutions to the economic crisis (and the problem of global capital generally) and vice versa. Red green politics is premised on the belief that both sets of solutions presuppose some kind of ecological socialism and socialist ecology.[1]

Ecological socialism, in turn, presupposes the development of a specifically global class politics, first, because of growing economic oppression and exploitation, and second, because ecological degradation is increasingly a class issue (but rarely *only* a class issue). This is indicated, for example, by the growth of movements for environmental (and economic and social) justice in the North and the "environmentalism of the poor" in the South, where dominant groups owe an "ecological debt" to oppressed minorities and the third world as a whole, respectively (because the prosperity of dominant groups in the North is in some part based on the ecological damage done to minorities in the. North and South). It is also indicated by the fact that present-day labor, community, and environmental struggles seek to make the workplace a healthier and safer place for both workers

and communities, hence fight for more influence or control of technology, work relations, and the conditions of work generally. Labor, community, and environ.. mental groups challenge in various ways (implicitly if not explicitly) criteria of production based on

market values and profit. Also, human laborpower, community organization, and the environment are all "conditions of production," hence politicized and regulated in various ways by the state.

In the minds of most labor, community, and environmental leaders, however; socialism (of any type) and ecology remain contradictions in terms. Socialists are still Seen as "productivist," Greens as "anti-productivist." Most socialists still believe that ecology is merely an ideology of austerity or is simply a system for ensuring amenities for the middle and upper middle classes.

Most Greens think that socialism is an ideology promoting growth without limit or end. The effect: business and other groups use the false choices between "jobs versus environment," "the capitalization of land and economic growth versus community values," and "economic development versus sustainable society" as a handy scheme to divide and conquer.

Historically, Western socialists have sought two remedies for the condition of labor. The first is a more equitable distribution of wealth and income. The second is higher levels of productivity and production (which sometimes have been seen as a condition of more equality). Greater productivity is needed to create more free or leisure time; greater production is required to expand the economic pie to mute struggles over the share of the pie appropriated by different classes. These remedies roughly approximate the programs of the old socialist, social democratic, and labor parties as they functioned through the 1970s (and in some countries through the 1980s).

There are at least two major problems with this way of thinking. One is that in a capitalist society (no matter how "reformed") an equitable distribution of wealth and income is almost certain to harm economic incentives and also to promote political unrest from the right, thus impairing productivity and production. The second is that expanding productivity and production usually presuppose a higher (not a lower) level of exploitation of labor, which itself is premised on more (not less) economic inequality.

For their part, Greens, too, have two general remedies for the degraded condition of nature. The first is the same as that promoted by labor and old-style socialism: a more suitable distribution of wealth and income such that poverty no longer leads producers to degrade nature out of material necessity. Even in the North, environmentalists have shown increasing sensitivity to equity concerns because the impact of environmental reform typically has been regressive: work-place pollution and toxic waste contamination disproportionately affect minorities and lower income strata. The second remedy is the opposite of that of labor and socialists: slow growth, no growth, or sustainable growth (there are different versions). Slow or zero growth of production scales down the use of nature as tap and sink for human production, thus (it is thought) reducing both the depletion and the exhaustion of resources and pollution of all kinds.

Since a significantly more equal distribution of wealth and income would harm economic

incentives, it would seem that increased equity would lower production and slow down the economic growth rate. Seen this way, the green position is fully coherent. The problem is that in a capitalist economy, a low- or no-growth policy would create an economic crisis, which, in turn, would lead to more ecological degradation as business scrambled to reduce costs in various ways. An alliance between labor (and socialists) and Greens around the redistribution of wealth and income might be possible. But in capitalist economy such a redistribution would harm productivity and production and generate economic crisis, which would adversely affect both labor (and socialists) and Greens.

Clearly, no way exists to make an alliance between labor (and socialists) and Greens, *given the way the whole problem is usually framed.* (The main exceptions are labor-community alliances against workplace and community pollution.) For Greens, socialists are part of the problem, not the solution; for labor and socialists, Greens are part of the problem, not the solution. The former associate Greens with cutbacks and austerity; the latter identify labor and socialists with higher rates of economic growth, hence ecological unsustainability. The only way out of this trap is to redefine productivism: a society can achieve higher levels of productivity via more efficient reuse, recycling, and so on, of materials; via reducing energy use : and the commute to work within reformed green cities; via preventing the "pesticide treadmill" by using organic agriculture; and so on, including and especially decommodifying labor and land. *Ecological* socialist productivism and ecological rationality are thus not mutually incompatible.

"Real socialism" in theory and practice has been declared by nonsocialists and many ex-socialists to be "dead on arrival." In theory, post-Marxist theorists of radical democracy are completing what they think is the final autopsy of socialism. In practice, in the North, socialism has been banalized into a species of welfare capitalism. In Eastern Europe, the moment for democratic socialism seems to have been missed almost 30 years ago and socialism has been overthrown. In the South, most socialist countries are introducing market incentives, reforming their tax structures, and taking other measures that they hope will enable them to find their niches in the world market. Everywhere market economy and liberal democratic ideas on the right, and radical democratic ideas on the left, seem to be defeating socialism and socialist ideas.

Meanwhile, a powerful new force in world politics has appeared, an ecology or green movement, that puts the earth first and makes the preservation of the ecological integrity of the planet the primary issue. The simultaneous rise of the free market and the Greens, together with the decline of socialism, suggests that capitalism has an ally in its war against socialism. This turns out to be the case, in fact. Most, if not all, Greens dismiss socialism as irrelevant. Some Greens attack socialism as dangerous. They are especially quick to condemn those whom they accuse of trying to appropriate ecology for Marxism.[2] The famous green slogan, "Neither left nor right, but out front," speaks for itself.[3]

But most Greens are not friends of capitalism, either, as the green slogan

makes dear. The question then arises, Who or what are the Greens allied with? The crude answer is “the small farmers and independent business,” that is, those who used to be called the “peasantry” and “petty bourgeoisie”; “livable cities” visionaries and planners; “small is beautiful” technocrats; and artisans, cooperatives, and others engaged in ecologically friendly production. In the South, Greens typically support decentralized production organized within village communal politics; in the North, Greens are identified with municipal and local politics of all types.

By way of contrast, mainstream environmentalists might be called “fictitious Greens.”[4] These environmentalists support environmental regulations consistent with profitability and the expansion of global capitalism, for example, resource conservation for long-run profitability and profit-oriented regulation or abolition of pollution. They are typically allied with national and international interests. In the United States, they are environmental reformers, lobbyists, lawyers, and others associated with most of the organizations making up the famous “Group of Ten.”

As for ecology, everywhere it is at least tinged with populism, a politics of resentment against not only big corporations and the national state and central planning but also against mainstream environmentalism.

Ecology (in the present usage) is thus associated with “localism,” which typically has been opposed to the centralizing powers of capitalism. If we put two and two together, we can conclude that ecology and localism in all of their rich varieties have combined to oppose both capitalism and socialism. Localism uses the medium of ecology and ecology uses the vehicle of localism. They are both the content and context of one another. Decentralism is an expression of a certain type of social relationship of production historically associated with self-earned property and small-scale enterprise. Ecology is an expression of a certain type of relationship between human beings and nature—a relationship that stresses biodiversity, the integrity of local and regional ecosystems, and the like. Together, ecology and localism constitute the most visible political and economic critique of capitalism (and traditional state socialism) today.

Besides the fact that both ecology and localism oppose global capital and the national state, there are two main reasons why they appear to be natural allies. First, ecology stresses the site-specificity of the interchange between human material activity and nature, hence opposes both the abstract valuation of nature made by capital and the idea of central planning of production, as well as centralist approaches to global issues generally.[5] The concepts of site-specificity of ecology, local subsistence or semiautarkic economy, communal self-help principles, and direct forms of democracy all seem to be highly congruent.

Second, the socialist concept of the “masses” has been deconstructed and replaced by a new “politics of identity” and “politics of place,” in which cultural and ecological factors, respectively, are given the place of honor. The idea of the specificity of cultural identities seems to meld easily with the site-specificity of ecology in the context of a concept of social labor defined in ecogeographic terms.

The most dramatic examples today are the struggles of indigenous peoples to keep both their cultures and subsistence-type societies intact. In this case, the struggle to save local cultures and local ecosystems turns out to be two different sides of the same fight.

For their part (as noted above), most of the traditional Left, as well as the unions, remain focused on enhanced productivity, growth, and international competitiveness, that is, on jobs and wages, or more wage labor—not to abolish exploitation but (if anything) to be exploited less. This part of the Left does not want to be caught any more defending policies that can be identified with "economic austerity" or policies that labor leaders and others think would endanger past economic gains won by the working class. (Union and worker struggles for healthy and safe conditions inside and outside of the workplace obviously connect in positive ways with broader ecological struggles.) Most of those who oppose more growth and development are mainstream environmentalists from the urban middle classes who have the consumer goods that they want and also have the time and knowledge to oppose ecologically dangerous policies and practices. It would appear, therefore, that any effort to find a place for the working class in this equation, that is, any attempt to marry labor (and socialism) and ecology, is doomed from the start.

Yet, left green politics of different types has made an appearance in all of the major countries of the world. One bold initiative in the "developed" world is New Zealand's Alliance, organized in 1991, uniting the Greens, the movement for Maori self-determination, the New Labour Party, and other small parties. In the 1980s, Germany's Green Party was perhaps the most influential left green grouping in the world. In general, Western European countries have a wide variety of left green and green left tendencies. Holland's Green Left Party and Norway's Green Socialist Party, for example, are conscious attempts to fuse red green political tendencies via the parliamentary route. France's Red Green Alternative and the Great Britain's Red-Green Network are minuscule groupings which, however, have generated influential theoretical and practical ideas. One might also mention Canada's New Democratic Party's green caucuses, and the movements in the United States to reduce and eliminate toxics and fight for environmental justice; these latter are deeply influenced by the work of Barry Commoner, who calls for source reduction, the "social governance of technology," and economic planning based on a "deep scientific understanding of nature."

In the North, there are also many left green/green left solidarity groups, as well as a greening of Labor, Socialist, and (ex-)Communist Parties, even if reluctantly and hesitatingly. In the South, there are thousands of organizations, electoral and otherwise, that have a green left perspective; both rural and urban movements (e.g., Brazil's Landless Rural Workers Movement and Mexico's Zapatistas) raise ecological along with socioeconomic and political issues. In the big sub-imperialist countries of the South (e.g., Brazil, Mexico, India) where the contradictions of combined and uneven development are most acute, there are new ecological movements that engage many in the traditional working class and also new "peasant" movements

concerned with ecological issues. And we should not forget the Nicaraguan and Cuban experiments, which combined policies aimed at deep environmental re. forms with populism and traditional state socialism, respectively.[6]

There are good reasons to believe that these and other ecosocialist tendencies, however tentative and experimental, are no flash in the pan, and that the permit us to discuss ecology and socialism as if they are *not* a contradiction in terms (this is obviously especially true of radical *urban* ecology movements). or, to put the point differently, there are good reasons to believe that the contradictions of world capitalism themselves have created the conditions for an ecological. socialist tendency. These reasons can be collected under two general headings.... The first pertains to the causes and effects of the world social and ecological crisis from the mid-1970s to the present. The second pertains to the nature of the key . ecological issues, most of which are national and international, as well as local, in scope.

First, the vitality of Western capitalism since World War II has in large part been based on the massive externalization of social and ecological costs of production. Since the slowdown of world economic growth in the mid-1970s, the concerns of both socialism and ecology have become more pressing than ever before in history. "Accumulation of capital through crisis" during the past two decades of slow growth in the West has produced even more devastating effects, not only on wealth and income distribution, norms of social justice, treatment of minorities, and so on, but also on the integrity of community and the environment. An "accelerated imbalance of (humanized) nature" is a phrase that neatly sums this up. Socially, there has been more wrenching poverty and violence, and rising misery in all parts of the world, especially the South; and, environmentally, the toxication of whole regions, the production of drought, the thinning of the ozone layer, the greenhouse effect, the assault on biodiversity, rainforests, and wildlife. The issues of socioeconomic and ecological justice have surfaced as in no other period in history; in fact, it is increasingly dear that they are two sides of the same historical process.

Given the relatively slow rate of growth of worldwide market demand since the mid-1970s, capitalist enterprises have been less able to defend or restore profits by expanding their markets and selling more commodities in booming markets. Instead, big and small capitals alike have attempted to rescue themselves from a deepening crisis mainly by expanding exports and cutting costs, by raising the rate of exploitation of labor, by depleting and exhausting resources, and by subverting the integrity of local community.

This "socioeconomic restructuring" has a two-sided effect. Cost-cutting has led many, if not most, capitals to externalize more social and environmental costs, or to pay less attention to the global environment, pollution, depletion of resources, worker health and safety, and product safety (meanwhile, increasing efficiency in energy and raw

material use in the factories). The modern ecological crisis is thus aggravated and deepened as a result of the way that capitalism has reorganized itself to get through its latest economic crisis.

In addition, new and deeper inequalities in the distribution of wealth and income are the result of a worldwide increase in the rate of exploitation of labor. In the United States during the 1980s and early 1990s, for example, property income increased three times as fast as average wage income, which has been stagnant for 20 years. Higher rates of exploitation have also depended upon the ability to abuse undocumented workers and set back labor unions, social democratic parties, and struggles for social justice generally, especially in the South. It is no accident that in those parts of the world where ecological degradation is greatest—Central America, for example—there is greater poverty and heightened class struggle. The feminization of poverty is also a crucial part of this trend of ecological destruction. The working class, oppressed minorities, women, and the . rural and urban poor worldwide are the groups who suffer most from both economic and ecological exploitation. The burdens of "economic adjustments" and ecological destruction alike fall disproportionately on these groups.

Crisis-ridden and crisis-dependent capitalism has forced the traditional issues of socialism and the relatively new issues ("new" in terms of public awareness) of ecology to the top of the political agenda. Capitalism itself turns out to be a kind of marriage broker between socialism and ecology, or to be more cautious, if there is not yet a prospect for marriage, there are at least openings for an engagement.

The second point is that most ecological problems worldwide cannot be adequately addressed at the local (ecological/geographical) level. One reason pertains to the green concept of "site-specificity;' which means that in any given area or region a wide diversity of conditions exists, hence that an ecologically rational unit of production is necessarily small in scale; that is, site-specificity is (wrongly) equated with the "local." But the former does not refer only or mainly to the scale of operations involved in productive activity, but also (or rather) to the necessary relationship between this activity and its necessary *conditions,* which in terms of scale may be regional, national, or even global in scope. The reproduction of fisheries, for example, presupposes that the fishing industry is able to deal with the consequences of its fishing activity for its own necessary conditions (e.g., a clean ocean, healthy fisheries elsewhere, etc.). These conditions cannot be ignored, nor can the costs be externalized, without harming the reproductive capacity of the activity in question. Even (or especially) when the degradation of local ecological systems has local solutions, some planning mechanism is needed to integrate the local into the "general" or "total." Concerning agriculture, Richard Levins writes that "It may seem that large-scale production is itself inimical to ecological sensitivity to local conditions and to the imperative of diversity. But this is a misconception. The unit of planning (e.g., of pest control) must be large enough to allow precisely for the integration

of diversity of conditions, while the unit of production will be much smaller and reflect the needs for the mosaic, alley, and polyculture patterns.[7]

Most ecological problems, as well as the socioeconomic problems that are both cause and effect of the ecological problems, cannot be solved at the local level

alone. Regional, national, and international planning is *also* necessary. The heart of ecology, after all, is the *interdependence* of specific sites and problems and the need to situate local responses in regional, national, and international contexts, that is, to sublate the local and the central into new democratic socioeconomic and political forms.

National and international priorities are needed to deal with the problem of energy supplies and supplies of nonrenewal resources in general, not just for the present generation but especially for future generations. The availability of other natural resources, for example, water, is mainly a regional issue, but in many parts of the globe it is a national or an international issue. The same is true of many forests. Or take the problem of soil depletion, which seems to be local or site-specific. Insofar as there are problems of soil quantity and quality, or water quantity or quality, in big food exporting countries, for example, the United States, food importing countries are also affected. Further, industrial and agricultural pollution of all kinds spills over local, regional, and national boundaries. Ocean pollution, acid rain, ozone depletion, and global warming are obvious examples.

Localism also raises the danger that people will ground their resistance to neoliberalism and globalism in a sense of place alone—not also in the subjectivity of labor, women, peasant cultures, oppressed minorities, and so on.[8]

There is, finally, the problem of equity or distribution. Resource endowments vary widely from place to place, necessitating some central authority to redistribute wealth and income from rich to poor districts. Also, "a valid argument for channeling resources to certain segments of the population and to have a tight control over the resource flow is the high degree of inequality that usually exists in Third World countries [and between these countries and the North—J.O'C.]"[9]

If we broaden the concept of ecology to include urban environments, problems of urban transport and congestion, high rents and housing, and drugs (seemingly local issues amenable to local solutions) turn out to be global issues pertaining to financial speculation, and the ways that mortgage markets work and that money capital is allocated worldwide; the loss of foreign markets for "legal" raw materials and foodstuffs in drug-producing countries; and the absence of regional, national, and international planning of infrastructures oriented to the direct needs of the people.

If we broaden the concept of ecology even more to include the relationship between human health and well-being and environmental factors, given the increased mobility of labor nationally and internationally, and greater emigration and immigration, and an explosion of foreign trade and investment, we are also talking about problems

with only or mainly national and international solutions.

Finally, if we address the question of technology and its transfer, and the relationship between new technologies and local, regional, and global ecologies, given that the dominant technology and its transfer are more or less monopolized by international corporations and nation states, we have another national and international issue.

In sum, we have good reasons to believe that both the causes and the

consequences of, and also the solutions to, most ecological problems are national and international (i.e., pertain to national economies and the global economy). Hence, that far from being incompatible, socialism and ecology might make a good fit. Socialism needs ecology because the latter stresses site-specificity and reciprocity; as well as the central importance of the material interchanges within nature and between society and nature. Ecology needs socialism because the latter stresses democratic planning and the key role of the social interchanges between human beings. By contrast, popular organizations or movements confined to the community, municipality, or village cannot by themselves deal effectively with most of both the economic and ecological aspects of the general destructiveness of global capitalism, and still less with the destructive dialectic between economic and ecological crisis.

If we assume that ecology and socialism presuppose one another, the logical question is, Why haven't they gotten together before now? Why is Marxism especially regarded as unfriendly to ecology and vice versa? To put the question another way, Where did socialism go wrong, ecologically speaking?

The standard and (in my opinion) correct view is that socialism defined itself as a movement that would complete the historical tasks of fulfilling the promises of capitalism. This meant two things: first, socialism would put real social and political content into the formal claims of capitalism concerning equality, liberty, and fraternity. Second, socialism would realize the promise of material abundance that crisis-ridden capitalism was incapable of doing. The first pertains to the ethical and political meanings of socialism, the second, to the economic meaning.

It has been clear for a long time to almost everyone that this construction of socialism failed on both counts. First, instead of an ethical political society, in which the state is subordinated to civil society, we have the party bureaucratic state—arid thus one justification for the post-Marxist attempt to reconcile social justice demands with liberalism.

Second, and related to the first point, in place of material abundance, we have the economic crisis of socialism—thus the post-Marxist attempt to reconcile not only social justice demands and liberalism, but also both of these with markets and market incentives.

However, putting the focus on these obvious failures obscures two other issues

that have moved into the center of political debates in the past decade or two. The first is that the ethical and political construction of socialism borrowed from bourgeois society ruled out any ethical or political practice that is not more or less thoroughly human-centered, as well as downplayed or ignored reciprocity and "discursive truth!' The second is that the economic concept of abundance borrowed (with some modifications, of course) from capitalism ruled out any material practice that did not advance the productive forces, even when these practices were blind to nature's economy. Stalin's plan to green Siberia, which fortunately was never implemented, is perhaps the most grotesque example.

These two issues, or failures, one pertaining to politics and ethics, the other to the relationship between human economy and nature's economy, are connected

to the failure of historical materialism itself. Hence they need to be addressed in methodological as well as theoretical and practical terms (see Chapter 1).

Historical materialism is flawed in two big ways. Marx tended to abstract his discussions of social labor, that is, the divisions of labor, from both culture and nature. A rich, developed concept of social labor that includes both society's culture and nature's economy cannot be found in Marx or traditional historical materialism.

The first flaw is that the traditional conception of the productive forces ignores or plays down the fact that these forces are *social* in nature, and include the mode of cooperation, which is deeply inscribed by particular cultural norms and values.

The second flaw is that the traditional conception of the productive forces also plays down or ignores the fact that these forces are *natural* as well as social in character.

It is worth recalling that Engels himself called Marxism the "materialist conception of history," where "history" is the noun and "materialist" is the modifier. Marxists know the expression "in material life social relations between people are produced and reproduced" by heart, but they know another important expression much less well: "in social life the material relations between people and nature are produced and reproduced." Marxists are very familiar with the "labor process" in which human beings are active agents, and much less familiar with the "waiting process" or "tending process" characteristic of agriculture, forestry, and other nature-based activities in which human beings are more passive partners and, more generally, where both parties are "active" in complex, interactive ways.

Marx constantly hammered away on the theme that the material activity of human beings is two-sided, that is, a social relationship as well as a material relationship; in other words, that capitalist production produced and reproduced a specific mode of exploitation and a particular class structure as well as the material basis of society. But in his determination to show that material life is also social life, Marx tended to play down the opposite and equally important fact that social life is also material life. To put the same point differently, in the formulation material life determines consciousness," Marx

stressed the idea that since material life is socially organized, the social relationships of production determine consciousness. He muted the equally true fact that since material life is also the interchange between human beings and nature, these material or natural relationships also determine consciousness. These points have been made in weak and strong ways by a number of people, although they have never been integrated and developed into a revised version of the materialist conception of history.

It has also been suggested *why* Marx played up history (albeit to the exclusion of culture) and played down nature. The reason is that the problem facing Marx in his time was to show that capitalist property relationships were historical, not natural. But so intent was Marx to criticize those who naturalized, hence reified, capitalist production relationships, competition, the world market, and the like that he failed to emphasize sufficiently the fact that the development of

human-made forms of "second nature" does not make nature any less natural. This was the price he paid for inverting Feuerbach's passive materialism and Hegel's active idealism into his own brand of active materialism. As Kate Soper has written, "The fact is that in its zeal to escape the charge of biological reductionism, Marxism has tended to fall prey to an antiethical form of reductionism, which in arguing the dominance of social over natural factors literally spirits the biological out of existence a1together."[10] Soper then calls for a "social biology" We can equally call for a "social chemistry," "social hydrology," and so on, that is, a "social ecology' which for socialists means "socialist ecology'

Greens are forcing reds to pay close attention to the material interchanges between people and nature and to the general issue of biological exploitation, including the biological exploitation of labor, and also to adopt an ecological sensibility. Some reds have been trying to teach Greens to pay closer attention to capitalist production relationships, competition, the world market, and so on to sensitize Greens to the exploitation of labor and the themes of economic crisis and social labor. And feminists have been teaching both Greens and reds to pay attention to the sphere of reproduction and women's labor generally.

What does a green socialism mean politically? Green consciousness would have us put "earth first," which can mean anything you want it to mean politically. As mentioned earlier, what most Greens mean in practice most of the time is the politics of localism. By contrast, pure red theory and practice historically have privileged the "central."

To sublate socialism and ecology does not mean in the first instance defining a new category that contains elements of both socialism and ecology but that is, in fact, neither. What needs to be sublated politically is localism (or decentralization) and centralism, that is, self-determination and the overall planning, coordination, and control of production. To circle back to the main theme, localism per se won't work politically

and centralism has self-destructed. To abolish the state will not work; to rely on the liberal democratic state in which "democracy" has merely a procedural or formal meaning will not work, either. In my view, the only political form that might work, that might be eminently suited to both ecological problems of site-specificity and global issues, is a democratic state—a state in which the administration of the division of social labor is democratically organized.[11]

Finally, the only *ecological* form that might work is a sublation of two kinds of ecology, the "social biology" of the coastal plain, the plateau, the local hydrological cycle, and the like, and the energy economics, the regional and international "social climatology," and so on, of the globe—that is, in general, the sublation of nature's economy defined in local, regional, and international terms. To put the conclusion somewhat differently, we need "socialism" *at least* to make the social relations of production transparent, to end the rule of the market and commodity fetishism, and to end the exploitation of human beings by other human beings; we need "ecology" *at least* to make the social productive forces transparent, to end the degradation and destruction of the earth.

NOTES

[1] Ecological socialism means, generally, an ecologically rational and sensitive society based on democratic control of the means and objects of production, information, and so on, and characterized by a high degree of socioeconomic equality, and peace and social justice, where land and labor are decommodified and exchange value is subsumed under use value. "Socialist ecology" means (again roughly) a dialectical ecological science and sociopolitical practice that successfully sublates the local and the central, the spontaneous and the planned, and the like—in other words, the premises of traditional anarchism and traditional socialism.

[2] This is a crude simplification of green thought and politics, which vary from country to country, and which are also undergoing internal changes. In the United States, for example, where Marxism historically has been hostile to ecology, "left green" is associated with anarchism or libertarian socialism.

[3] This slogan was coined by a conservative cofounder of the German Greens and was popularized in the United States by the antisocialist "New Age" Greens, F. Capra and C. Spretnak. Needless to say, it was never accepted by left Greens of any variety.

[4] "Mainstream environmentalists" is used to identify those who are trying to save capitalism from its ecologically self-destructive tendencies. Many individuals who call themselves "environmentalists" are alienated by, and hostile to, global capitalism, and also do not necessarily identify with the "local" (see below).

[5] Martin O'Connor writes, "One of the striking ambivalencies of many writers on 'environmental issues is their tendency to make recourse to authoritarian solutions, e.g., based on ethical elitism. An example is the uneasy posturings found in the collection by Herman Daly in 1973 on *Steady-State Economics.*"

[6] "Social movements inscribed in the environmental perspective of development in Third World countries incorporate . a concept of environment that is much richer and more complex than that manifested by conservationist politics and ecological movements of the core countries.... The claims of environmental movements, even when incorporating the right to democratic access to resources and conditions for ecological equilibrium for a sustained development, are not guided by an ecological rationality. Environmentalism does not pretend to re-establish the 'natural conditions of the human species' insertion in nature, but rather to incorporate ecological and natural conditions into the conjuncture of social conditions that determine human development, and that of each community, to satisfy culturally defined needs and demands" (Enrique Leff, "The Environmental Movement in Mexico and Latin America," *Ecologia Politica/Cultura, 2,* 6, November

1988, translated by Margaret Villanueva).

[7] Richard Levins, "The Struggle for Ecological Agriculture in Cuba," *Capitalism, Nature, Socialism,* 5, October 1990.

[8] For example: "The only political vision that offers any hope of salvation is one based on an understanding of, a rootedness in, a deep commitment to, and a resacrilization of *place.* Here is where any strategy of resistance to the industrial monolith and its merchants of death must begin; here is where any program of restoration and revitalization must be grounded" (Kirkpatrick Sale, "What Columbus Discovered," *The Nation,* 22 October 1990, p. 446).

[9] Jan Lundquist, "Right Food, Right Way, and Right People," a revised version of a paper presented at a study group, "Famine Research and Food Production Systems," Freiburg University, 10-14 November, 1989.

[10] Quoted by Ken Post, "In Defense of Materialistic History," *Socialism in the World,* 74-75, 1989, p. 67.

[11] I realize that the idea of a "democratic state" seems to be a contradiction in terms, or at least immediately raises difficult questions about the desirability of the Separation of powers, the problem of scale inherent in any coherent description of substantive democracy, and also the question of how to organize—much less plan a nationally and internationally regulated division of social labor without a universal equivalent for measuring costs and productivity (however "costs" and "productivity" are de-fined) (courtesy of John Ely). On the other hand, we presently live under a bureaucratic democracy, so why cannot we have a democratic bureaucracy?

CHAPTER 16

A RED GREEN POLITICS IN THE UNITED STATES?

The short-run prospects for a red green political movement in the United States by the turn of the century are poor. The gathering economic and ecological crises of the 1980s and 1990s have led to the rebuilding of structures of domination and exploitation by global capital and the rich countries, not to new vehicles for social transformation, the deep reform of social and political institutions, or social revolution. Yet there are signs that this situation may be changing, or may be able to be changed, by oppressed minorities, Greens, feminists, and leftists of various types.

A red green political movement has two presuppositions. One is an understanding of the contradictions of world economy today, especially the changing Position of the United States in global capitalism, hence of the possible scope and limits of radical green politics. The second is a self-reflexive grasp of the movement's own constituent parts and potentialities.

There would appear to be five main radical green currents in the United States today.[1] The first two, social ecology or ecological anarchism and a variety of ecological socialism, are self-consciously leftist. The other three are ideologically mixed. These are multiculturalism and the movement for environmental justice; deep ecology and bioregionalism; and ecological feminism. In practice, the latter three overlap to varying degrees with the first two. Also, all five tendencies are marked by elements of one or more of the others. To simplify the following discussion, all five are constructed as "ideal types" rather than in terms of the real practice of actual movements.

I will begin with a brief account of one of the main contradictions of world economy and U.S. capitalism today. Then I will discuss Murray Bookchin's social ecology (or ecological anarcho-communalism) and Barry Commoner's ecological socialism. This is followed by short accounts of the movements for environmental justice, bioregionalism, and ecological feminism. My conclusion is a plea to those who represent all five theoretical and political tendencies to throw out time-worn

political formulae and to scrutinize all first premises or basic assumptions, and to begin to stress what each has in common with the other four—an essential move from the standpoint of alliance-and-coalition-building.

By most measures, global social and ecological conditions have gone from bad to worse in the 1990s. If our Chicken Littles aren't exactly right about the sky falling, the threat of global environmental destruction remains real enough. And while economic doomsayers tend to ignore the dozen or so fast-growing economies in Asia and Latin America, the specter of a world financial collapse and economic implosion, or financial crisis or depression, looms large in the minds of leading economic policymakers.

The economy: The world today resembles nothing so much as the gloomy model (but not only that model) depicted well over a century ago in Karl Marx's *Capital.*[2] Governments and corporations are enclosing more of the world's commons; more people are reduced to wage labor; more wage workers are unemployed, underemployed, or subemployed (i.e., employed full-time at less than a living wage); the commodity form of need satisfaction and consumerism are more universal; capital is more concentrated and centralized; industrial capital, as well as finance and commodity capital, is increasingly internationalized; the exploitation of labor and inequalities in wealth and income distribution are greater; there is a growing global debt overhang and possibly a danger of world : financial crisis or depression; and the global environmental crisis worsens.

One great irony of our time is that with the destruction and self-destruction of the USSR, most thinking people believe that Marx's theory of capital is as moribund as the state socialist regimes that so misinterpreted and misused it. The theory of capital accumulation and crisis, pioneered by Marx and fine-tuned by three or four generations of Marxist economists, is the baby thrown out with the dirty bathwater of totalitarian socialism. Just at the moment that capital triumphs globally, the greatest theorist of capital is relegated to the status of a wrongheaded 19th-century ideologue. In some quarters, *Capital* as a text is regarded as similar to Hitler's *Mein Kampf* a statement of intent by the evil founder of one of the two great, horrible totalitarian movements of the 20th century. This irony, or anomaly, is so pervasive today that we are forced to turn one of Hegel's most famous lines on its head. The great dialectician wrote that "the owl of Minerva spreads its wings only at dusk," meaning that only alter a particular historical event or change is it possible for reason to apprehend what has happened and why. A better epigraph today is something like the opposite: "The old owl folds its wings at daybreak." Reason surrenders just at the moment when it is capable of glimpsing the future.

The threat of a 1970s-like stagflation culminating in hyperinflation, a 1930s-like deflation of capital values and depression, or some other sea of economic troubles arising from the global financial disorder is especially critical in the first decade of the post-cold war world.

The reason is that during the post-World War Il period the United States was a kind of cash register for the world, thanks to its consumer-driven economy based on increases in mortgage and consumer credit, business credit, and govern-

ment borrowing at a faster rate than the growth of domestic real production or output. Surplus production from abroad, especially from Japan and northeast Asia, which otherwise could not have been sold a prices equal to costs of production plus the average rate of profit, was absorbed by the US. market. An excess of imports over exports in the United States was paid for by foreign lending, which permitted this country to live well beyond its economic means.

Since the recession of 1990-1991, however, the United States has been trying to engineer a sharp turn in economic policy. Washington has attempted to downgrade consumer spending and enfranchise exports as the leading force in economic recovery and expansion. The recovery from the last recession (if the weak economic growth during the past few years deserves to be called a "recovery") was driven first by foreign spending on US. goods and services, second by domestic consumption and government spending. Perhaps not since the economic recovery from the crisis of the 1870s, stimulated by agricultural sales to Europe, have exports been targeted to play such a central role.

The attempt to orient the U.S. economy away from consumerism and cold war military spending and toward foreign markets arid capital exports explains why George Bush spoke of the need for the United States to become an "export superpower"; why President Clinton regards a North American Free Trade Area agreement as a *sine qua non* of a stronger recovery; why Clinton (and Bush before him) have pressured Japan and East Asia to absorb more U.S. exports; why both presidents have feared (and tried to block) the growth of regional trading blocks in Europe and Asia; and why Clinton's economic policy tends to favor export-driven high-tech industries.

This "globalization" of US. economic policy will probably create more problems than it solves. The reason is that nearly all of the United States's leading rivals are already export-driven economies. In the 1990s Germany has been hoping for an export-led recovery from its long recession. While Japan has been expanding public works spending at home, exports will likely be the dynamic factor in that country's economic recovery, if and when it comes. The rest of northeast Asia, and also Southeast Asia and China, typically (but not always) favor export markets. Some countries in Europe, Norway, for example, export up to 50 percent of their total domestic product and sub-imperialist countries such as South Africa and Brazil are also export-dependent.

The contradiction is that a global economy in which -the leading industrial and industrializing countries depend on exports is a formula for hyper-competition, and, finally, of protectionism and trade wars, or of a general devaluation of capital values and thus depression. On the one hand, each country and transnational corporation remains obsessed with reducing spending, cutting costs (including costs of environmental protection and cleanup), improving quality, and marketing new products. On the other hand, there is no system of global Keynesian regulation of aggregate demand (a point made by Willy Brandt and others as early as the 1970s). The partial exception is the United States-led Group of Seven, which bullies Japan to spend more on public works and nags Germany to lower

interest rates. Meanwhile, the International Monetary Fund and the World Bank are pulling world economy in the opposite direction. The lending strategies of these proxy world ministries of finance and public works favor more spending cuts by governments and more cost-cutting by private business, and ridding the world of any and all socialist economic forms, aggravating an already bad situation, not only on the social and economic but also on the ecological front.

There are two left ecological theories and (weak) political tendencies in the United States today—"left" meaning self-consciously anticapitalist. The first is the theory of social ecology, as developed by Murray Bookchin, whose practice is exemplified by the Left Green Network (which, however, departs in important ways from Bookchin's thought), organized as a caucus within the U.S. Greens. The second is based on the thinking of the United States's other founder of left ecology, Barry Commoner. Commoner's influence can be found most importantly in local and regional toxics coalitions, which fight against workplace and community toxics pollution and for the development of nonpolluting technologies, but it also extends into the movement for environmental justice.

Bookchin writes about ecology, anarchism, community, and politics; Commoner theorizes ecology, socialism, economy, and the conditions of material life. Bookchin is, most importantly, an ecological political theorist, Commoner a political economic ecologist. The former often writes as if there is no world economy and division of social labor, the latter as if there is no need for political theory or a philosophy of nature suitable for a green politics.

Bookchin's goal is to sublate ecology and anarchism; Commoner's, ecology and socialism.[3] Commoner wants to establish social control over the forces of production or the capitalist workplace with the aim of eliminating all pollution at the source. His argument, beautiful in its simplicity, is that pollution regulation, pollution licenses, and so on, are not needed if pollution is not produced in the first place. Without the "social governance of production," and economic planning based on a "deep scientific understanding of nature," there is little hope for an ecologically sustainable society. To accomplish this "governance," Commoner wants to revolutionize capitalist production relations, which is one of the traditional aims of socialism. Bookchin, by contrast, wants to marry ecology and anarcho-communism (or anarcho-communalism) with the aim of making an ecological society based on the municipality as the basic political unit (meanwhile creating a federation of municipalities), grounded in the principles of direct democracy, as well as in ecological science and sensibilities, as Bookchin under-stands these terms.

Commoner wants to make a society that is sustainable from a material or economic point of view. His argument is that only a form of economic democracy, "social governance of the workplace," can bring this about. Bookchin also wants a sustainable society from a material point of view, and argues that only direct democracy—a radical

form of political democracy – can make this happen. Both men in their own ways are radical democrats in their thinking, but one is talking about conditions of the economy, the other about conditions of political life.

Commoner puts economics first and defends the traditional socialist aim of material abundance for all, which is why he stresses what he thinks is the practically limitless potential of solar energy to power modern industrial economies without pollution or depletion of fossil fuels. Bookchin puts politics first and defends the traditional anarcho-communist aim of self-governing communities, which may be why his positions on the key issues of technology and the productive forces generally have been less coherent than Commoner's.

It is an interesting question why the Commonerites and Bookchinites have never come together politically. One answer is that socialists and anarchists have almost always been at each other's throats, ever since Marx fought the anarchists in the First International. Other key moments in their combat include Trots use of the Red Army to defeat the anarchist Makhno in the Ukraine in the early 1920s, and the Stalinists' betrayal of the anarchists of the Barcelona Commune in the 1930s.[4]

These episodes illustrate one political answer to the question of why socialism and anarchism have remained at arm's length, and, at worst, have fought bloody warfare. But behind the political differences there are theoretical differences, which in the case of Bookchin and Commoner are important to uncover and scrutinize.

Socialism and anarchism, in fact, make up a series of dualisms; the same is true of Commoner's ecological socialism and Bookchin's ecological anarchism. For anyone who wants to work for an ecological society that is also economically and socially just and equitable, as well as democratic, it is important to understand what these dualisms are, and what their implications are for red green politics.

Marxists and socialists historically have focused on the workplace and labor, and have said much less about a second theme that turned out to be equally important during the 20th century, namely, land and community. Within left thought, land and community have been and remain mainly the province of anarchism?[5] (Karl Polanyi took up both land and labor in his book *The Great Transformation,* but he did this in politically problematic ways.) The big exception to the rule that radical thinking about land and community has been the province of anarchism are theorists within communities of indigenous peoples who are being subjected to ecological imperialism and a kind of "global enclosure of the com-mons." Here, labor is done on the land, and culture, labor, and nature constitute a certain "organic" unity. Spiritual practices are based on material nature; labor is directly and transparently social and governed by nature's rhythms, and also labor invariably has a ritualistic element. The resulting sense of wholeness explains why those who work in solidarity with indigenous peoples whose commons and ways of life are under attack typically feel so passionate about their work. Their struggles have a

certain coherence that does not exist, for example, in a Richmond, California, oil refinery, where the community is "outside," or a Los Angeles barrio, where the workplace might be two hours away by freeway. In both sites, "nature" is typically seen as a national park, even more distant.

Theoretically speaking, what are the main oppositions between anarchism

and socialism? Socialism becomes historically possible when human laborpower is commodified and the direct producers lose control of the workplace; anarcho-communism arrives when land is commodified and capitalized and the community loses control of the land. At the risk of oversimplifying a complex subject, socialism privileges planning, anarchism spontaneity; socialism holds up equality as a high value, anarchism emphasizes freedom; socialism is more for fraternity, anarchism is more for liberty[6]; socialism upholds the "central," anarchism the "local" Socialism, in its social democratic form, celebrates working-class power in elected bodies in liberal democratic states; anarchism wants to abolish the state and institute direct democracy. (The sublation here may be to *democratize the* state or bureaucracy). These examples should provide a good idea about what is of stake in the conflict between ecosocialism and eco-anarchism, both theoretically and politically.

The issue of red green politics in the United States is more complex than revealed by a look at the theories, values, and experiences that divide socialists and anarchists. Three other radical currents have developed in the past decade or two, for the most part independently of Bookchin's theory of social ecology or Commoner's representation of ecological socialism. These are multiculturalism and the struggle against environmental racism and for environmental justice (in some versions, environmental and social justice; in others, environmental and economic justice); deep ecology and bioregionalism, which constitute the chosen worldview of most radical Greens; and ecological feminism, which some feminists regard as potentially the most revolutionary current of all. In terms of political identity, the environmental justice movement and ecological feminism are often represented as forms of "identity politics" and bioregionalism as a type of the "politics of place." Yet the first two tendencies partly overlap with the third, while deep ecology/bioregionalism has some affinity with anarcho-communalism and the environmental justice movement, as does ecological feminism with ecological socialism—to the degree that the socialist tradition has been antiracist and antisexist.

The movement against ecological racism is part of the much larger current of multiculturalism. It is also a logical offshoot of the civil rights movement. The fight for environmental justice is one dimension of antiracist thought and struggles ranging from access to housing, jobs, health care, and so on, to fighting police oppression. Many leaders and activists in the movement have been engaged for a long time in antiracist movements and struggles. (By contrast, bioregionalism is often seen as part of a larger deep ecology movement, as well as being in its less self-critical moments a form of

environmental determinism.) Multiculturalism privileges culture, however "culture" is defined, and is organized to politically identify cultural differences within "peoples of color" and exploit these differences vis-à-vis the European-American majority. People of color have formed all kinds of coalitions and alliances against what many multiculturalists call "Anglos," meaning whites (even though in the United States people of German descent outnumber people of English descent). Multiculturalism, viewed through an

"ideal typical" Jens, suppresses both the class politics of ecological socialism and the communitarian politics of ecological anarchism in favor of a cultural nationalism or separatism of some kind. By so doing, the "petty bourgeois" element within multiculturalism tends to surface ("tends to" within an ideal-typical discourse). Some leaders of some organizations within the environmental justice movement, however, deploy a class analysis and clearly understand the limits of reform in capitalism generally and in U.S. capitalism particularly. The political . views of others in the movement tilt more strongly toward a pure multiculturalism, and, at the limit, nationalism. Community politics is also strongly featured in most multiculturalist thinking, although the former bears little resemblance to the communitarian politics of social ecology.

"Diversity," the current code ward within mainstream liberal politics, is for those with promise, talent, accomplishment, or money. In the university, government, and business, people of color have increasingly found positions within middle-class workplaces, the salariat, and middle (and in the Clinton government even high) levels of government. They are excluded from the upper class; few rise to such "prominence" unless they abandon their own cultural norms and subordinate themselves to the dominant North European culture, which gave the United States industrial capitalism, liberalism, individualism, and the Bill of Rights, and also slavery, racism, and imperialism. On the other end of the social scale, "diversity" does not work for the homeless, those who need welfare, -the working poor, the inner-city unemployed, and so on. There has always been "diversity among the poor and low- and middle-wage sectors of society.

There is an important dialectic at work in the push for "diversity." Those who are excluded from the "diversity movement" are mostly working-class people (in terms of status, the lower and lower middle class) who are left to their own devices, while better situated members of minorities, the most ambitious and talented, climb up the ladder. In the future, then, it is possible that a class politics will emerge among working-class people of color. The demand by gang leaders meeting in Kansas City for half a million jobs from the Clinton administration is a radical demand, by any definition. And, of course, if a class politics does develop, it makes little sense to define the movement for environmental justice only in terms of "people of color" (assuming that conflicts *within* the movement are worked out); it will have to be redefined in ways that can include

working-class whites, not only as members but also as leaders and spokespeople.

There are signs that this is what is happening in the thinking of some within the movement. Cultural nationalism seems to be weakening, and the class politics of some leaders and militants within the environmental justice movement are finding more public expression, albeit often in disguised forms. If true, this is very good news – this attempt to "bring in" class without losing the profound critique of white racism that energizes the movement, and, at the same time, develop a critique of racist-like attitudes and practices within movements of people of color themselves, for example, the antagonism in many cities between Mexican-Americans who have been in the country for a long time and have-not newcomers

from Mexico and Central America, or the pecking order that exists among people in the United States from the Caribbean. That these hierarchies exist is obvious; that they are not spoken about very much much less so. A class politics presumably would continue to address the one-up, one-down cultural attitudes and practices that still exist among minorities in the United States.

The second type of political identity that is widespread today can be called the "politics of place." There are many kinds of "place politics," for example, urban movements, neopopulism, and village politics in the countries of the South. The ecological anarchists also have a politics of place, but this is based more on a model of politics and the good life than it is on any particular geophysical environment. "Politics of place" here means the thinking and practice of those Greens whose Vision of the future is based on some combination of deep ecology and bioregionalism, or those who want to develop a material life and culture based on the ecological features of particular regions.[7] Peter Berg is one of the best-known spokespersons for bioregionalism, but there are many others who map watersheds in the West, count native species in the Great Plains, and defend old-growth forests in the name of the integrity of particular bioregions and any unique cultures or ways of life associated with them.

Is there a dialectical movement within the discourse and practice of bioregionalism (analogous to that within multiculturalism and the environmental justice movement) that might lead to a critique of capital and wage labor, and also to a political economy that is not solely socialist or anarchist but which in some way combines elements of both without being either? The superficial answer is "no" since bioregionalist theory by and large has been the venue of middle-class or well-off whites who have little to say about class and race—"by and large" because there are many Mexican-Americans in the U.S. Southwest and Native Americans almost everywhere, who, by any measure, are oppressed peoples, and who depend on the land, water tables, and ecosystems for unique ways of life threatened by mining companies, the National Park Service, the tourism industry, and (at times) organizations such as the Nature Conservancy that wish to restore "native habitats," without benefit to people living and working on the land.

Here, culture and nature are closely related with each other and also with social labor, in complex and valuable ways, so much so that certain movements of Mexican-Americans in the Southwest, for example, combine the themes of bioregionalism and environmental justice.

In some other bioregions, for example, the Pacific Northwest, where radical Earth Firsters seek to bring together labor and environmentalism into a left ecological politics, the majority of the active labor force is working class. In the author's own backyard, California% Monterey Bay region, a bioregional politics would immediately come up against the fact that a large part of the population of the Salinas and Pajaro River watersheds and flood plains—rich agricultural areas where the water tables drop lower every year and the water becomes more salinized—are not only Mexican or Mexican in origin but also proletarian: farm workers, cannery workers, and so on. Hence a real push toward a bioregional

political identity and governance that was sensitive to the region's social structure would automatically put working-class issues high on the agenda. Other bioregions, of course, have different class compositions, industrial structures, and social histories, which determine whether or not the bioregion has any potential for a class politics[8]—one that does not lose the ecological-bioregional dimension, defined in terms of an active materialism, not the passive materialism of pure environmental determinism.[9]

The issue of a radical or left ecological politics and vision is still more complicated. Up to now, nothing has been said about women and feminism, specifically ecological feminism. If there is one thing that all ecofeminists believe it is that the same historical process whereby men came to think that they could dominate nature—the Promethean project—is also a process whereby men came to think that they could dominate women. When and how and where and why this happened, or is supposed to have happened, is a matter of dispute among ecofeminists. So is the degree of success that men have had actually dominating both nature and women in some meaningful sense of the word "domination." A particularly sticky question is whether women are "naturally" closer to nature, hence better able to develop a sustainable society, or whether this identification of women and nature is merely a convention or habit arising from the gendered division of labor, or whether it is a kind of male plot to equate nature, regarded as passive and exploitable, on the one hand, and wild and in need of taming, on the other, with women regarded in the same contradictory way. Or all three. What is clear is that women, more often than not, have been the leading organizers within the peace movement and leading militants of local ecological actions, from working-class cancer alley between Baton Rouge and New Orleans to villages in India where women lead the struggle for water, firewood, food, and fodder.

Like the movements for environmental justice and bioregionalism, there is no one theoretical position or famous personage associated with ecological feminism. The range

of political positions is very wide. Bookchin and Commoner were originally products of the Old Left, which sought to spread the modernist project to all. The movement for environmental justice is importantly a product of the civil rights movement and bioregionalism is partly a logical development of the science of ecology itself. But ecological feminism rejects any totalizing theory and politics, and is developing a theory and politics of "difference," one that runs the gamut from idealism and mysticism to socialism and anarchism. In a world consisting of capital and wage labor, however, it is probable or at least possible for the radical, materialist wing of ecological feminism to become the most influential within the movement – if only because the material condition of women in the world today is much inferior to that of men, and because the burden of wage labor, not only "reproduction labor," falls increasingly on women.[10]

All five political tendencies discussed above are real or potential critiques of U.S. capitalism and contain a real or potential class analysis of what's wrong with the world, and why, and what can and should be done about it.

The problem is that the United States is very individualistic, both because of

the powerful hold of precapitalist English individualism on U.S. culture and because the wage form of labor and commodity form of need satisfaction are most developed in the United States. The country's living tradition of left politics is weak compared with those in most other developed countries; sub-imperialist powers such as Mexico, Brazil, and India; and many other countries in the South. In the United States, red green visitors are surprised to find such an abundance of social movements; practically every sphere of life is subject to deep scrutiny and critique by particular movements or organizations. However, ideologies of individualism, American pragmatism, the general lack of respect for (and interest in) political theory, the absence of any coherent Left, and the presence of a wide variety of liberal or/and technocratic green organizations, militate against the development of a red green feminist political movement. So, too, do the facts that the United States is a racist country, and a big one, with deep-rooted regional cultural, economic, and ecological variations. It is not surprising, then, to learn that the first signs of a coherent red green politics have not appeared in the United States, and not even in Germany (which is arguably the homeland of left green thinking and practice), but rather in those countries that are the weaker links in the world capitalist chain of command—New Zealand's Alliance,[11] Brazil's Workers Party, and the new red green feminist initiative in Italy,[12] for example, where the principles of democracy are combined with a desire to scrutinize old formulae and tired slogans that have led to political dead ends in the past.

Nothing is more important these days than for socialists (including Marxists), anarchists, oppressed minorities, bioregionalists, and ecological feminists to listen to one another and to listen to how they are being listened to. No single tendency can possibly stand up to the totalizing power of global capital and the quasi world state formed by the

central banks, IMF, GATT, the World Bank, and other international bureaucracies. All tendencies need one another; no one partial (especially sectarian) view can possibly prevail. For Marxists, this means paying as much attention to the questions of land and community, of race and ethnicity, and of gender and ecology, as to the workplace, labor, and economy. It means giving what used to be called "orthodox Marxism" final rites, and making the turn to a cultural and ecological Marxism.

At the level of epistemology, a revision of the materialist conception of history is necessary because it has been neither historical nor materialist enough: not historical enough because Marx did not have a theory of society and culture beyond the theory of commodity and capital fetishism (later developed in Lukäcs's theory of reification), not materialist enough because *Capital* does not contain a theory of nature and ecology.[13] Marx's theory of capital, class struggle, and revolution has no real account of either cultural or environmental movements, among other possible reasons because (comparatively speaking) there were no significant movements of these types in his day. Marx lived and worked in an early period of capitalist development, when the political revolutions against the old order in Europe were more or less completed, and the economic revolution was well under way. *Capital* was informed by the political revolution, which was

necessary for industrial capitalist economy to take hold and develop, first in Britain, then spreading out to other countries and parts of the globe. Marx's masterwork was, of course, also informed by the economic revolution, that is, the growth of capital, wage labor, technology, joint stock companies, world market, and so on. But not until alter Marx died were European and New World *societies* themselves revolutionized, and specifically capitalist societies and cultures formed. This involved two basic changes: first, labor became more like wage labor and the commodity form of need satisfaction came to dominate everyday culminating in late-20th-century consumerism and the "society of the spectacle." Second, land was also increasingly commodified, finally becoming an investment, "real estate" to be treated like any other investment. As labor lost its autonomy in the workplace and land became less a place, a home, a community, and more a commodity, society became more individualistic, privatized, and reified.

Political identity carne to be formed less on economic and social class and more on ascription, cultural identity, and place. Meanwhile, capital has been increasingly commodifying nature's economy itself (e.g., the discourse on "sustainable development"), which is both a cause and an effect of the global environmental crisis. Just as labor economists today speak of "human capital – unimaginable before the creation of a specifically capitalist society (as if human beings are nothing more than forms of capital)—environmental economists are developing theories of "natural capital," unimaginable before the creation of a specifically capitalist nature. These economists theorize the problem of how to tap into, alter, and valorize, nature's fecundity, as if nature

was good for one thing only, the accumulation of capital without end.

The significance of this for Marxism itself is simple: orthodox Marxism, always firmly based on political and economic history, was not and could not be grounded in social and cultural and environmental history. A uniquely industrial capitalist culture and nature were in their embryonic stages; the cultural and ecological elements are missing in orthodox Marxism, because there was little specifically capitalist culture and nature to theorize.

It would be a mistake to conclude from this account of the possibilities of a red green politics in the United States that all political ideas are equal, as if such a politics is some kind of court of law. There is no democracy of political theory. Red green politics is not like a visit to the shopping mall, buying this or that idea, and using them when the mood strikes. Some ideas and combinations of ideas are more equal than others. This is true in two senses. The first is that one job of social theory is to explain why things work, when they work, and why they don't work, when they don't. Why are the U.S. rates of productivity and economic growth relatively low? Why may there be gathering a world financial crisis and depression? What will be the effects of any world economic crisis on inequality, the environment, social life? To answer these kinds of questions, an ecological Marxist theory of capitalist accumulation and crisis, competition, world market, and so on, is the key to whatever anyone wants to regard as the truth of the matter.

Anarchism, multiculturalism, bioregionalism, and ecofeminism in this sense all depend on an ecological Marxist outlook.

The second sense in which all theories are not created equal pertains to normative questions: What should society be? What should nature be? What kind of environment do we want to live in? For Marxists, answers to these questions partly depend on answers to another question: What should *labor* be? How should human beings organize their material activity, including the division of labor, and to what end? The reason is that social labor—production, distribution, exchange, and consumption—determines what nature will be, combined or together with nature's own "laws of motion," or what some call "nature's economy." Any real alternative to capitalist economic rationality with respect to its effects on both nature and society requires that present-day divisions of industrial and social labor be closely scrutinized.[14] This means that the issue of economic and social class (or the social divisions of labor) has to be put at the top of the red green political agenda.[15]

Here, Marxism offers a powerful method of thinking: to avoid the unattainable, the purely utopian, to escape mere wishful thinking, Marxism has the power to identify what may be called "immanence," that is, which social and ecological movements are likely to grow and develop, and which ones are likely to the on the vine. For example, the labor movement, as traditionally defined, had the power to reform capital but not to transform society, as many social democrats once claimed (recall that Marx did not have a theory of

capitalist society per se). By contrast, Marx's theories of proletarianization and impoverishment ("the general law of capitalist accumulation") help to explain the "feminization of poverty;' which is one basis for the women's movement, which has already shown that it is able to alter the very terms of discourse that we use when we talk about politics, social change, and the good life. Similarly, an ecological Marxist theory of the capitalization of nature reveals the materialist underpinnings of the green movement.

Finally, Marxism may not have any more power than any other method, theory, or normative stance when it comes to politically deciding what kind of society and environment are desirable and worth fighting for. Land and community may be as important as the workplace and labor, in terms of working toward a sensible and rational way of life, beyond capitalism.[16] Multiculturalism and feminism may be as important as, or more important than, Marxism in terms of defining what a just society is or can be. Bioregionalism is perhaps more important than any other theoretical and political tendency today, when we ask ourselves hard questions about how we want to live with nature, and what kinds of nature we want to make or transform, what kind we want to restore, and what kind we want to leave alone. How all these theoretical (arid practical) currents are being, or can or will be, "sublated" is at this point in history a key question, one that the social movements themselves have not yet taken up in a *systematic* way.[17] "What is to be done" is not to combine the existing theoretical and political tendencies discussed in this chapter in some arbitrary way. No easy sublation

between reds who are Greens, Greens who are red, oppressed minorities who are green, bioregionalists who are feminists, feminists who are red, and so on, is either desirable or possible. To cite only one difficult problem, many feminists claim that both reds and Greens regard ecology as an object, not as a subject, hence point to the danger that a red green movement will remain inside the dominant discourse on science (or "scientism," the cult of science). It must be acknowledged, therefore, that there are multiple red green tendencies in the United States today, hence that, in the present conjuncture, it is probate unrealistic to expect a single movement to develop. But this need not dissuade us from urging people working for a socially and ecologically just and sane society to ask hard questions about what we are, in fad, doing politically, what kinds of effects we expect to have, what kinds of barriers or limits we face, what kinds of alliances we can make. Matt McCarten, who helped to organize New Zealand's Alliance, said during a recent visit that left labor, the Greens, the Maori peoples, and others making this political initiative have agreed only to dismiss ready-made answers. "We don't have any answers, only questions!' This caution and willingness to challenge basic assumptions about the world may be the very definition of a "progressive" today. If the present author were a medical doctor, and if our movements were patients who for unknown reasons are unable to get completely well, this would certainly be my prescription.[18]

NOTES

[1] While the peace movement addresses environmental issues (e.g., nuclear weaponry), it is not a "radical green" movement per se.

[2] "Not only that model" because of the "second contradiction of capitalism," the mortal conflict between capital and nature, runs parallel with, and is linked to, the "first contradiction" between capital and labor.

[3] "Sublate" is the usual translation of Hegel's (and Marx's) concept of *"aufheben."* "Supersession" is another translation. The German word refers to any process in which the negative, the positive, and the transformative are combined or sublimated. To annul or abolish, to save or conserve, and to transcend or sublimate are all different moments in the process (or, in some versions, aspects of the same process). The key rale (Marx calls it the "peculiar rale") "is played by the act of *superseding* in which denial and preservation—denial and affirmation—are bound together" (*Economic and Philosophic Manuscripts of 1844* [Moscow: Foreign Languages Publishing House, 19613, p. 161). I usually tell my students that "sublated means combining two processes or aspects of one process into a third or new process that contains elements of the first two processes but that is neither.

[4] Both anarchists and socialists stood (and stand) for social ownership or control of the means of production and, in the First International, both called themselves socialists. The anarchists split between those who wanted the unions to control the means of production and the anarcho-communists (communalists) who favored municipal control. The big difference between the socialists and the anarchists was the latter had no use for a centralized political party and elections. Also in the First International were the Russian *narodniki,* with whom many environmentalists in the South have a dose affinity. Commoner and Bookchin are by-products of a lang tradition, which has split, has criss-crossed, and on some issues (e.g., the critique of capitalism) has been substantially the same.

[5] In countries with vast peasantries and relatively little wage labor, e.g., much of the South, Marxists have of necessity theorized land and community (Jose Carlos Mariategue and Mao are examples). In the only country that experienced a real proletarian revolution, Cuba, Castro privileged the workplace at the expense of community. In the North, Marxists and neo-Marxists, e.g., Manuel Castells and David Harvey, have theorized "urban movements" and the "commodification of space." The difficulties facing theorists who try to interpret community and urban movements within a traditional Marxist problematic are highlighted in Ira Katznelson, *Marxism and the City* (New York: Oxford University Press, 1992).

[6] These dualisms are "ideal typical" in the sense that they cm be found in many past debates between anarchists and socialists. Yet, in the United States, where ideological lines are often blurred, anarchist "affinity groups" are nothing if not "fraternal" and many socialists are strong supporters of civil liberties.

[7] Deep ecologists are not always bioregionalists and bioregionalists may not be deep ecologists. Same bioregionalists (e.g., Kirkpatrick Sale) draw an Bookchin's social ecology. Yet there is an "elective affinity" between deep ecology and bioregionalism, which shows up time and again in popular writings on the subjects.

[8] For an Italian example, see the Association for the Renewal of Bormida Valley, "The Bormida Valley Ecological Project," *Capitalism, Nature, Socialism, 2,* 3, October 1991.

[9] An "active materialism" begins with human material activity shaped in capitalist societies in complex ways by the law of value and division of social labor, cultural forma of cooperation defined as productive forces, and "nature's economy," also seen as a productive force. "Passive materialism means, most simply, that human cultural forms are regarded as determined by environmental or natural conditions. According to Engels, passive materialism is based on the mechanical materialism of Newton, not Darwin's evolutionary science, which problematizes "man" (human life). Bioregionalists tend not to problematize (i.e., they take for granted) "human life" as such.

[10] Mary Mellor, "Eco-Feminism and Eco-Socialism: Dilemmas of Essentialism and Materialism," *CNS,* 3, 2, June 1992.

[11] Wayne Hope and Joce Jesson, "Contesting New Terrain: Red-Green Politics in New Zealand," *CNS,* 4, 2, June 1993.

[12] Conference report, "Culture of the Left and Green Culture—The Challenge of the Environmental Revolution

in Italy." *CNS,* 4, 2, June 1993. See also Lena Slachmuijlder, "What It Means to Be Green in South Africa," *CNS, 4,* 1, March 1993.

[13] Stanley Aronowitz, *The Crisis in Historical Materialism: Class, Politics and Culture in Marxist Theory* (New York: Praeger Publishers, 1981). *CNS* has been running a series of articles an "Marxism and Ecology," which in various ways attempt to fill this lacuna.

[14] The huge increases in output per labor hour during the past 200 years are attributable to the divisions of industrial and social labor, and associated changes in technology, as well as to the use of fossil fuels for energy (according to recent work by Elmar Altvater, labor productivity has been driven by fossil fuel use in the 20th century).

[15] On the other hand, for leftists to engage with ecology per se, nature also must be seen as its own product, as "nature's economy" What is there in nature, mainly "second nature" today, that can help to answer the question, What should *labor* be? For example, "The integrity of ecosystems?" "Biodiversity?"

[16] I don't mean to imply that anarchist thought should have equal status with ecological Marxist theory. As Paul Thomas has written, "Contradiction with the anarchist is a dualistic, almost Manichaean principle. . . To Marx, capitalism in some ways creates the preconditions of its own transcendence, preconditions that have to be acted on..... (Paul Thomas, *Karl Marx and the Anarchists* [London and Boston: Routledge and Kegan Paul, 1989J, p. 348).

[17] A few tentative alliances have been made between movements of toxics use reduction and environmental justice organizations, and between the latter and bioregionalists.

[18] In Martin O'Connor's words, it is crucial "at this time, the late 20th century, to explore what it means to have a coexistence of many, somewhat discordant voices, having in common their repudiation of capital's domination, yet ill-reconciled in many other ways. This is an aspect of *realism,* of things being likely to get worse before they get better.'" However, the need for solidarity against capital may be too great, given the configuration of power today, to postpone a unified political strategy capable of confronting global capital and the growing quasi-global state.

CHAPTER 17

FLATLAND POLITICS

In justice, Urban Habitat should get this [Flatlands Multicultural Leadership] award, as well as giving it. In this case, the producers of the political concept of "flatlands" are the people who work for and with Urban Habitat, including a lot of community organizers, activists, and researchers, me being one of many. So I want to thank Urban Habitat in two senses: one is for letting me participate in the social project of developing the flatlands concept; and the second is for singling me (with others) out for special thanks for "my" contribution.

Speaking of which, What is flatland politics?, or, better 'What could flatland politics possibly mean?

I use Marxist-type thinking in my work (but not only that type of thinking) so I naturally Start with the notion of class struggle. As most of you know, beginning with the last two years of the Carter administration, "Big Business" and "Big Finance," allied with politicians of many stripes, launched a kind of class warfare of the rich against the poor, capital against labor, and the suburbs against the city. Business and finance and the suburbs won hands down. The rich got richer and the poor got poorer; business reaped more profits in part because the real wages of workers have stagnated for two decades or so, and in part because job insecurity hasn't been as great since the Great Depression; and the suburbs have sucked more economic surplus out of the cities – "plunder" might be an accurate word here.

Happily, the labor movement, community groups, and the poor are beginning to fight back; unhappily, they are fighting back separately because they're divided, as are women's, minority, environmental, and other groups.

There are lots of reasons why labor and communities in opposition to top-down class politics haven't themselves organized their protests along class lines, from the bottom up.

One of these reasons has to do with the hegemony of two other types of oppositional politics today, what is sometimes called identity politics, on the one hand, and what we can call for short the politics of place, on the other—which are the two forms in which progressive politics is conducted these days.

The symbol of identity politics is the colors of the rainbow. Identity politics is based on the ascriptive, quasi-ascriptive, and related (constructed) cultural characteristics of

people: race, ethnicity, physical disability, sexual orientation, age, and the like. In our country, at its worst, identity politics leads to cultural nationalism and separatism; presently, it has led to affirmative action, equal pay for equal work, comparable worth, and so on. At best, identity politics means a society that ceases to make invidious comparisons between different groups, one that celebrates difference, and one in which different groups respect and learn from one another, and enjoy a richer life because they do.

The symbol of place politics is the color green. Place politics is based on the control of land, space, nature. You know you're in the presence of place politics when you hear "save the redwoods," "save our park;' "save the neighborhood," "save the watershed," "save the green belt," "save the bay," and so on. At its worst, place politics is gated communities, the "Wise Use" movement, and downtown corporate Los Angeles. At its best, place politics is successful community development, green cities, organic farming systems, bicycle paths, and possibly even bioregionalism.

In our San Francisco Bay Area there is one place and one place only which well over a million and a half people of every conceivable ethnicity and race call their home—where a truly popular multiculturalism is possible. This place is the flatlands of the region, which for its residents is not only living space but also workplace and immediate place of recreation. And, as it so happens, this flatlands is the drainage basin or alluvial flood plain of dozens of creeks and streams and of hundreds of springs, which at one time flowed into a great river that emptied not into the Golden Gate but into Monterey Bay near Watsonville; a flood plain (too often environmentally invisible to Greens) that is the ecologically essential link between the ecosystems of the hills and the ecosystems of the marshlands and bay themselves; I mean, very simply, that one of the two main reasons that the bay is polluted is that the flatlands are polluted (the other has to do with the impact of ocean and other shipping).

The Bay Area's economic System has turned the flatlands into an industrial and commercial zone, where there congregates a multiplicity of socioeconomic and environmental problems. On the one hand, it is the site of unemployment, poverty, low wages, crime, and so on. On the other hand, it is the site for congestion, air and water and noise pollution, the effluent of the petrochemical industry, toxic waste dumps, and more. The Bay Area's human health and safety hazards are concentrated on the flats, where, too, what's left of the old riparian ecosystems is increasingly degraded. A recent study of flatlands youth indicates that their single most important environmental problem is the feeling that life is unsafe – thanks to heavy traffic, dosed libraries and locked school yards after school hours, and the like. In other words, youth are suffering from a kind of "enclosure of the commons." From an environmental point of view, the same can be said of the ecological integrity of the flatlands; once the "commons" of the Coastanoan (Ohlone) peoples, the flats have long been enclosed, divided up into freeway strips, factory sites, overcrowded housing blocks, and so on.

If you live in the hills or the edge cities circling the bay, chances are you see the flats only as a congested traffic corridor and social trouble spot. Next time you're on the freeway looping around the bay, however, keep in mind that you are passing through old watersheds and ecosystems, and that the ecological integrity of the bay itself depends on the environmental health of these ecosystems, as well as on snow melt from the Sierra Nevada. Also think about the fact that flatlanders do your dirty work while living in the midst of pollution, congestion, and the socioeconomic costs of racism and tunnel-vision economics.

As a transportation corridor, the flatlands is the foundation of an automobile and truck culture, which is antiecological in many obvious ways and also racist in less obvious ways. By this I mean that the environmental impact of the auto is disproportionately borne by people of color, the poor, and low-wage workers, that is, flatlands residents. Noise and air pollution, accidents and safety hazards, congestion, and freeways driving wedges into neighborhoods are just some of the social costs of the auto. Moreover, since housing assets are inversely correlated with air quality and proximity to high-volume vehicle traffic, the auto culture destroys the value of flatlands residential properties. On the other hand, thanks to this same racism and classism, those who are most adversely affected by the auto are also those least able to buy and maintain a good car. As if poor flatlanders didn't suffer enough, the State of California recently decided to go after "gross polluters," mostly poor and lower-middle-class car owners, to reduce air pollution, instead of going after industrial polluters.

If the economy "decides" that flatlanders face a host of similar problems, the political System decides that they can't do much about these problems, so balkanized are the flats in terms of political boundaries. Economics runs north-south and digs the grave, as it were, while politics runs east-west and seals the coffin. Political balkanization and single-issue politics have been barriers to the political mobilization of flatlanders as a whole. This is true despite the fact that even as I speak toxic coalitions are fighting to rid their communities of industrial poisons; environmental restoration groups are patching up creeks; communities are trying to deal with the legacy of abandoned factories and experiment with urban farming, housing and school rehabilitation, and livable streets; and community groups, Union locals, environmental groups, and others on the flatlands are meeting somewhere, planning, deciding, and evaluating crime statistics and traffic flows, educational accomplishment and job chances. Yet most groups are all quite separated from one another.

What's needed, I would argue, is a flatlands regional politics, a politics in which identity politics and place politics are folded together, so to speak. At present, however, excepting the movement for environmental justice, which combines the ideals of multiculturalism with the ideals of ecology and local community empowerment, those who engage in identity politics and place politics are working different sides of the street.

Previous attempts at a San Francisco Bay Area regional politics were more or less futile, just because neither of them – whether coming from the top down

by the ruling-class Bay Area Council or coming from the bottom up by municipalities that have resisted becoming playthings of the Bay Area Council—recognize the flatlands as a distinct and special place. The reason is that a regionalism based on flatland politics would not only be multicultural and ecological, in the sense of collapsing identity and place politics into a single whole, it would also develop into a species of class politics, as nearly all flatland districts are low-income to middle-income working class.

Put another way, both rainbows and Greens have to begin to take the flatlands seriously if they want to move toward a real multicultural and ecological society. And to take the flats seriously implies engaging in a kind of class politics.

If the Greens want to protect the hills and save the bay, as they do, they'll have to do something about the flatlands. If the rainbows want to achieve a multicultural society, as they do, they'll have to do a much better job of developing working coalitions and alliances between the many cultures present on the flats.

Ecological politics thus becomes a way of developing multicultural politics, and multicultural politics becomes a way of developing ecological politics. The kicker is that both presuppose class politics—one in which flatlanders, that is, workers, develop their own democratic community, environmental, and work-place organizations and practices. The flatlanders themselves, Aer all, in the workplace and in the community, have more practical knowledge about their environmental and social conditions of life than all of the bureaucratic planners in the region put together. And what's needed is to tap into this knowledge, and politically organize and mobilize for a "Sustainability First!" strategy.

Which means, finally, sooner or later challenging the power of the hill people who rule the Bay Area, as well as the balkanized political structure that prevents any authentic flatlands politics. "Finally" is probably not the best word to use here because flatland politics is just beginning. And, for this reason, 1 can't and don't have a real ending to these words of thanks. I would use the word "challenge" if our president hadn't banalized it; or the word "struggle" if most people didn't regard it as hopelessly old-fashioned. Where there are no good words for a social production-in-process, its best to say nothing.

CHAPTER 18

THINK GLOBALLY, ACT LOCALLY? TOWARD AN INTERNATIONAL RED GREEN MOVEMENT

The disintegration of the Soviet Union and the geopolitical and ideological upheavals its demise has caused have altered the nature of class struggle throughout the world. Without the Soviet Communist Party, communist parties in the rest of the world have lost whatever legitimacy and claim to leadership of the working class that they once enjoyed. The basic tension between capital and labor remains, but the traditional means of addressing working-class and minority grievances have necessarily changed. Without either a model or a support base – the two possibilities that the Soviets offered the working classes of other countries – those demanding economic and social justice must confront capital with new forms of organization and struggle.

The radical shift in geopolitical centers of power since the late 1980s has coincided with the steady movement of capital toward globalization and the long-run decline in the rate of world economic growth. These two trends intensified just as "real" socialism lost its international prestige, and as "free market" dogma began to reign supreme among the world's economic technocrats, East, North, and South.

As capital restructured itself globally, centralizing power in transnational corporations and banks, it sought logically to reduce labor, energy, and raw material costs as well as the turnover time of capital. In particular, the slow growth rate led the manipulators of multinational capital to intensify the exploitation of labor. Over the past decade, world unemployment has risen and the inequalities in the division of wealth and income have grown ever more dramatic. Tens of millions of people have been cast out of workplaces, villages, homes, and even nations.

The social impact of this trend has been devastating. Inevitably, resistance

developed, but without the traditional "red" experience or the methods that derived and drew their power from the existence of a communist international based in the "superpower" Soviet state.

Simultaneously, those who control the great conglomerates and houses of finance, those who decide what and where to invest and produce, have further attempted to stem the declining rates of growth and profits by externalizing more of their production costs onto the environment. As air, land, and water, and the complex life forms sustained by

these elements, bore the brunt of capital's newly globalized practices, a shift occurred also in the class struggle. With ecological destruction and the advent of a global environmental crisis, the local community and the nongovernmental organization (NGO) emerged as green movements paralleling (and sometimes coinciding with) labor struggles as a force of resistance to capital.

"Reds" have increasingly adopted one or another of the "green' discourses, and "Greens" have tended to lean more to the left. More labor unions and social democratic and socialist parties are talking on green issues, especially with regard to workplace and community environmental health. More grassroots environmental groups are raising the issues of social and economic justice. And more left green parties (the best known of which is the German Greens) have sprung up in more counties. The outlines of a red green movement are now visible, in the North and in the South, consisting of a range of organizations, movements, and ideologies from the most sectarian to the most politically open and fluid.[1]

The question arises, Is it possible to organize an *international* red green movement, a coordinated response to global capital, to initiate new democratic, ecologically rational, and economically and socially equitable ways of life? To link economic, social, and ecological issues theoretically and practically in ways that would further alternative development paths and visions of the future? To overcome capital's strategy of divide and conquer, which pits labor against environmentalists, urban workers against small farmers, men against women, majorities against oppressed minorities, and, last but not least, the North against the South?

A positive answer to these questions requires that Greens (and reds) not only to "think globally, act locally," but also to "think locally, act globally," and, ultimately, to "think and act both globally and locally."

For some years, the slogan "think globally, act locally" has facilitated the U.S. and other peace movements, antinuclear campaigns, and even solidarity movements. For Greens, "think globally, act locally" means (among other things) "think about the effects of what you are doing on the global environment." Indeed, each locality can make a small dent in the global depletion of resources by organizing recycling programs; reducing ocean pollution and economizing on fresh water by demanding tertiary treatment of municipal wases; and saving energy by subsidizing solar heating and discouraging the use of cars—to take just three examples. The world over, bioregionalists push for more economic self-sufficiency and less disruption of hydraulic cycles; local antinuclear groups and toxic waste campaigns fight for source reduction; and green city and village movements seek mass transit

systems, high-density housing, the use of local biomass for food and energy, and the redistribution of water supplies to small farmers. These examples demonstrate that green thinking is widespread, and also that more local green movements have adopted regional,

national, and international perspectives.

The basic problem with the Greens is that they offer few if any means to transform the "local" into the "global." The green movement has no method for thinking about the ways that the local is constituted by the global nor about many related questions (e.g., the meaning of "site-specificity,' which Greens define in terms of ecological systems and physical space rather than of the scale of reproduction of "local" material and social existence). Greens also tend to discount the growing centralization of economic and political power, hence also the reality that "local environments" are increasingly the victims of global economic and political restructuring and change.

The chasm between the good intentions and unintended bad effects of local actions thus tends to widen. The toxic waste struggles in the North are good examples. One of their unintended effects is to increase the export of poisons to the South and internal colonies in the North (but they may also inspire and link with other localities and acquire global dimensions). Local recycling programs are a more intricate example. Newspaper recycling weakens the market for wood pulp, hence may have the unintended effect of stimulating paper and pulp companies to cut costs by ecologically damaging forestry practices or postponing technological improvements that reduce the volume of poisons released in rivers. Recycling programs also fall prey to the capitalist discourse on waste and recycling, which privileges economic over social and ecological aspects (e.g., high-value aluminum cans were first targeted for recycling in the United States). Acting globally entails understanding the unintended effects of green practices, which means addressing how and why ecological problems and green practices arise in the first place—namely, as a result of national and international economic and political forces.

"Thinking globally, acting locally" can help Greens feel better about themselves and their lives (it is an ethical as well as a practical slogan) but may lead to a self-deception by substituting global thinking for global strategy. The basic reason? Reds historically addressed the social relations of production and power, and ignored the relations between society and nature; Greens privilege the latter to the detriment of the former. "Green" often may be read as a simple historical inversion of "red."

If the slogan "think globally, act locally" is turned on its head, Greens might be more likely to develop their discourse on environmental destruction and reconstruction in the direction of a global politics. Most localities are fragments of the division of social labor on a global scale, which is why the question, "How does world capitalism constitute localities?," is so important. Instead of posing a dualism between the global and the local, Greens can try to grasp the way that localities exist only in relation to one another and also to the totality of the international economy.[2]

"Think globally, act locally" also must take into account the reality that

particular localities define themselves, or acquire self-definitions, both cultural and environmental, in ways that are also constituted by world capitalism. The life of tropical

forests, and the value that Greens place on these forests, depends not only on the conditions of production in forestry in the South and in the North, but also on the totality of the world supply and demand for timber and lumber products, which, in turn, depends on a complex set of inner connections between profits, interest rates, and debt; the global construction industry; labor struggles; environmental actions to save tropical forests and old-growth trees in the North; and technical changes in the forest industry.[3]

To return to the example of local newspaper recycling, its effects depend on a generalized discourse on reducing waste, recycling in other communities, and price structures that may or may not equate the cost price of recycled paper and the products of paper and pulp mills (today more "recycled" newspapers are destined for landfills than for paper mills). The potential for solar energy in a particular locality depends not only on local climate but also on the class and racial composition of the community; the rate of exploitation of fossil fuels, the state of inter-imperialist rivalries in the oil-producing and oil-consuming countries, the monopolization of solar energy by the giant utilities, and other structures and processes that are dimly understood, even by solar activists.[4]

"Act globally" has another meaning, given the uneven and combined development of capital and social and ecological destruction, and the vast inequalities between the North and the South. Capital in the North has always acted globally toward the South, with the purpose of extracting cheap raw materials, energy, and laborpower, as nationalists and revolutionaries in the South have long understood. Today, green movements in the South understand the danger of growing economic marginalization and social segregation and increasingly act globally toward the North. This is especially true when they hear the advice of many well-meaning NGOs in the North to emphasize sustainable community agricultural models, the revival of indigenous technologies, and debt-for-nature swaps, which, in effect if not intention, legitimize the existing division of labor and misery between North and South in terms of the "common fight" for a better environment.

For example, at the Global Forum held in Rio de Janeiro in the summer of 1991, when some big third world counties confronted the "small is beautiful' proposals put forth by northern NGOs with the demand for equitable transfers of technology to help build safe and sustainable industrial projects, (by all accounts) the gap between NGOs in the two parts of the world widened as much as that between first and third world governments.

"Acting globally" implies the awareness of strategic thinking and actions not only against the ecologically and socially disastrous practices of a particular corporation or industry but also the global institutions whose decisions affect the lives of hundreds of millions of people. The key targets are the International Monetary Fund (IMF), the World Bank, and the General Agreement on Tariffs and Trade (GATT) and the new regional linkages (the European Commission, the

North American Free Trade Agreement (NAFTA), and Japans informal financial and industrial empires in Asia). Their policies regarding third world debt and "economic adjustments," infrastructure investment, and the rules governing world and regional trade have created immeasurable ecological harm and human misery.[5]

"Act globally' means to make the IMF and other undemocratic world economic bodies accountable for their policies and programs, and to demand that future policies be geared to the needs of the people of the world and the globe's fragile ecologies, rather than to the interests of central banks, treasury ministries, and privately owned financial monopolies.

Greens could help to revive the militant demonstrations organized in Germany against IMF and World Bank policies two years ago. They could demand that the IMF become an elected body as a step toward democratizing the supply of money, which would halt the damage the world bankers and treasury ministers could do to people and nature. Such a notion of political struggle against the pillars of world capitalism would require a new kind of environmental movement, a red green movement, one that is in tune with the struggles and needs of women and oppressed minorities and nationalities in the North but especially in the South.

This is a challenging and difficult task. But what are the alternatives? If green politics is bereft of a global strategy, local struggles and ecological alternatives will continue to "succeed," meanwhile generating more bad unintended side effects and also failing to reach into the centers of power of global capital. A global strategy should not devalue local movements and actions, but rather politically valorize them, to raise the political stakes in a world conjuncture in which the ecological and human stakes increase every day, and in which profit and power become more centralized and undemocratic.

In fact, there is an international movement. Millions of people engaged in social and ecological struggles in dozens of countries understand the local connections between problems of land use, transportation, water supplies, air pollution, soil degradation, congestion, health, and poverty, including the particular local gender and ethnic/racial dimensions of these problems. Tens of thousands of activists grasp the central role of global capital and the dominant international institutions in creating havoc for people and nature. Hundreds of scholars have studied the ways that particular localities are constituted by global capital and international politics.

However, most local groups have little knowledge of similar groups in other parts of the world—a fact partly remedied at the Global Forum in Rio—hence cannot even speculate about, much less seize, opportunities for strategic and tactical alliances. Most activists for whom the destructive roles of the IMF and other international institutions are crystal clear are not in contact with one another. Most radical scholars who understand that particular "locals" are constitutive parts of the "global" do not read one another's work.

To develop and strengthen linkages between local groups, activists, and red

green intellectuals and scholars around the world calls for an international movement, a "fifth international." This new international would possess a deep under-standing of both ecology and capitalist economy; its "line" would "celebrate differences" as well as commonalities; its purpose would be to develop an international focus and to coordinate a global political strategy.

Perhaps the regional coalitions of labor, women, and environmentalists in Mexico and the United States constructed to fight the neoliberal NAFTA are harbingers of the future. "Groups such as Friends of the Earth, the Teamsters, and Clean Water Action," Michael Dreiling writes, "straddled both U.S. coalitions [against NAFTA] in addition to active efforts at building international links alongside their more radical counterparts, like Greenpeace and UE. These structural 'bridges' thus enabled the formation of a prototype for the broad, progressive alliance that is probably necessary to move us beyond the neo-liberal project, and contributed a vision toward that end. The basic normative claims of these networks called for democratizing international trade relationships and submitting the market and capital accumulation to social needs.[6]

To build a global movement requires more than putting aside sectarian politics and "correct lineism," meanwhile pooling the experience and knowledge acquired from more than a quarter of a century of green struggles. It also depends an acknowledging that the rulers of capital and the international economic institutions themselves understand that they face global environmental problems, and recognize that their economic future depends on renewing or remaking the earths ecological foundations; hence that we are in for a long period of sustainable development rhetoric and restructuring of the conditions of production. An international red green movement must address this capitalist rhetoric and re-structuring, engineer ways to democratize not only foreign trade but also (and more importantly) movements of money and speculative capital, and develop strategies and tactics that are critical and militant enough to redress the horrible inequalities in the world and the terrible destruction of global ecologies. What is there to lose? What is - there to save? The questions answer themselves.

NOTES

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[1] See "Red Green Politics" contributions in *Capitalism, Nature, Socialism, 2,* 2, June 1991; *CNS,* 2, 3, October 1991; *CNS,* 3, 1, March 1992; *CNS,* 3, 2, June 1992; and *CNS*, 3, 4, December 1992.

[2] E.g., the centralization of finance capital and corporate administration in New York, London, Paris, Frankfurt, and Tokyo has gone hand in hand with the decentralization of productive or industrial capital, as well as the internationalization of fresh fruit and vegetable production for upscale markets in these and other "world cities." Another example: When Fidel Castro years ago described Havana as "the swollen head on the shrunken body of Cuba," he could have been describing the mutually constitutive relations between city and countryside the world over.

[3] E.g., see John Bellamy Foster, "The Limits of Environmentalism without Class: Lessons from the Ancient Forest Struggle in the Pacific Northwest," *CNS,* 4, 1, March 1992; and Herb Thompson, "The Forestry-Logging-Timber Industry in Papua New Guinea: *CNS,* 3, 3, September 1992.

[4] See Robert Marotto, "Subtexts of Solar: Community and Conservation in the Solar Capital," *CNS,* 5, October 1990.

[5] See Gail Omvedt, "Fount of Plenty or Bureaucratic Boondoggle? The Narmada Project," *CNS,* 3, 4, December 1992.

[6] Michael Dreiling, "Environmentalism, *Neocardenismo,* and Neoliberal Capital: Mobilization and Countermobilization over the North American Free Trade Agreement in Mexico and the US," *CNS,* 8, 4, December 1997, p. 16. The author recounts the conflict between Greenpeace, Friends of the Earth, and the Sierra Club, on the one hand, and the remaining "members" of the Group of Ten which supported NAFTA, on the other. The roles of women's organizations, environmental groups, arid unions in Mexico, and of labor groups in the United States, are also discussed.

CHAPTER 19

ECOLOGY MOVEMENTS AND THE STATE

The ecology movement and other new social movements can be theorized in at least three ways, in terms of "rights," "desires," and "interests." Put differently, there are at least three handy discourses to use to discuss social movements, the legal/liberal democratic, the cultural, and the political economic forms of discourse. For example, many workers claim that they have a "right to know" about hazardous substances in the workplace. This "right" is dearly a legal-political issue. Many biocentrics and deep ecologists have a desire to revolutionize the social order to reunite with nature in revolutionary ways. This desire is clearly a cultural issue (among others). And many environmentalists have an interest in more environmental amenities as part of their consumption basket or package of living standards. This is a political economic issue.

These examples could be multiplied and complicated without end, but they should suffice to indicate that whatever one thinks about rights and legality and desire and culture, it is both valid and necessary to think about interests and political economy. This is said with no desire or intent to reduce a complex world to political economic terms, which Marxists have been accused of doing – often quite unjustly. Instead, my design is to show what light political economy and Marxist theory can throw on ecological and other social movements, with the purpose of helping their critical advancement and development. Of course, what I've said so far is a disclaimer, necessary in the minefield called new social movement theory. But it's more than a disclaimer, it's also a defense of political economy.

I want to theorize new social movements in general and the ecology movement in particular in terms of political economy, specifically Marxism. My intention, finally, is to make a political point, not about "rights" or "desires," but instead about "interests."

The key category is "conditions of production." For Marx, there are three conditions of capitalist production: external or natural; general, communal; and

personal. Today, we would say environment; urban infrastructure and space and community; and laborpower. Polanyi in *The Great Transformation* called production conditions simply "land and labor."

The definition of a production condition is anything that is not produced as a commodity according to the law of value or to market forces but that is treated by capital

as if it is a commodity. Nature, urban space and infrastructure and community, and laborpower certainly qualify according to this definition. None are produced in factories, then thrown on the world market. Nature is produced by geology and evolution or God or human agency or all three; laborpower is produced by people organized into families or tribes, and states; urban space is produced intentionally and unintentionally by capitalist investment patterns and state policies. Yet all three are treated as if they are commodities, or what we might call "fictitious commodities." And all three have a fictitious price: ground rent for nature and urban space, wages for laborpower.

The market does not decide the quantity and quality of production conditions that are available to capital, nor the time and place that these conditions become available to capital. But capital is used to market determinations. If a business wants a commodity, it usually puts in an order for what it wants with other businesses. This commodity is supplied in the quantity and quality needed and at the right time and place (if the market is working) in accordance with costs of production and market demand. But business cannot put an order in to God for more nature or to all the families in New York City for more laborpower or to Los Angeles's government for a different kind of ecogeographical space.

If the market does not regulate the production and distribution of production conditions, what does? There is an agency that regulates capital's access to nature, urban space and land, and laborpower. This agency is the state. In terms of domestic policy, the state does little more than regulate capital's access to production conditions, and often participates in the production of all three, for example, in the form of wetlands policy, urban zoning policy, and child care policy.

Over the decades, more state agencies have been created and the mission of most state agencies has been broadened, because the supply of production conditions has become more problematic as time goes on, on the one hand, and because capital is more organized and rationalized, on the other. As far as ecology is concerned, there is a less abundant nature, on the one side, and capital has a greater need for an organized, rationalized access to nature, on the other.

It follows from what I've said that any theory of capitalist accumulation is woefully incomplete without a theory of the state, the provision of production conditions, and the contradictions therein. In this sense, there is still a big hole in political economy, for although Marx identified the production conditions, he did not theorize them, and although Marxists have theorized one or another of them, they have always done so without reference to the other two. It has only been since the invention of eco-Marxism that all three can be theorized at the same time, with respect to the movements of capital and also to social movements, and the inner connections between the two.

There is also a hole in the theory of social movements. Few have noted the rather stunning similarity between the three types of production conditions and the three general

types of social movements. Put differently, new social movements seem to have an objective referent in production conditions: ecology and environmentalism in natural conditions; urban movements of the type discussed by Manuel Castells and many others in the 1970s and early 1980s in urban infrastructure and space; and movements such as feminism that pertain to (among other things) the definition of laborpower, the politics of the body, the distribution of child care labor in the home, and similar issues, in the "personal condition of production."

In Polanyi's terms, new social movements can be defined as "society" fighting the commodification of production conditions, for example, coastlines and Native American mineral rights, town malls, and the nurturing powers and sexuality of women. Or they can be defined as "society" fighting the specific forms of capitalist restructuring of already commodified conditions of production, for example, biotechnical versus social and political definitions of sustainable agriculture; high-rise commercial office space versus existing low-income housing; and the presentation of women as mere sexual objects versus their presentation in roles that empower women in commercial films.

I hasten to add that all of these movements, defined in general terms, also have strong cultural and political/legal dimensions that need to be theorized in other ways, too. Examples are cultural feminism, biocentrism/deep ecology, and the postmodernist celebration of the cultural fragmentation of the "new world cities." One can say that cultural feminism has something to do with the proletarianization of women, the new economic independence of women, and so on, without reducing this feminism to political economic categories; and that deep ecology has something to do with the evolution of ecological science, which has to do with capital's newfound interest in the environment, without reducing deep ecology to political economic categories; and that the urban-based new politics of identity has to do with the new international division of labor without reducing postmodernism to political economy. But I suggest that these cultural elements are not fully explicable from a social science point of view unless some attention is paid to political economy.

Finally, I want to suggest much more strongly that if you want to theorize new social movements from a materialist standpoint, that is, in terms of interests, and theorize the struggle to defend and advance interests, then the type of political economy discussed here is indispensable.

The basic reason is simple. When women struggle for child care or against police abuse; when environmentalists struggle for open space or to preserve land; and when urban movements struggle against freeways and for more housing space, sooner or later they have to deal with particular agencies of the state. The typical struggle to defend or redefine conditions of *production* as conditions of *life* takes the movement right into the state in the form of the police department, the zoning authority, the board of forestry, the city manager's office, and the like.

At this point in the life cycle of the struggle, those engaged in social movements are heard to say more or less the same thing, namely, that the state is unresponsive, oppressive, and too bureaucratic; relies too much on experts; conceals vital statistics; lies; and cannot get anything done. We've all heard the same criticisms, and the same demands, and many of us have made these types of criticisms and demands ourselves.

At this stage in the struggles of new social movements, one of three strategies is chosen, deliberately or by default. The first is the anarchist strategy of rejecting the state and developing local counter-authorities. Murray Bookchin's social ecology is an example. The second strategy is to try to reform the liberal democratic state. An example of this approach are the efforts of mainstream environmentalism. The third and radical strategy is to democratize the state, which I will briefly discuss.

The claim I want to make is that there is no possibility of lasting unity among "progressive forces" in the absence of a specifically political goal. In a country where politics and power are normally defined as resources, or means to environmental and other nonpolitical goals, this may be a strange and unsettling thought. Doesn't liberal democracy itself represent the fulfillment of the basic goals of the political revolutions of the 18th and 191h centuries? Isn't liberal democracy in some important sense the "end of history"? In fact, liberals who defend the liberal democratic state as the culmination of two or more centuries of democratic struggles are among the first to be alarmed by the attack on democracy in the United States today. Many liberals agree that the working class, fragmented and divided in a thousand ways, is weaker than at any other time in recent history; that the business classes are stronger than ever before; that technocratic rule is more entrenched; that instrumental reason dominates public policy in the interests of creating a "competitive economy" and an "export superpower"; that even progressives in state and local government routinely suspend environmental and other regulations, look the other way when union-busting companies locate in town, and preside over the decline of independent small business – all to "create jobs and expand the tax base"; that the Congress is a center of mediocracy, banality, stupidity, and corruption; and that the national security state has outlived whatever usefulness it once had yet grows stronger every year. Is there one institution in the country about which it can be said, "This is more democratic than it has been?" Not the Supreme Court, which increasingly interprets "individual rights" as the rights of property not of individuals; not the intermediate institutions that once existed for the sake of their members and where now members exist for the sake of the institutions; not the big environmental organizations.

The liberal call, then, is for a democratic *renewal.* A radical position is that renewal may not be possible without a democratic *deepening* – the "intensive" growth of democracy in the unions, in the workplace, in the community, and, above all, in the administrative apparatus of the state itself.

This is so because, at the level of interests, all social movements, insofar as

they are fighting for some material (including the material integrity of the body) goal, also implicitly raise the same demand, or "secretly" have the same political.; goal: *to make the state more responsive and accountable.* This demand is not usually discussed in terms of democratizing the state, and I stress that this is much more often than not an implicit, not an explicit, goal. To make it explicit requires.. distinguishing political *means* to economic and social ends from political *goals or. ends.* In the United States, this is hard to do because of the nature of our political culture. But it is no less necessary to do—specifically, to make social movements self-aware that what they have in common is the demand to sublate local direct democracy, liberal democratic political forms, and bureaucracy into a new and unknown third term; that is, to put democratic content into the democratic forms : (or procedures) of the bourgeois liberal state.

This is the political strategy I am putting forth. The point is not to abolish the state, which administers the division of social labor, because if the state were abolished, so would be the division of social labor. The point is rather to make the state democratic, and especially to obliterate the distinction between mind and manual labor, thinking and doing, that is reproduced in the capitalist state, with the representative branch doing the thinking (lawmaking), the bureaucracy doing the doing (law Implementation). Nor is the point to reform liberal democracy to make it "work better," because reform in this sense means merely to make *democratic* procedures work better *on their own terms,* without attacking the undemocratic or laissez-faire *content* of the liberal state. The point is to sublate both of these strategies into a struggle for a *democratic state,* a struggle that is ever-present in the ecology movements, and other new social movements, as I have suggested, without, however, the participants being self-aware of their implicit political goals. I add quickly that by "state" I also mean international state bodies, such as the International Monetary Fund (IMF). If for example, the IMF were an elected body, this would help us modify or stop its dangerously reactionary monetary policies.

To take this discussion any further would require a discussion of the discourse on "rights" as this term is used by postmodern radical democrats. And insofar as new cultural types develop along with interests and rights, it requires another discussion of "desire." But this takes US into other, more problematic themes.

CHAPTER 20

THE NEW GLOBAL ECONOMY AND ONE ALTERNATIVE

The aim of this chapter is to theorize one programmatic meaning of the new social movements in terms of a brief account of present-day global capitalist economy and also of the inherently weak capacity of the capitalist system to preserve or maintain its own conditions of production (as contrasted with its proven ability to self-expand, or accumulate capital). The political purpose here is to break with the system of self-expanding capital (or the practice of expanding capitalist wealth beyond all end) and to identify one alternative to this system widely discussed and practiced within the social movements. For want of a better expression, I call this alternative "Preservation First?" Two features perhaps make my approach unique and interesting: first, a theory of global economy frames the discussion of the alternative to "really existing capitalism" that I discuss; second, this alternative does not spring full-born from my aging brain but rather from an interpretation of what 1 believe to be some of the actual, and, in some cases, defining demands of the social movements themselves.

I begin by recalling that in the Preface of this work, I noted the decline of the three political economic models that characterized the West, the South, and the East (die old Soviet bloc) during much of the 20th century. State socialist planning in the East, nationalist development in the South, and social democratic/Keynesian welfare states in the West, in the context of economic and cultural globalization, all proved (or are proving) to be, each in its own way, too bureaucratic and inflexible, too nationalistic, too disrespectful of the "free market" (read "global transnational corporations" and "finance capital"), and, last but not least, too considerate of the material interests of urban populations and the working classes.

The most important factor breaking down the old models (besides their own internal contradictions) was the rise of Asia in world economy from the mid-1970s on, when economic growth rates in the rest of the world fell by one-half or more. Until the ruid-1990s, the Asian model of authoritarian, export-led capital-

ism (authoritarian compared with the liberal West; export-led compared with the old nationalist development models of the South and East) was the engine pulling the train of world economy. Until 1990, when the Japanese economy went into a tailspin (and until 1996, when the Asian "Tigers" experienced a sharp decline in the rate of expansion of

exports and production), Asian economic growth rates were three or four times those in the West and six or seven times those prevailing in the East, and Asian exports of goods and services grew two or three times faster than production for domestic markets.

The "Asian miracle" has been explained in a number of ways. The first is a negative reason: the Asian model developed on a sociopolitical terrain more or less innocent of Western liberalism and largely free from the semiautarkic nationalism of the South (India being the main exception), as well as from the irrationalities of the old Soviet model (China partly excepted). Second, Asian imports of Western surplus capital, alter the decline in profits and slowdown of economic growth in the West in the 1970s, supplied the money capital and much of the infrastructure, plant and equipment, and business and financial services under-girding the Asian boom (Japan was also a major capital exporter to Asia). Third, most Asian countries not only imported large amounts of foreign capital but also expended growing funds on "human capital" as well as physical capital from domestic savings. Various kinds of partnerships between business and the state identified profitable new industries and export markets, planned raw material and other inputs required to expand production, developed advanced systems of industrial parks or zones, deployed financial systems to support export drives, organized labor markets, and otherwise promoted economic expansion. Also, many Asian countries at times were not above maintaining artificially low exchange rates to cheapen and expand exports.

Not the least reason for the "Asian miracle" was that Asian capital successfully valorized the family (as labor supplier, as school, as social disciplinary mechanism, as social security system). The family supplied capital with these welcome gifts without receiving anything comparable in return (which is the opposite of the family/state relation in the United States). Asia also valorized a variety of "groupisms," – the most important being "Confucianism," but also including (ethnic) nationalisms as ideologies of economic growth, for example, in Malaysia. These and other types of groupism (including the family itself) helped to develop forms of loyalty, collaboration, and a sense of mutual interdependence between capital and labor, manufacturing and trading companies, banks and other businesses, and so on, in particular, between business and government The level of cultural and political economic cooperation achieved in Asia was significantly greater than that in corporatist Europe and dramatically greater than that in individualist Britain and the United States and other white-settler capitalist countries (at least in peacetime). Asian cultural values and political economic organization combined to produce the kind of "collectivist" capitalism necessary in an age when the leading productive forces – science and technology, information, organization, and management – have become ever more social in character.

The result: high savings and investment ratios; relatively low interest rates; rapid rates of growth of productivity, production, employment, and exports of manufactured

(especially consumer) goods; capital deepening and capital widening; and a shift to higher value added products, on the one hand, and the capacity to supply more and more mass consumer products to Asian urban workers and rural populations, on the other. These features of (most) Asian economies would seem to be among the most important technical ingredients of economic success during the two decades ending in 1995.

Thanks to the "Asian miracle," along with the growth of Western and Japanese transnational banks and corporations, the dominant model of accumulation since the mid-1970s has been increasingly global in scope. Foreign trade expanded much faster than world output, and foreign direct investment (fuel for the Asian economic engine) increased even faster. Capital was exported from the West (and Japan, and, increasingly also from the Asian Tigers) to the "emerging market countries" (EMCs) of Southeast and south Asia, and also to select Latin American countries and (after 1990) to Central Europe. The Asian miracle, then, depended in some significant part on economic semi-stagnation in the West (and in Japan, thanks to an overvalued yen and frantic Japanese manufacturing out-sourcing in east and Southeast Asia). High rates of capital accumulation in Asia spelled increased competition in the West, where capital in many countries mounted economic restructuring programs, leading to higher unemployment and socioeconomic marginalization in Europe and declining wages and a similar type of marginalization in the United States.

The global model of accumulation was (and is) a contradictory enterprise. In the Tigers, and, to a lesser degree in the EMCs, market deepening and widening put upward pressure on wage rates (hence production costs). Rapid expansion of investment and production degrades the environment, congests and pollutes cities, threatens soils and water supplies, and empties the seas of fish and the mountains of timber. In the West, especially in the United States, which itself was seeking to become an "export superpower" (in George Bush's words), growing imbalances between domestic productive capacity and effective demand, and also between capital and consumer goods capacity and profit/wage ratios, create threats of realization and disproportionality crises, respectively. Both tendencies are reinforced by growing wealth and income inequality, the decline of Keynesian-type economic management, and the rise of monetarism as the main instrument of economic policy. There is also a rapid growth of monetary and speculative transactions of all kinds, domestically and globally, hence an increase in the finance, insurance, and real estate sectors relative to sectors producing real goods and services, thus new threats to domestic and international financial stability. Last but not least, in a world where more countries (including the United States) are reorienting their economies to target export markets, trade wars, protectionism, and begger-my-neighbor policies are becoming more likely (note, e.g., the United States's export of unemployment to Japan in 1993-1994, when the Clinton administration drove down the value of the dollar vis-á-vis the yen).

The widespread myth is that the new world economy is (or can be) a perpetual growth machine. The reality is that the contradictions of this model have resulted in slow growth in the West, which (as noted above) also spread to Asia in the form of the long Japanese recession of the 1990s and the reduction in growth rates in the Tigers in 1996. Semi-stagnation also persists in Germany and the European Community generally, and economic growth in many Asian and Latin American EMCs has been periodically interrupted by financial crises (e.g., in Mexico), political disorder (e.g., in Indonesia), rising urban and environmental costs (e.g., in Taiwan), and wild stock market ups and downs (e.g., in Chile, among other countries).

Western governments have become more concerned with slow growth (and rising unemployment or falling wages) during the 1990s. In the United States, where wage stagnation, growing economic insecurity, social marginalization, and increased income inequality dampen growth rates, presidential candidate Bob Dole promised to reduce the time it takes to double per capita GDP by one-half compared with President Clinton's own projections. Perhaps the dearest indication of the importance placed on accelerating growth in the United States and the world as a whole came in mid-1996, when Clinton's assistant secretary of defense, Fred Smith, opined that "global economic growth is essential for the national security of the U.S."

The problem is that monetary policy remains geared to fighting inflation (not to expanding growth rates), while fiscal policy is approaching gridlock. European (and North American) governments have tried with mixed success to reduce unemployment (and in the United States to increase stagnant wages), on the one hand, and government budget deficits, on the other hand. The deficits Tule out Keynesian-type solutions to unemployment while unemployment (and stagnant wages in the United States) prevent clear neoliberal-type solutions to the deficits. It is politically difficult for governments to either increase spending to stimulate effective demand and "grow" employment and wages or to slash spending to get control of the deficits. Unemployment/stagnant wages and deficits, then, seem to be self-reinforcing.

There is one proposed solution to policy gridlock and slow economic growth that is growing in popularity among the political and economic classes. This can be called "social-supply-side economics," for lack of a better expression. In the United States, it is a centerpiece of Bill Clinton's and the Democratic Leadership Councils economic thinking. This scenario focuses on incremental tax cuts and spending increases on three major items: education and training, the environment, and the cities, including their physical infrastructure ("human capital," "natural capital," and "community capital," respectively). The central idea is that a healthier, better trained, and more flexible and disciplined workforce, a more economically rational exploitation of the environment, and revamped and more "efficient" cities and communities will directly or indirectly raise productivity and profits, lead to faster economic growth, increase the tax base, and lower deficits, meanwhile raising wages and increasing employment security.

There have been two broad popular responses to stagnant wages, growing economic insecurity and marginalization, high unemployment (in Europe), the degradation of the environment and community lite and the conditions of production generally, and, last but not least, the rise of neoliberalism and the radically transformed political terrain of the 1990s. Reform-minded labor unions and left-of-center political parties have come out for reductions in the hours of work, on the one hand, and for the development of new socially useful jobs, on the other. The first involves fewer hours worked per day or week, and fewer days worked per year, at the same pay; the second calls for the expansion of physical and social infrastructure (including relevant social services) with a concomitant increase in employment.

About reduced work time, Canadian trade unionist and economist Sid Shnaid writes: "Western society is experiencing high and increasing levels of unemployment [because] for the past 40 or more years, work time has ceased to decline in parallel with increases in social productivity." According to Shnaid, this is due to the failure of organized labor to take up the issue of increased productivity in terms other than hourly wages. "The consequence is a massive shedding of workers instead of a reduction of working time [when] both full employment and a high living standard and issues related to the quality of lite (ability to relax, enjoy leisure, etc.) demand reduced work time." In this account there are two ways to produce a given social product: first, the capitalist way, with *some* workers working too much and too hard while others don't work at all; second, the socialist (or social democratic) way, with *all* workers working less time and less hard.

Reformist unions and left-of-center parties also typically support the expansion of new infrastructure to increase employment and wages. They stress "community capital" (communal conditions of production), including urban reconstruction, transport, communications, and the like; "human capital" (or personal conditions of production), including schools, retraining facilities, health facilities and care, and so on; and "natural capital" (external natural conditions of production), including job-creating water projects, land reclamation, and the like. These types of social capital are meant to be just that: "investments" in cities, in people, and in the environment. The hope is that these investments, though costly to build or rebuild, will ultimately pay off in expanded productivity, profits, and international competitiveness, hence are believed to be consistent with the requirements of the new global economy.

The focus of the labor/social democratic alternative on the reduction of working time and the expansion of social and physical infrastructure partly replaces need satisfaction in the commodity (individual) form with satisfaction in the noncommodity (social) form. So, too, does its focus on improving the "quality of life" contain radical potentials. However, to the degree that the emphasis is placed on the potential exchange value of social capital, rather than on use value criteria based on direct individual and social need, this alternative will remain akin to the social-supply-side economics of President Bill Clinton and the U.S. Democratic Party's "vital center" (c. late 1996), hence will inhibit or even

suppress possibilities of radical reform. It also may be impractical given the fiscal gridlock noted above.

This is not true of the second popular response to unemployment, social marginalization, and other socioeconomic malaises of our time—an alternative that is revolutionary in its implications (if not intentions). This alternative implicitly challenges some aspects of the labor/social democratic program noted above. It is the (unarticulated) "program" of the new social movements—feminism and other "politics of the body',' and environmental and community/urban movements of many kinds (including occupational and community health and safety movements, which cross the borders of all three types of new social movements).

This is so because what can be called "Preservation First!" (PF!) eschews the economic growth game and also presupposes radical changes in both the capitalist relations of production and the relations of production of the conditions of production. PF! is a latently radical alternative in the sense (or to the degree) that community businesses, cooperatives, mixed enterprises, and other noncapitalist forms of production and reproduction (as well as public expenditures, the budgets of nonprofits, etc.) are not viewed as "investments" in human, natural, and community "capital," but rather as forms of socioeconomic organization and monetary expenditure required to preserve, defend, and enhance the *conditions of life and life itself* – namely, a healthy, cultured, civic-minded, and reasonably happy population; livable cities and communities (and work places); and the integrity of what Greens call the "environment."

What, then, exactly is the alternative that I've called PF!? Before I try to answer this question, a backward glance at the imperatives of capital accumulation and economic growth is in order. One of the central contradictions of capitalist accumulation is that it neglects capital's own conditions of production, and subverts the conditions of life and life itself.

This neglect (and subversion) has two consequences, one pertaining to the meaning of economic growth (hence is quantitative), the second pertaining to the meaning of the social relations of production of the conditions of production (hence is qualitative in nature).

As for the first, once we take into account the depletion of nonrenewable resources, the destruction of renewable resources, health and safety risks, the subversion of community life, and other damage to the conditions of production caused by the "really existing" process of capital accumulation and growth (and calculate the costs therein), it is doubtful that there has been much if any real "economic growth' during the past half century. According to one recent estimate, while per capita GDP growth in the United States has more than doubled since the 1950s, the "Genuine Progress Index" (GPI) has fallen because most GDP growth has consisted of fixing blunders made in the past, borrowing resources from the future, and shifting functions from the household to the market.[1] According to this study, there is more inequality, less leisure time, more

underemployment, worse pollution, greater losses of farmland, more degradation of forests and wetlands, more use of fossil fuel and consequent ozone depletion and global

warming, and (one might add) an ever-rising ecological debt of the North to the South.

The negative qualitative consequences of the model of capital accumulation based on the neglect or subversion of the conditions of production are many and varied. In some Western countries, for example, the education system produces as much social stupidity as enlightenment; the law and order system generates more criminals than social tranquility; the health care system yields more profits than health; urban planners produce more congestion and higher land prices and rents than livable streets; regional planners break down the last traces of a symbiotic relationship between town and countryside; agriculture ministries destroy rather than defend integrated farming and rural cultures; and environmental ministries focus on "natural resources" for capital and environmental amenities for the relatively well-to-do to the neglect of ecology and the environments of oppressed minorities and the poor. Neglecting and degrading the conditions of production may be "cost-effective" in the short run; but in the long run, cities are more congested, polluted, drug-and-crime-ridden, and mean-spirited; the countryside is culturally "urbanized"; nature is redefined as "natural capital" and people are regarded more and more as "human capital." "Morbid forms of social life" multiply, and, like some postmodern Gresham's Law, bad social practices drive out good ones.

These consequences, whether measured quantitatively or interpreted qualitatively, are not merely excesses of the system of accumulation and growth but rather are inherent in the capitalist system. The basic (and not very well publicized) fact is that *by its nature, capital is bad at preserving things,* whether the social well-being of people, land, community values, urban amenities, rural life, nature, or private fixed capital, including structures.[2] This is especially true in the present conjuncture, defined as the mania for systematic cost reduction and for developing and marketing new electronic gizmos—two of global capital's present crisis resolution strategies. *There is no profit in maintenance or preservation, or actions taken, and resources expended, to prevent bad things from happening that would otherwise occur. The profit is in expansion, accumulation, and marketing something old or new at lower costs.*

This is, of course, less true of capital's own plant and equipment than it is of the conditions of production. In the former case, individual capitals do spend money to maintain their own plant; however, these outlays are not productive of surplus value (profits), hence will normally be minimized. This is especially true today when cost reduction is the watchword; when finance capital will as soon abandon as restore or renew a plant or city block; and when tax laws favor a rapid write-off of the value of plant and machinery (which therefore will receive less maintenance).

There are exceptions to the rule that individual capitals are not concerned to preserve productive forces that they don't themselves own, for example, workers with

scarce skills. As a general rule, however, the trend is for capital to own less and to lease more—not only full-time laborpower (as has always been the case)

but also temps and part-timers; land (when local governments don't simply give the land to business); and even plant and equipment. Today, more U.S. companies are leasing more and different resources ("inputs"): management teams, software programmers, researchers, marketing specialists, even directors. The ideal capital would seem to own nothing and lease everything. This capital is merely a Pool of money (or money capital), ready and able to move to wherever new technologies, scientific technological resources, natural resources, cheap labor, and expanding markets beckon, and where profits are greatest. Especially in today's hypercapitalist world, money or finance capital care little about maintenance and everything about seeking more of themselves as rapidly as possible.

The state is charged with maintaining the conditions of production per se. For example, schools produce future generations of workers, and hospitals and other health services attempt to keep present, past, and future generations of workers in good repair. The state maintains roads and freeways and, often, airports, ports and harbors, and other transport facilities. The state is supposed to lead environmental cleanups and restoration efforts and to develop planning capabilities to compensate for the short-run perspective of private capital. I should say that the state used to do these things, as more state-organized activities are being privatized or threatened with same. And, just as the imperatives of the global economy degrade the conditions of production used by the private sector, the same imperatives reinforce the state's tendency to downsize, increase the intensity of work, and generally compel state workers to do more with less (thus tending to degrade production conditions even more). This process is reinforced by increased demands for tax reductions, to compensate for stagnant or falling real wages in the private sector.

Thus we are faced with the "Galbraithian condition": the poor state of public health, education, transport, and urban life generally, and a degraded countryside and natural environment – all side by side with the race to capitalize virtual reality, interactive systems, space-age weaponry, and high-tech novelties in a world where more people work longer and harder for less wages and where the distribution of wealth and income is increasingly polarized.

PF! means to use laborpower and raw materials, technology and machinery; knowledge and social organization, and other "factors of production" to struggle to restore, to repair, to renew, to keep up, to conserve, to preserve—first, labor-power itself (the unfolding of human intellectual, physical, aesthetic, and other possibilities; mental and physical health); second, environment (ecological systems; amenities) and environmental movements; and third, community (social and physical infrastructure, justice and equality, solidarity and civic virtue) and community empowerment movements.

The operative word here is "struggle." Just as "labor" means "factor of

production" in the absence of labor struggles (which give the word its second and contradictory meaning, "labor movement"), so "laborpower" and "community" (including the environmental community) mean "conditions of production" in the absence of public health, anti-toxic, social justice and equality, and a host of related struggles

(which give these words their second and contradictory meanings, "public health, etc., movements," and "community movement"). To preserve laborpower, then, means to preserve struggles to keep certain indispensable human possibilities open; to preserve nature means to preserve struggles to defend nature; to preserve community means to preserve community struggles PH, finally, means to preserve (and so on) *first,* then with the resources left over, to expand per capita production in ways that create less economic inequality, or to allocate resources not to enrich those who have but to sustain those who do not.

A few examples of the PF! "movement" will illustrate what I mean. (A cautionary word: I note below a wide range of politically diverse organizations and struggles; my focus is on one meaning of these struggles alone, the PF! theme.)

Laborpower: Public health and occupational health and safety movements, AIDS prevention, educational reform, and, above all, feminism's politics of the body all exemplify PF! "Above all" because feminists focus on the range of activities pertaining to "reproduction" (maintenance), including the "wages for housework" movement. The labor of childbearing and child raising, of caring for the sick and aged, of housework, and of the production of affect illustrate types of PF! conservationism. Feminists (and large numbers of women who defend "family values" and who don't identify with feminism as such) demand (in so many words) "first, reproduction, then production; first maintenance, then and only then self-expansion"

The Gray Panthers have adopted elements of a PF! strategy. In a Panther organ (1996), Ralph Simon writes that "conservationism means conserving, or holding on to, what we now have. This is essentially what we Gray Panthers are trying to do. . . . Promoting the general welfare entails providing everyone with affordable quality health care and adequate housing, transportation, and educational facilities in a clean and secure living environment." To accomplish this, Simon adds, "will take a tot of planning and cooperative effort over many years to come." Another example is Jesse Jackson's Rainbow Coalition campaign to "reclaim youth" (in Washington, D.C.). There are "plenty of jobs restoring schools," Jackson said in 1996, "physically, security-wise, environmental hazards, and so on."

Environment: Is there any doubt about the meaning of "save our farmland," "save our greenbelt," "save our parks," "save our wilderness," and other such phrases? At the conceptual level, the Polish social scientist, Zbigniew Wierzbicki, proposes a "sozo ecology," *sozo* being an ancient Greek word meaning "to protect, to preserve, to keep

(which is, of course, also applicable to the peace and human rights movements). The environmental movement in the United States, in fact, has succeeded in shifting the terms of debate on the issue of pollution from pollution control to pollution prevention, that is, to clean production technologies. Preservationism, founded by John Muir (and conservationism, originating with Gifford Pinchot), at their outset supported mainly by upper-class Progressives, in effect, has been democratized. Earth First is an ecologically and politically radical

organization, and Greenpeace and the Sierra Club are taking up popular environ-mental issues and also social issues that were not in their original "charters."

Agricultural restoration/preservation is an especially important example of PF! The reason is that agriculture has externalized costs arguably more than any other sector, first, because of the levels of agrochemicals and fossil fuel use; and second, because agriculture is so geographically widespread and economically important. It is no surprise, then, that there are probably more PF-type discourses and struggles in this sector than in any other. Equally unsurprising is that the PF! farm literature reflects the perspective of small commodity production more than any other literature. Wendell Berry, for example, implicitly, of least, identifies with PF! (coming out for low-input agriculture, integrated pest management, inter-cropping, etc.) and, at the same time, defends self-earned property in land and the means of farm production. In *The Gift of the Good Land* (1981), Berry condemns industrial agriculture and proposes a socio-economic-ecological model (sozo farming, as it were) that strikes a balance between farm production and farm maintenance – a model based on self-earned property. An appropriate relationship between human beings and the land, Berry argues, ensures that "maintenance always equals production," that is, that the expansion of production based on the degradation of the land, water, and other inputs (hence at the expense of future generations) is simply not permitted.

In farming, logging, fishing, mining, and all other "primary economic sectors," there are struggles over nature, to maintain biodiversity; to restore fresh air, clean aquifers, rivers, lakes, and oceans; to maintain amenities; to prevent renewable resources from being turned into nonrenewables; to defend the rights of indigenous people to treasured resources; and to fight for the rights of future generations and the oppressed of present generations to resources of various kinds. Greens of all shades fighting to conserve and preserve (a much different battle than the traditional socialist fight for increased production) would seem to represent a solid constituency for PF!

Community: So, too, do urban and rural community movements exemplify PF! practice. In an age of urban decay and the subversion of community, the issues of public safety, housing, congestion, pollution, inequality and poverty, land speculation, homelessness, and the cultural urbanization of the "rural" are asserting themselves as never before. Not only inner cities but also more suburbs and villages are trying to put

things back together, to restore and to preserve a decent human existence, to make viable communities with useful social and physical infrastructures in the service of high community values. At a time when communities are being enlisted in capital's war of all against all (to become, in effect, community capitals), there is a broad range of struggle to reinvent community as such. The "Communitarianism" of Amitai Etzione illustrates a variation on the PF! theme. Citing the decline in sociality, Etzione calls for "restoring communities" by people "committed to creating a new moral, social, and public order. As for physical infrastructure, planning groups such as the California Planning Roundtable, based on an assumed underutilization of existing infrastructure,

propose high-density development to preserve green belts and promote energy-efficient housing.

Last but not least, the workplace itself exemplifies a kind of PF! practice. Production is increasingly governed by the imperatives of finance capital (and is increasingly more global in scope) with attendant negative effects on workplace health and safety and work relations and the relations of production in general. It is significant, symbolically at least, that one of the fastest growing unions in the United States today, the Social Service Employees International, is in part driven by its Justice for Janitors campaign, a movement of maintenance workers.

The fact is that many, if not most, of the pieces for what Australian Ted Trainer calls the "Conserver Society;' an equitable and socially just sustainable way of life, are already in place. There are good models of child raising, if only parents had the time and resources to practice them. The same can be said of loving: what a different world it would be if the accumulated wisdom on how to love received the same play as professional sports. There are known, and highly subversive, basic rules of education of the young: for example, don't make students look to authority to solve problems that they can solve among themselves; and decommodify TV and the mass media generally – one's critical social imagination is the limit here. There are thousands of green technologies, most not in widespread use because it is not profitable to use them, for example, public transport that one looks forward to using (unlike most present-day public transport); low-input agriculture, the technical fundamentals of which are in place, the politics of which (e.g., the existing power of chemical companies) are not; solar energy; regional planning capabilities, where region is defined both as bioregion and cultural entity(ies); working people's knowledge of both work and production conditions and farmer's knowledge of the soil; and so on. So, too, the possible *forms* of socioeconomic life are well known (but little practiced in capitalist society): cooperatives of many kinds, worker collectives, mixed enterprises, state enterprises, municipal companies, nonprofit corporations, and so on.

Even many of the elements of a theory of sustainable economic growth (*not* capitalist accumulation) are in place. Herman Daly (among others), for example, argues

that economic growth should be based on productivity improvements, not increased "throughput," for example, from economizing on energy, eliminating polluting technologies, and the like. If Daly and other green economists have worked out many of the details of growth defined in quantitative (economic) terms, Henri Lefebvre, Fernando Henrique Cardoso, and others have theorized the problem of growth in qualitative (social) terms. The former argues that when the social form of need satisfaction replaces in part or in whole the individual (commodity) form, the effect will be to limit unrestrained economic growth while neither "breaking with it crudely or prolonging it indefinitely." Cardoso (in *The Survival of Capitalism)* adds a further condition: the absolute need to subordinate production to consumption. The literature on "green budgets" and socio-ecological-economic accounting generally is growing by leaps and bounds, as are writings by sociologists and others on the problem of what good social

relationships consist of, and how to achieve them. Finally, there is an explosion of writing on "radical democracy" and political theory generally.

If all of this appears to be merely another type of "survivalism," one should: bear in mind the enormous gap between the survivalism of the U.S. movement (for example), based on private property and extreme forms of individualism (and individualism ideologies), and what can be called, for lack of a... better term, "social survivalism," where society is defined not merely as the sum total of its individual members but also as sui generis, as exemplified (in the., South) by what Juan Martinez Aller calls the "environmentalism of the poor,".. defined as the "defense of livelihood and communal access to resources, threatened by the state and the market."

In sum, PF! is labor-intensive, not labor-spurning (as is capitalist production). It is governed by egalitarian principles and by a sociopolitical logic rather. than by a purely economic logic. "Labor" ceases to mean the valorization of capital (i.e., increasing the value of capital via the production of surplus value), and instead the "valorization" of community, environment, and social life generally (as, e.g., in the case of the spontaneous, freely organized labor during the first days of earthquake reconstruction or in a democratically organized household). All PF! labor may, in fact, contain affective and aesthetic meanings as well as : instrumental meanings. Finally, PF! not only reforms work relations but also• reduces working time.

Unquestionably, the economic and political classes and the state (as presently . structured) would oppose a PF! alternative (it wouldn't be an alternative if they didn't). Solid unity would be needed between labor, Greens, feminists and women, oppressed minorities, the poor, and others with a greater stake in restoring and renewing (hence redefining) their life worlds than in owning high-definition TVs (which, in any case, will eventually find their way into solid waste dumps). But we would have real air to breathe, real water to drink, an urban revival, culturally rich neighborhoods, a countryside with diverse rural cultures and integrated farming, a rational interchange between green cities

and the rural, the end of the threat to the ozone layer and of global warming, and the rest—all of which most people would presumably welcome. As Gore Vidal put it, we would need to "forego the expensive joys of empire [but would have a chance] to mend our own rotted society."

If the rhetoric of "growth and development" and "more jobs" is needed to politically legitimate the PF! alternative (and it is), let these mantras mean growth of the capacity to fight for restoration and preservation, democratic self-governance, arid the "job" of maintaining and enhancing the conditions of life and life itself. end with a disclaimer: PF cannot be brought to life within the capitalist model as we know it. We should be dear: this alternative (which also presupposes the reduction of working time) is revolutionary in intent and effect. The ecologist Marx grasped this point as well as anyone: "In negating the estrangement of nature, the goal is finally one of *restoration* of the balance of the ecological

metabolism, systematic restoration as a regulative law of social production, and in a form adequate to full human development; as Marx said in *Capital.*[3]

NOTES

[1] Marc Breslow, "Is the U.S. Making Progress?" *Dollars and Sense,* March-April 1996; Breslow reports on a study by the San Francisco-based "Redefining Progress" group.

[2] Stephen Horton, "Value, Waste, and the Built Environment: A Marxian Analysis' *Capitalism, Nature, Socialism, 8,* 2, June, 1997.

[3] Walt Sheasby, "Inverted World: Karl Marx on Estrangement of Nature and Society," manuscript.

CHAPTER 21

WHAT IS ECOLOGICAL SOCIALISM?

INTRODUCTION

Following Marx% lead, socialists have said for a long time that capitalism subordinates use value to exchange value and also concrete labor to abstract labor, hence that capitalist production is for profit, not according to need. In capitalism, the quantitative triumphs over the qualitative, so to speak. Ironically, socialist *practice* more often than not has consisted of struggles for higher wages, shorter hours of work, full employment, rent control, subsidies to small farmers, and so on, or what can be called "distributive justice." Socialists have had a qualitative theoretical critique of capitalism and (too often) a quantitative political practice. Logically, the traditional socialist critique of capitalism should lead to "productive justice." In fact, it has led to demands for distributive justice. Socialists have critiqued the capitalist relations of production and then sought to reform capitalist relations of exchange.

Socialism has thus negated its own first principles. This may be one reason why the word has dropped out of the vocabulary of radical movements (and never appeared in the vocabulary of the new social movements). The proximate cause of the disappearance of the concept of socialism is the economic, moral, and other failures of ex-real socialism in the East; the demise of socialist-like nationalistic development models in the South (e.g., India's Nehru mode!); and the loss of legitimacy/political weakness of social democratic Keynesian welfare states in the West (perhaps most advanced in New Zealand, least advanced in Germany). All three models of development self-destructed economically, in the sense that their economic successes created problems that could not be rationally addressed within the confines of their respective models, and also ideologically because all three models equated socialism and social democracy with the nation-state and nationalism, and with statist forms generally. Note how easy it is to apply the neoliberal critique of the state *pari passu* to socialism as such, and the neoliberal critique of socialism *pari passu* to the state as such. The delegitimation of socialism *is* the delegitimation of the state and vice versa.

Unsurprisingly, into the resulting (vast) political vacuum have rushed various non-statist and anti-statist ideologies and practices: neoliberalism, of course, but also populism, communitarianism, separatisms of all kinds, regionally bounded ethnic and

religious revivals, anarchism and other forms of localism, and plain criminality.

The question arises, Is it possible or even desirable to revive the idea of socialism and to rescue it from, first, its practical focus on quantitative reform and distributive justice, replacing (or supplementing) it with qualitative reforms and productive justice; and second, from its ideological association with nationalism and statism? I think it's not only possible and desirable but also essential to reconceptualize socialism on three bases: a practical focus on the qualitative critique of capitalism, including "productive justice"; a theoretical and practical critique of the capitalist state, namely, the democratizing of the state; and an unambiguous internationalism. Such a theory and practice would stand as an alternative to both neoliberalism *and* the many varieties of localism now current. I would further argue that many, if not most, social struggles today in both the overdeveloped and the underdeveloped countries and regions *in fact* focus on the critique of concrete labor/use value (including land use and the use of nature generally), on the one hand, and the creation of "popular bureaucracies" and an internationalist practice, on the other.

Struggles over land (nature in all its manifestations) are today practically universal, from simple "save our greenbelt/wildlife" struggles to sophisticated attempts to restore ecological diversity. Struggles over concrete labor are also universal: a wide range of capitalist technology has been challenged, from nuclear power to personal computers; labor has vast experience with, arid experts have produced a vast literature on, occupational health and safety issues; labor's "struggle against productivity" and Fordist technology in the 1960s and 1970s helped to force capital to adopt "teamwork," "quality circles," and the like in the 1980s and 1990s. Finally, struggles over final use values (consumer goods and services) have become near universal: for example, the nature of health care and education; the car and the car culture; TV and the media and TV culture; energy-inefficient housing; chemical-laden foods; a range of products critiqued by feminists—among many others.

Similarly, I am hard put to identify one single-issue struggle that does not aim (subtextually, at least) to democratize the state and/or fall to have an international component (issues that are not discussed in this chapter).

USE VALUE/CONCRETE LABOR—EXCHANGE VALUE/ABSTRACT LABOR

In Marxist theory, every commodity is both an exchange value and a use value. Exchange value is the value of one commodity in terms of all other commodities (e.g., of money, the universal equivalent) and is measured in labor time (hence is

a quantitative concept). Use value is a qualitative concept. In Godelier's words, "Use values relate . . to men's [*sic*] natural or artificial wants, to a qualitative relationship." There are two general types of use value: first, commodities that are used to produce other commodities (means and objects of production); second, commodities that are used

by individuals to directly satisfy needs and wants (means and objects of reproduction or means of consumption). The market demand for the first type of use value is the capitalist (business) demand for greater productivity and profits. The market demand for the second type of use value is based in part on the sociomaterial function of the commodity in terms of the reproduction of laborpower.[1] Certain foods provide a certain amount of . nutrition; a certain amount of oil or coal provides a certain amount of heat or energy; certain types of cars speed the commute to work; certain types of clothing keep the wearer warm or cool; certain books educate the reader in certain technical fields of study.

Just as each commodity is both a use value and an exchange value, each production process is both a labor process (whereby use values are produced) and a valorization process (whereby exchange value is produced). Marx called the former "concrete labor" and the latter "abstract labor!' And just as we can define use value in terms of the socioeconomic functions of a commodity, we can define concrete labor in terms of its ecological effects. Certain foods providing certain types of nutrition are produced in certain ways (e.g., by chemical agriculture) that will have certain effects on the soil, water table, and so on. A certain amount of A certain amount of oil or coal providing a certain quantity of heat or energy is produced in certain ways (e.g., by strip mining) that have certain effects on vegetation, water runoff, flooding, and the like. Certain types of vehicles speeding the commute to work are produced in certain ways (e.g., by foundries) that have certain effects on air quality. Certain clothing keeping the wearer warm or cool is produced in certain ways (e.g., by petrochemicals) that have certain effects on water quality. Certain books educating the reader in certain technical fields are produced in certain ways (e.g., by paper and pulp mills) that have certain effects on air and water quality. Last but not least, the production of all of the above in certain ways will have definite effects on the physical and mental well-being of workers (e.g., in the form of stress disease).

A theory of use value (final products) presupposes a theory of needs, not in terms of judging an individual's subjective valuation of a commodity (which would be a species of elitism) but rather in terms of the ways that use values reproduce (or not) laborpower (and, more generally, the whole society). Such a theory would focus on specifically social needs, that is, needs that individuals have in common with one another rather than individual wants defined subjectively. In this sense, it is legitimate to study food in terms of nutrition and the health of the workforce or to investigate transportation systems in terms of the time of the commute to work. There is a social need for nutrition and for transport, but *not* for any particular food supplying (say) proteins and not for any particular type of locomotion.

Social needs as defined above are specifically social, not because they arise and are satisfied in accordance with some kind of social plan. Social needs are, in fact, produced behind our backs; that is, they are the result of the existing structure of consumption (e.g.,

the car culture; the fast food culture; thousands of process and product innovations, including cultural innovations, annually; the conditions of foreign trade; and many other "spontaneous" [unplanned] socio-economic phenomena and the changes therein over time).

Two types of critique of a use value are possible. First, the use value may be dysfunctional. Chemicals used in agriculture may ruin the soil or water table, hence lower, not raise, productivity. Car transport to work may result in gridlock. This type of critique of both means of production and means of reproduction pertains to the possible self-negating (self-canceling) nature of the commodity form. The second critique is that need satisfaction in the (individual) commodity form may suppress need satisfaction in (socially) less costly, more directly social forms. Chemical agriculture may not only lower productivity but also suppress cooperative approaches by farmers to integrated pest management. The car may be self-negating not only in that it produces gridlock but also in the sense that it suppresses development of mass transit.

Marx wrote that the process whereby commodities are produced to satisfy needs is also the process of the production of the needs that the objects satisfy (e.g., car workers need cars to get to and from the work of producing cars). However, Marx did not develop a theory of individual and social needs nor integrate such a theory into his account of capitalist production, circulation, and accumulation. He brilliantly theorized the value content of the consumption basket (broadly speaking, labor productivity); he insightfully pondered the growing tension between exchange and use value in capitalist development; he prophetically looked forward to the day when agriculture, the relation between town and country, and so on, would be reconstructed on a rational basis; but he did not systematically theorize the specific use values that in his time made up the consumption basket itself.

In the Marxist theory of capitalism, concrete labor and use value are subordinated to abstract labor and exchange value. This means that (1) in the work-place, land use practices, divisions of labor, and so on, are governed first and foremost by the need *to produce exchange value,* or profit. The needs to preserve ecological diversity, avoid ecological debts to other workplaces and future generations, promote the intellectual development of the worker, and the like are subordinated to production for profit; and (2) in the sphere of consumption (reproduction) clean air and water, uncongested transport, and other social and ecological "goods" are sacrificed to the need *to realize exchange value* in the market.

The production and realization of exchange value (surplus value) have two general presuppositions, *both of which are historical trends.* First, concrete labor is increasingly subsumed by abstract labor, namely, the universal discourse on "flexibility" today, or the making of laborpower into more perfect forms of

variable capital. Second, use value is increasingly subsumed by exchange value, that is,

more needs are satisfied (or not) more often in the commodity (individual) form, less in directly social forms; for example, more cars, less mass transit; more curative health, less preventative health; more fast food, less home cooking; more music made by MTV, less homemade music; more society of the spectacle, less cultural self-development.

In sum, in this age of neoliberalism and globalization, laborpower is more variable (flexible) and more needs are satisfied more often in the commodity form. Hence the reproduction costs of laborpower (value content of the consumption basket) are increasingly reduced, for example, thanks to factory-built condo housing, warehouse-type retail stores, and so on, all produced or staffed by fewer workers.

Finally, given the self-expanding nature of value and capital (profits are both the means and the ends of economic activity), together with the commodity form of need satisfaction, the sustainability of capitalism presupposes that the market demand (need) for final use values (consumer goods) must also be self-expanding. In this sense, the basic need in capitalism is the need for more and more *money* (recall that when Sam Gompers was asked, "What do workers want?," his answer was "More").

QUANTITATIVE STRUGGLES/ QUALITATIVE STRUGGLES

The focus of Marx's theory of capital was on abstract labor and exchange value.[2] His object of study was the "economy" as such: quantitative aspects of production, distribution, and exchange – for example, wages, costs, prices, and profits; employment and unemployment; rate of exploitation; rate of capital accumulation; and so on.[3] Marx theorized the ways that capitalist production relations (property/relations, competition, world market, etc.) were inherently crisis-ridden (and also crisis-dependent), thereby interrupting or otherwise retarding the development of the productive forces. Marx's crisis theory, for example, focused on quantitative breaks or ruptures between and within the money, productive, and commodity circuits of capital (and the different forms of crisis therein), not on shifts in the class power of capital versus labor, nor on a scarcity of use values employed as productive inputs (laborpower; energy, raw material, space, etc.)[4]

There is one major exception to the claim that Marx focused almost exclusively on abstract labor (production of value) and exchange value (realization of value). This is his "all that's solid melts into air" theme that the spread of capitalist production relations (Polanyi would stress the commodification of land and labor and of a community's patrimony) subverted community by atomizing individuals into selfish globules of desire. Like all 19th-century socialists, Marx pointed to the capitalist class monopoly of ownership of the means of production, hence the requirement that most people sell their laborpower to survive, as the most visible

form of, and constraint on, freedom and as the main barrier to a cooperative society. While Marx embraced industrial society as the precondition for the abolition of inequality

and poverty (which in the last analysis depended on the overthrow of capitalism and establishment of socialism), he also identified the working-class movement as the main agency that would reconstruct community, hence end the destructive impact of capitalism in human relations. Marx (and other socialists) seemed to believe that a crisis-free development of the productive forces, a more equal income distribution, and the reestablishment of community via the working-class movement were mutually interdependent. (Durkheim argued that a rational economic system, i.e., system integration, was one thing and that the integration of individuals into system functions or roles, i.e., social integration, was quite another. Yet even Durkheim, near the time of his death, thought that he saw the elements of social solidarity or social integration evolving in the French labor movement.) Not only Marxists but also guild socialists, syndicalists, and others believed that worker ownership and control of the means of production was both the path to a crisis-free economy and the means of reestablishing community. The labor movement itself fought for higher wages, shorter hours, and economic reforms generally but also stressed the importance of solidarity, organizing mutual societies, and other activities that would re-create community within the working class (or some part of it).[5]

While Marx and his followers emphasized the theme of the quality of social relations (labor movement, community, mutualism, etc.), they did not *systematically* problematize either the productive forces (machinery, labor skills, etc.) or the "reproductive forces" (consumer goods as use values to reproduce labor-power). More, while Marx and Engels had interesting (and damning) things to say about the effects of capitalism on the productivity of soils and forests, slum housing, urban pollution, the destructive physical and mental effects of certain types of concrete labor, and so on, *they said little about the social and political struggles engendered by the labor process,* for example, protests against pollution, against dangerous and unhealthy working conditions, and so on. *They were equally silent about protests that targeted particular use values,* for example, protests against bad meat, against slum housing, and the like, and also silent about struggles to preserve society's patrimony in traditional forms (e.g., stocks of food).

This lacuna is, in fact, very surprising. While Marx and most socialists stressed the theme of "lost community," few socialists raised hard questions about the preconditions of community. What kind of community were workers stunted by various types of concrete labor capable of forming? Are worker-victims capable of self-rule? And so on. A logical step for socialists would be to struggle to socialize (as opposed to nationalize) industry, then reform or revolutionize the labor processes such that a more fully rounded and developed human being would be produced (reproduced) in the workplace.

Even those who tried to raise questions about the negative effects of *how* commodities were produced by and large failed to raise similar questions about

the effects of the commodities (use values) that were produced. To anticipate our

discussion below, the kind of theoretical and practical critique of, for example, the automobile and auto culture (extreme individualism) or the physical and mental well-being of workers who are chained to Computers all day (repetitive stress syndrome)—so prevalent today—was *relatively* undeveloped in Marx's time (of course, the use values and concrete labor processes were far different a century or more ago).

In sum, while Marx brilliantly demonstrated the systemic causes of low wages, unemployment, maldistribution of wealth and income, and the rest, and equally brilliantly theorized workers' struggles, protests of the poor engendered by low wages, and so on, he seemed not to be interested in struggles organized around the nature of concrete labor, of land use, and of use value. His discussion of (and participation in) the fight for shorter hours of work and against speedup might appear to be the exception. However, these were quantitative struggles (like the wage struggle) in that they pertained to the quantity of labortime worked and the speed at which workers were forced to labor. In Marx's writings, struggles over the labor process, technology, division between manual and mind laborers, land use, and the like, on the one hand, and struggles over the nature of housing, foodstuffs, urban air and water pollution, and so on, on the other hand, are conspicuous by their absence.

This can be explained in one of two ways. First, it is possible that these types of qualitative struggles (as contrasted with quantitative struggles) were not well developed enough in Marx's time to warrant his attention. Social, economic, and environmental historians, however, suggest that this was, in fact, not the case. There were struggles over forestry practices in the Alps (which led to erosion and cycles of floods and droughts) in the early 19th century; there were struggles against technology (Luddism); there were housing and other struggles. Further, non-Marxist socialists *did* raise both the issues of concrete labor and use value, noting various types of struggles around these issues. Owenism was, among other things, a critique of capitalist concrete labor and held out the hope (and in limited cases the reality) of a more humane alternative. Guild socialism had an aesthetic as well as a moral critique of capitalism (e.g., Ruskin and the arts and crafts movement). Fabians helped to reform education and the provisioning of public or social infrastructure. (It should be noted that the critique of concrete labor and use value inherently contains *alternatives* to capitalist labor processes and structures of consumption.) A second explanation is that, while Marx identified many of the specific ills of his time and was also aware of many of the struggles to reform the use of land and labor, he disregarded their political importance. Only capitalism's quantitative relations (he might have argued) were crisis-ridden, hence held out both the hope and the need for radical social and political change. Struggles over concrete labor and use values as such might have been seen as local or particularistic, that is, unable to unite the working class in the same way that the wages and hours struggles could (and sometimes did). Whatever the truth of the matter, a mere Polanyi-Marxist cannot explain these issues; that's a job for a Marxologist who is also a social and economic historian.

WHAT IS ECOLOGICAL SOCIALISM?

It is ironic that while socialists have said for a long time that capitalism subordinates use value to exchange value, and that capitalist production is for profit not need (a qualitative critique), socialist practice has been to struggle for higher wages, shorter hours, full employment, and the like (all of which are quantitative practices). I use the term "ecological socialism" to distinguish theories and movements that seek to subordinate exchange value to use value and abstract labor to concrete labor, that is, to organize production for need (including the self-developmental needs of workers), not for profit. Ecosocialism, thus defined, problematizes both the capitalist labor process and also the structure of use value and needs (consumption). In this sense, ecosocialism seeks to make traditional socialism live up to its own critical ideals.

The irony noted above can be partly explained by the failure of traditional socialism to problematize the conditions of production, or "land" and "labor," Polanyi's terms for fictitious commodities, that is, those things that are treated as if they are commodities but that are not produced as commodities. With respect to "true" exchange values (e.g., sheet steel, the car), the market sees to it that the desired quantities and qualities of a particular commodity are produced and allocated to the right buyers at the right place and at the right time. The market here functions as a complex set of coordinates of production and consumption. The demand for profits governs the demand for particular capital goods (use values) and the social demand (need) for housing, transport, food, and so on governs the demand for consumer goods (use values).

However, the market plays no such systematic role in the supply of the conditions of production, for example, laborpower of a certain type, soils, water, urban space, and infrastructure. While land (and "nature") and labor markets help to determine the *allocation* of given supplies, they have little to do with the *production* (and *reproduction)* of these supplies. The production of the conditions of production, in fact, presupposes a vast system of private and public, secular and religious, lower and higher, and technical and nontechnical education; a complex system of environmental regulation of land use, agriculture, forestry, and so on; and another complex system of urban transport planning, zoning, and the test.

The site-specific character of land (nature) and the "person-specific" character of individual laborpower, together with the absence of a true market for either, means that the issue of the use values of both land and labor comes strongly to the fore. The state doesn't have to think very much about the production and allocation of sheet steel, for example, but it does have to concern itself with the production/reproduction of a qualified labor force, alternative uses of land (nature), zoning of space, and so on.

Traditional socialism pertains to the production and reproduction of capital. Ecological socialism pertains to the production/reproduction of the conditions of production. Ecological socialism thus has a broader scope, that is, is more universalistic, than traditional socialism. But ecological socialism is also more particu-

laristic in the sense that it is concerned, for example, with the health problems of particular groups of workers, pollution problems in certain communities, zoning . problems in certain districts, and so on.

My idea of ecosocialism is not only that concrete labor (labor and land) and use values/needs *should be* critiqued but also that they are, in fact, being critiqued by social movements. In this sense, ecosocialism is not, strictly speaking, a normative position but rather a positive analysis of socioeconomic conditions and *imminence.* The claim is that many, if not most, workers, oppressed minorities, communities, environmentalists, and others engaged in identity politics and politics of place (including the workplace) today are, in fact, struggling to subordinate exchange value to use value and the production for profit to production for need.

More specifically, ecosocialism is the theoretical critique of the ways that capitalist production relationships influence or otherwise shape the productive forces (defined as land, energy, raw materials, technology, machinery, labor skills, work organization, and other means and objects of production and *also* as housing, transport, and other means and objects of reproduction or consumption). Also, ecosocialism is the practical critique of these productive and reproductive forces defined in terms of the social movements/struggles to modify or abolish these forces on the basis of alternative technologies, work relationships, modes of transport, parenting arrangements, and so on.

Observers of the "new social movements" have not paid enough attention to the specific objectives of these movements, especially their challenge to a wide range of land uses, labor processes, and final use values. Social movements, in fact, are challenging land use practices in ranching, food production, raw material production (e.g., cotton), forestry, and mining (e.g., strip mining). Challenges to water use practices abound, for example, factory fishing, pollution of water tables, lakes dying from acid rain, and so on. There exist practical critiques of labor processes as disparate as those in petrochemicals, paper and pulp, nuclear power, and other capital goods industries; and also in a variety of Department II industries, for example, furniture, dry cleaning, clothing, leather products, and toys, among others. Office work using personal computers is under attack as unhealthy, as are high stress levels in high-tech sectors. Occupational health and safety are near-universal concerns. Similarly, a wide range of use values is being challenged by Greens and others, for example, fossil fuel energy, the auto, and the auto culture; cultural products of sex and violence in the mass media; and the TV wasteland. We can also add attacks on consumer practices in food purchase and preparation (unhealthy diets); recreation (physical inactivity); low-density suburban housing (wasteful of building materials, energy, roads and highways, etc.); gray cities (instead of green cities); and even the production of waste (the critique of current uses of sludge) and, of course, poor water and air quality and threats to farm land and green belts.

In conclusion, I have organized a range of issues in Appendix 1, comparing and contrasting some of the distributive/quantitative dimensions of traditional

socialism with the productive/qualitative features of ecological socialism. The reader will see that there is a wide range of differences between the two models, hence acquire a sense of just how much ecological socialism works as a critique of traditional socialism, as well as of capitalism.

Finally, Appendix 2 summarizes (rather tersely) the differences between what I call "social democratic distributive justice" and "ecological socialist productive justice" Just as an enormous range of land use practices, labor processes, and use values are today subject to various types of sociopolitical critique, so, too, has the concept of a just society shifted focus from quantitative to qualitative concerns, and from processes of the distribution of the social product to those of the production of this product. Ecological socialism in highly diverse and fecund forms has arrived, and more will be heard from the red green account of the capitalist world, and of its wide range of alternatives to what has become a highly inequitable and irrational global economy.

NOTES

[1] This is the ecological economic definition of use value. Marx might have had this definition in mind when he wrote *(Selected Correspondence,* p. 106): "Use value—whether considered subjectively as usefulness of work, or *objectively* as utility of the product..." (italics added). It is similar to Böhm-Bawerk's concept of objective value, or the capacity of a commodity to bring about a certain objective result. "We may speak of the nutritive value of foods, of the fuel value of wood and coal, of the fertilizing value of various fertilizers . ." (quoted in Nikolai Bukharin, *Economic Theory of the Leisure Class* [New York: Monthly Review Press, 1972), p. 62). In the bourgeois definition, use value is determined by the individual's subjective evaluation of a commodity in terms of his or her own sense of well-being.

Reproduction is not an issue in bourgeois economics because laborpower is not regarded as a (fictitious) commodity. Workers are said to sell labor services, not laborpower, to capitalists.

[2] Marx's description of changes in the labor process from "simple cooperation" to "modern industry" illustrates the *quantitative* leap in labor productivity arising from complex "modern" forms of cooperation mediated by machinery.

[3] While all "economic categories" in Marx's theory of capital do double duty as economic and sociological categories (e.g., S/V is an indicator of the power of capital over labor and also a measure of potential realization crisis), Marx did not develop his theory in terms of class relations between workers and capitalists, workers and landlords, etc. In other words, Marx invented a brilliant method for studying the antinomies of capitalism, then made an economic analysis that failed to make use of this method. "Class struggle" per se plays a central role in Marx's theory only in the determination of hours of work.

[4] Marx did focus on the use value of productive inputs in his analysis of the "cotton crisis" in Britain during the American Civil War. But, in the late 1960s and 1970s, for example, Marxist economists (including myself), who developed different kinds of "wage push" or "profit squeeze" theories of economic slowdown, were sharply criticized by orthodox Marxists who deployed a more systems theory-type analysis of the.' "tendency of the profit rate to fall" in their explanations of the economic troubles or the time. Marx also identified irrational and destructive capitalist land and labor practices (e.g., soil-depleting agriculture) arid also harmful consumer goods (e.g., the building materials of much working-class housing).

[5] Both 19th-century socialists and labor movements viewed themselves as engaged in a practical critique of

liberalism (the former usually at the level of politics, the latter usually at the level of the labor market and workplace). Labor viewed socialism as the fulfillment of liberalism in the sense that crisis-free economic growth, full employment, etc., would make real liberalism's formal (legal) promise of freedom and equality. Marx and perhaps most socialists believed that capitalism was inherently driven by selfish motives and was, by definition, a destroyer of "traditional" community. But both reformist and revolutionary camps stressed the need to reestablish humane social relations and community, one camp viewing the social democratic (welfare) state as the embodiment of this new humanism and community, the other rejecting the social democratic state as just another form of alienation and exploitation.

APPENDIX 1

COMPARISONS AND CONTRASTS BETWEEN TRADITIONAL SOCIALISM AND ECOLOGICAL SOCIALISM

I. GENERAL	
Traditional Socialism	**Ecological Socialism**
Universalistic, quantitative critique of capitalism/exchange value (effective demand, liquidity, etc.)	Particularistic, qualitative critique of capitalism/use value (the integrity of the site, specific tasks in labor process, the individual, etc.)
Concrete labor arid use value not problematized	Concrete labor and use value problematized
Relation between abstract labor and *exchange* value: A change in one presupposes a change in the other	Relation between concrete labor and *use* value: A change in one presupposes a change in the other
Focus on production and circulation of capital (workplace and markets)	Focus on conditions of production (society and the state)
Capitalist production relations create poles of wealth and poverty between classes, regions, countries, and continents (exchange value); North's economic debt to the South	Capitalist production relations degrade productive forces (land, concrete labor) and reproductive forces (use values); North's ecological debt to the South
Capitalist production relations (work relations) result in the economic exploitation of the worker (abstract labor)	Capitalist production relations (work relations) result in the biological exploitation of the worker (concrete labor)
Use value of machinery defined in terms of raising worker productivity	Use value of machinery defined in terms of workers' safety and health, pollution, etc.

Use value of laborpower fact that it can produce more value (surplus value) than is required to reproduce itself	Use value of laborpower = fact that it has the capacity for concrete labor of certain kinds
Use value of money capital = has the function of producing exchange value, i.e., profit	Use value of money "capital" has the function of producing use value

II. CRISIS THEORY

Traditional Socialism	Ecological Socialism
Focus on quantitative breaks in the circuits of capital (solutions: deficit spending, lower interest rates, etc.)	Focus on qualitative breaks in the circuits of capital arid the conditions of production (solutions: energy policy, education policy, etc.)
Presupposes availability of inputs, e.g., land and labor; presupposes use value of outputs	Problematizes availability/types of inputs (e.g., energy, soils, laborpower defined biologically, etc.); problematizes use value of outputs (e.g., diets, the uses of leisure, housing patterns, etc.)
Focus on the availability of new investment outlets, i.e., the demand for capital	Focus on the availability of land, energy, labor, and other inputs, i.e., the supply of capital
When labor movements are contained within capitalist production relations: crisis displacement (debt crises, government fiscal crisis, etc.)	When new social movements are contained within capitalist production relations: crisis displacement (government "overregulation of land, labor, etc.—i.e., legitimation crisis)
Shift to export crops, away from subsistence crops, leads to economic impoverishment in the South	Shift to export crops, away from subsistence crops, leads to ecological impoverishment in South
Green Revolution = economic overproduction, economically undermining direct producers	Green Revolution = monoculture, loss of plant resilience, etc., ecological underproduction, ecologically undermining direct producers

III. NATIONALIZATION/SOCIALIZATION OF MEANS OF PRODUCTION	
Traditional Socialism	**Ecological Socialism**
Nationalization: statism is the new social form of production relations (relations between the state and the citizenry) corresponding to the increased social nature of the productive forces	Socialization: socialism is the new social form of production relations (relation between the working class and itself) corresponding to the increased social nature of the productive forces
Nationalization as the critique of exchange value/redistribution of wealth and income; commodity (individual) form of need satisfaction	Socialization as the critique of use value/redefinition of wealth and income; social form of need satisfaction
Nationalization doesn't presuppose any particular means and objects of production or concrete labor or use values produced	Socialization presupposes particular land uses, technologies, worker skills, and use values produced
Nationalization: "Appropriate" for the age of national capitalism?	Socialization: "Appropriate" for the age of global capitalism?
IV. SOCIAL MOVEMENTS/SOCIALISM	
Traditional Socialism	**Ecological Socialism**
Downgrades issue of land/community (or seen as petty bourgeois or anarchist issue)	Upgrades issue of land/community (to go with workplace/labor issue)
Downgrades issue of concrete labor (Engels's technological determinism)	Upgrades issue of concrete labor (neo-Marxist critique of technological determinism)
Downgrades consumer movements (as middle class or petty bourgeois or special interest)	Upgrades consumer movements (critique of use value: targets use values from hamburgers to the car culture to TV culture, etc.)

Economic exploitation can be discussed without particular reference to the division of industrial laborers/specialization of laborers (although not to the division of labor/specialization of labor)	Biological exploitation cannot be discussed intelligibly without a discussion of the division of laborers/specialization of laborers/forms of integration of workers
Uneasy balance between top-down economic planning and worker control of industry	Sublation of top-down planning and worker (and community and user) control of industry, i.e., democratic state (democratize bureaucracy = popular bureaucracy)
Seeks a meritocracy—"Be all you can be"/individualism	Critique of meritocracy—reproduces natural inequalities as it abolishes social inequalities/social individuality
Ends hunger and starvation due to economic impoverishment	Ends hunger and starvation due to ecological impoverishment
Food security = more equal distribution of income plus regional or national self-sufficiency. Does not problematize land use, etc.	Food security = more self-reliance; mixtures of traditional and scientific agriculture; etc. Problematizes land use, etc.
Ends economic exploitation and political repression of indigenous peoples	Ends biological exploitation and political repression of indigenous peoples
Economic struggles (Keynesianism, minimum wage, etc.) to redistribute wealth and income fought at national level	Economic struggles to redistribute wealth and income, end child labor, etc., fought at international level (e.g., anti-NAFTA forces)
Transitional employment program: Reduce hours of work plus create socially useful jobs as an "addition" to capitalist need satisfaction in the commodity form. Doesn't problematize demand side and doesn't deal with causes, only effects	Transitional employment program: Reduce hours of work plus create socially useful jobs (to prevent social costs, clean up social costs, etc.) as an "alternative" to capitalist need satisfaction. Problematizes demand side and deals with "causes"
Socialist construction (crisis-free development of productive forces)	Socialist reconstruction (redefinition of land use, concrete labor, use value, etc., leads to maintenance/restoration/ preservation/ conservation)

APPENDIX 2

ECOLOGICAL SOCIALIST AND PRODUCTIVE JUSTICE

In bourgeois thought, "justice" refers to the equitable distribution of things, not the equitable *production* of things, for example, the equal application of the law to all, not the equal production of the law by all (in fact, law is produced by elites). Bourgeois justice is thus "distributive justice," not "productive justice." More, distributive justice pertains, first and foremost, to *individual* rights/claims, not to social rights/claims.
There are at least three types of "social distributive justice," or types of justice that pertain to *groups* or *classes* of people, rather than to individuals as such. These might be called "social democratic distributive justice"

- *Economic justice* consists of the equitable distribution of wealth and income (and economic goods generally), on the one hand, and the burdens of producing this wealth and income, on the other. For example, social democrats usually believe that workers should be compensated by coupon-clippers, perhaps via a progressive tax and welfare state, in return for the burden of the labor that produces the material well-being of the idle rich.
- *Ecological or environmental justice* is the equitable distribution of environmental advantages (e.g., views, river-bottom land for farmers), on the one hand, and environ-mental hazards, risks, and costs (e.g., proximity to toxic waste dumps; eroded soil), on the other hand. For example, oppressed minorities and others living near toxic waste dumps should be compensated by the producers of the toxics and also by those who benefit from the products manufactured in factories that produce "unwanted by-products" (toxics).
- *Community or communal justice is* the equitable distribution of benefits and harms to the treasuries, moral values, steering capabilities, and so on, of particular communities resulting from capitalist production and accumulation. For example, suburbanites who commute to cities and use city facilities and services should pay a "commuter tax" to compensate city dwellers. Communities whose social fabric is harmed by new freeways, new superstores, and the like should be compensated by drivers, customers of the superstore, and so on.

In all three cases, there is also a *social debt* owed by some groups to others, a debt that should be amortized. (1) An *economic* debt that capital owes labor, women, minorities, arid the like; that present generations owe future generations; and so on. (2) An *ecological* debt that the North owes the South, and so on. (3) A *community* debt that socially and morally distressed communities badly impacted by capital accumulation are owed by the capitals guilty of creating these harms.

The three types of social distributive justice presuppose that everything, all pluses and minuses (positive and negative externalities), cm be measured by the lowest common denominator: money. Otherwise, the cost of distributive justice would be too high, for example, in the case of physically distributing uranium tailings that harm Native Americans to Beverly Hills, Akron, and other cities in accordance with utilization levels of

nuclear power and (perhaps) ability to pay. Instead, harm to Native Americans (and others) should be compensated in monetary terms. This means placing a price on the health, lifespan, and well-being of Native Americans. In capitalism, the only way to establish a rational price is to calculate income losses borne by radiation victims plus damages for health bills and general "suffering."

Distributive justice ("ecological social democracy"?) thus presupposes the market as presently defined, and the calculations of fines and bonuses, and taxes arid subsidies, in terms of market valuations of human life and health (not to speak of the life of endangered species, etc.). Consider the traditional example of compensation given by an upstream polluter to a downstream user of water—a plausible example if we assume that the social character of social production is undeveloped.

However, the greater the distance between sociophysical reality and the traditional example, the more inapplicable or impractical the concept of distributive justice. Consider global warming. In principle, distributive justice would compensate all those without cars, and all those who don't use their cars very much, from funds taxed from car owners/heavy car users/truck owners, and so on. This is, of course, an irrational and stupid idea. Production and reproduction processes (of laborpower, of nature, of community, of commodities) have become so *social* in character that there is no way to calculate benefits and costs to individuals and groups. Why shouldn't Bill Gates pay some hundreds of millions of dollars to one or two generations of particle physicists (and others) whose labors were a necessary condition for Gates's wealth? Because there is no way to allocate funds fairly; science and technology are so social in character and there is such an incredibly complex division of labor and specialization of function that there are no sensible criteria to use to calculate costs and benefits.

In sum, the development of an increasingly *social* system of production, distribution, exchange, and consumption means that distributive justice is increasingly impossible to determine and to administer. This means that what we call *"productive justice"* (and in the case of ecology, *"ecological socialism,"* rather than "ecological social democracy") becomes not only increasingly possible but also more and more necessary for equity.

In sum, "ecological social democracy" pertains to the equitable *distribution* of the

pluses and minuses of production and accumulation, that is, the social relations of exchange. “Ecological socialism” pertains to the *production* of pluses and minuses of production and accumulation, or to the social relations of *production,* including work relations. Productive justice stresses labor processes and products (concrete labor and use values) that minimize negative externalities of all types and maximize positive externalities, for example, by favoring a firm that engages in community building, self-development possibilities on the job, zero tolerance for toxics, and so on. *Productive justice minimizes the need for, or does away altogether with, distributive justice, which, in any case, is impossible to realize in a world of developed forms of social production.* The only feasible form of justice is therefore *productive justice;* and the only feasible vehicle of productive justice is *ecological socialism.*