

SOCIETY AND NATURE:

Recent Trends in the Study of Latin American Environments

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- CULTURE AND GLOBAL CHANGE: SOCIAL PERCEPTIONS OF DEFORESTATION IN THE LACANDONA RAIN FOREST IN MEXICO.* By Lourdes Arizpe, Fernanda Paz, and Margarita Velázquez. (Ann Arbor: University of Michigan Press, 1996. Pp. 115. \$44.50 cloth, \$19.95 paper.)
- GREEN GUERRILLAS: ENVIRONMENTAL CONFLICTS AND INITIATIVES IN LATIN AMERICA AND THE CARIBBEAN.* Edited by Helen Collinson. (London: Latin American Bureau, 1996. Pp. 250. \$19.00 paper.)
- IN THE SOCIETY OF NATURE: A NATIVE ECOLOGY IN AMAZONIA.* By Philippe Descola. (Cambridge: Cambridge University Press, 1994. Pp. 372. \$69.95 cloth.)
- FLOODS OF FORTUNE: ECOLOGY AND ECONOMY ALONG THE AMAZON.* By Michael Goulding, Nigel J. H. Smith, and Dennis J. Mahar. (New York: Columbia University Press, 1996. Pp. 193. \$29.95 cloth.)
- FROM "GREEN HELL" TO "GREEN" HELL: AMAZONIA AND THE SUSTAINABILITY THESIS.* By Stephen Nugent. ILAS Occasional Paper no. 57, Amazonian Paper no. 3. (Glasgow: Institute of Latin American Studies, University of Glasgow, 1993. Pp. 21.)
- THE SOCIAL CAUSES OF ENVIRONMENTAL DESTRUCTION IN LATIN AMERICA.* Edited by Michael Painter and William H. Durham. (Ann Arbor: University of Michigan Press, 1995. Pp. 274. \$59.50 cloth, \$23.95 paper.)
- RIO MARIA: SONG OF THE EARTH.* By Ricardo Rezende. (Maryknoll, N.Y.: Orbis, 1994. Pp. 146. \$14.75 paper.)
- ECONOMIC PROGRESS AND THE ENVIRONMENT: ONE DEVELOPING COUNTRY'S POLICY CRISIS.* By Douglas Southgate and Morris Whitaker. (New York: Oxford University Press, 1994. Pp. 150. \$35.00 cloth.)
- BREAKFAST OF BIODIVERSITY: THE TRUTH ABOUT RAIN FOREST DESTRUCTION.* By John Vandermeer and Ivette Perfecto. (Oakland, Calif.: Food First, 1995. Pp. 180. \$16.95 paper.)

Complexity, a term frequently used to describe tropical nature, applies equally to the literature on Latin America's environments. These nine works as a group comprise a tremendous diversity of approaches to environmental analysis, within and between disciplines. Such diversity in the literature arises from many sources: the amazing variety of natural environments in Latin America; the variety of cultural landscapes deriving from differences in history, demographic patterns, resource bases, and economic and political systems in the various countries; rural-urban differences; divergent disciplinary perspectives; and epistemological differences within disciplines. Ultimately, the array of perspectives and analytical approaches to the study of the environment in Latin America reveals the lack of consensus among scholars about the meaning of *environment* and *nature* as well as *degradation* and *development*. The fact that this is contested terrain with many conflicting road maps makes for a stimulating body of literature.

The environment began to attract sustained interest in the 1970s as tropical ecologists and biologists sounded the alarm about deforestation in Latin America. They focused primarily on tropical forests, especially tropical rain forests, as exemplified by the influential (1975) volume *Amazon Jungle: Green Hell to Red Desert?* Tropical dry forests received attention to a lesser degree through the work of Daniel Janzen, whose energy and perseverance eventually led to one of the early "debt-swaps" that protected the little remaining dry forest in Costa Rica. His work has also been prominent in the vanguard of habitat-restoration ecology.¹ But the large and influential body of literature on the ecology of the American tropics lies outside the scope of this review. Most of the ecological literature focuses on tropical forests (that is, on natural ecosystems) and does not really analyze human relationships with them. Humans are included only as an undifferentiated impact on the ecosystems under consideration. Such analyses focus on the changes in the impacted ecosystem, not on the nature of the human individuals, communities, and societies that influ-

1. *Amazon Jungle: Green Hell to Red Desert?*, edited by Robert Goodland and H. S. Irwin, appeared in 1975 (Amsterdam: Elsevier). Other influential early works by natural scientists include an article by Gómez-Pompa et al. (1972). Farnworth and Golley's *Fragile Ecosystems* (1974) featured contributions by a "who's who" in tropical ecology, population biology, and biogeography. The team's dual task was to assess the state of ecological knowledge at the time and to address pressing environmental issues, which they acknowledged were beyond the normal scope of the discipline of ecology. These publications represent the beginning of awareness that environmental problems were not simply scientific or technical ones. Most of Daniel Janzen's early works were published in scholarly science periodicals such as *American Naturalist*, *Brenesia*, *Biotropica*, and *Science*. In 1975, however, he published an article in an anthology produced by the American Association for the Advancement of Science. Entitled *Food: Politics, Economics, Nutrition, and Research*, the volume was aimed at a somewhat broader audience (see Janzen 1975). He also edited the seminal *Costa Rican Natural History* (Janzen, ed., 1983).

ence humans' interactions with nature. My review, in contrast, will focus on the nature of relationships between humans and their environments from various social science perspectives.

During the 1980s, social scientists became increasingly interested in the social construction of nature, which led various scholars to bring new approaches to the analysis of how different cultures (or groups within cultures) perceive the environments in which they live and how they act upon their surroundings. Cultural anthropologists and ethnoscientists began to question the uncritical acceptance of the concept of "nature" as "the Other," some sort of pristine "wilderness" outside human culture. Philippe Descola's *In the Society of Nature: A Native Ecology in Amazonia* exemplifies this approach. A growing body of literature began to reveal that the inhabitants of tropical ecosystems had been modifying them in subtle and not-so-subtle ways for thousands of years.² Some researchers have even argued that the much-publicized biodiversity of the tropical rainforest was partly the result of human activities, especially swidden cultivation and the management of forest succession during periods of noncultivation. The whole notion of "nature" and the dualism between humans and nature have begun to be questioned.

Other researchers have attempted to place humans' perceptions in a larger context, considering how cultural and social factors encourage certain attitudes and behaviors. *Floods of Fortune* by Goulding, Smith, and Mahar under review here explores past and present human interactions with the Amazon River and its riparian ecosystems. Lourdes Arizpe and her coauthors explore local perceptions of deforestation in the Lacandona rainforest in *Culture and Global Change*. Cultural ecologists in particular, beginning in the late 1970s, published research findings that eventually attracted the attention of the wider public and popularized concern over the destruction of tropical rain forests.³ Some cultural ecologists, such as Susanna Hecht, James Nations, and Marc Edelman, moved beyond studying local-scale interactions between humans and the environment to analyze the impact of economic and political policies (at national and international levels) on land-use decisions at the local or regional level. Their

2. Darrell Posey's work on the Amazon and Janis Alcorn's on Mexico exemplify this new appreciation of ethnoscience (see Alcorn 1990, Posey 1983). More recent sources include Redford and Padoch (1992).

3. Susanna Hecht's work in the eastern Amazon was eventually published for popular audiences as *The Fate of the Forest*, coauthored with Alexander Cockburn (1990). James Nations's work in Mexico and Central America has also been widely disseminated in nonspecialist arenas. His article "Rainforests and the Hamburger Society," coauthored with Daniel Komer (1983), has been reprinted in various places and has helped bring "the hamburger connection" to public awareness. This work is rooted in the groundbreaking (but less-known) work of geographers such as James Parsons, who published "The Spread of African Pasture Grasses to the American Tropics" in the *Journal of Range Management* in 1972 and "Forest to Pasture: Development or Destruction?" in the *Revista de Biología Tropical* in 1976.

work helped establish the new field of political ecology, which continues to evolve. Its growth is evidenced by several of the works included in this review: *The Social Causes of Environmental Destruction in Latin America*; *Breakfast of Biodiversity*; *From "Green Hell" to "Green" Hell*; and *Green Guerrillas*.

The earliest work in the field of political ecology tended to focus on the rural sphere, seeking the roots of environmental degradation of the Latin American countryside. Analyses concentrated on a couple of themes: the impact of economic boom-and-bust cycles (based on commodities like beef, bananas, nontraditional agro-exports, and shrimp); and international political and economic forces (especially the United States and multilateral agencies) that imposed the U.S. development paradigm on Latin America. At first, the major concern was destruction of tropical rain forests, especially in Amazonia but also in southern Mexico and Central America. Research emphasized the roles played by frontier colonization and cattle in the demise of remaining tropical forests in Latin America. Much of this literature tended to center on internal dynamics, on domestic factors such as inequitable land tenure or public policy driven by the interests of landed or other economic elites, although recognizing that international factors like commodity markets affect domestic policies. Then as the 1980s wore on, interest expanded in the effect of international forces. Researchers using this perspective analyzed geopolitical forces (especially U.S. hegemony in Central America), foreign debt, and the structural adjustment policies imposed on many Latin American countries following the economic collapse of the early 1980s.⁴ Eventually some political ecologists' concerns began to merge with rising interest in new social movements in Latin America, given that local environmental issues (often exacerbated by structural adjustment policies, for example) have become one of the key rallying points for grassroots social movements in the region.⁵ This convergence is exemplified by *Río María* and *Green Guerrillas*.

As the only title that raises urban environmental concerns (in a handful of case studies), *Green Guerrillas* also highlights one of the ironies of environmental research in Latin America. Despite the fact that most Latin Americans live in urban environments, relatively little published research on the environment reflects that reality. Most environmental literature focuses on rural Latin America, possibly reflecting the Western construction of "the environment" to mean "nature"—what existed before humans created farmland and built towns and cities. Eventually, however, in the face of evidence that could no longer be ignored, urban environ-

4. In addition to some of the titles reviewed in this essay, several other excellent volumes exemplify this analytical approach. See Barry (1987), Faber (1993), and Goodman and Redclift (1991). A body of periodical literature is growing that is grounded in the political ecology approach. For examples, see Chapman (1989), Edelman (1990), Grossman (1993), and Hecht (1985).

5. For further discussion, see Haber (1996).

mental problems began to receive more attention, partly because local activists started protesting a variety of environmental insults in urban areas, especially in poor *barrios*. Much of the research on urban environmental problems is published in periodicals (like *Environment and Urbanization*) or is fugitive literature in the form of unpublished reports by nongovernmental organizations and government agencies (available only in-country). Relatively few books can be found on the subject, certainly no popular works like *The Fate of the Forest*, *In the Rainforest*, or *Floods of Fortune*.⁶

Social Science Perspectives

Floods of Fortune: Ecology and Economy along the Amazon by Michael Goulding, Nigel Smith, and Dennis Mahar is an excellent example of the holistic approach that geographers apply in understanding a region by studying both ecosystems and the human societies that inhabit (and modify) them. This book is an interesting hybrid: a glossy coffee-table book with a sound scholarly foundation. Intended for a well-educated audience, it is highly informative as well as attractively presented. The strength of *Floods of Fortune* derives from the authors' in-depth familiarity with the region. All three have lived and worked in the Amazon for more than two decades. They know regional ecosystems and peoples intimately. They also know the history of the region, as well as the impact of recent policies that have encouraged destructive changes in land use. In addition to critiquing the impacts of "development" as it has occurred over the past two decades, the authors document a variety of traditional livelihood strategies and assess the probable success of various development initiatives that have been proposed for the region.

Goulding, Smith, and Mahar do not engage in much policy analysis in *Floods of Fortune*. Although they mention increasing competition (due to commercial exploitation of resources traditionally used by *ribeirinhos* in their livelihoods), they do not really engage the issue of power and powerlessness or the problem of uneven development. Their approach is nonetheless a refreshing blend of natural and social science, which includes appreciation of the value of traditional knowledge systems. The authors suggest that the floods should be regarded as a resource rather than a problem, and their book focuses on how regional development could be organized to make the most of the riches offered by the floods.

Douglas Southgate and Morris Whitaker's *Economic Progress and the Environment: One Developing Country's Policy Crisis* focuses on Ecu-

6. See Hecht and Cockburn (1990) and *Floods of Fortune*, reviewed here. *In the Rainforest* (1990), by science journalist Catherine Caufield, summarizes major research on the tropical rain forest intended for a popular audience. It also includes endnotes and a bibliography that make it a useful source of information for those beginning to familiarize themselves with rain forest conservation issues.

dor's rural environmental problems. It represents a markedly different approach to the holistic one applied by Goulding et al. In contrast to their multifaceted, integrative framework, Southgate and Whitaker present a monocausal economic analysis of environmental degradation. Given that this monograph seems to be based on work done in conjunction with USAID, it not surprisingly espouses a technocratic modernization approach to environment and development issues. What is surprising is that Southgate and Whitaker are apparently unaware of the large body of literature contradicting a number of their conclusions. Works based on political ecology and on new social movements present analyses of the relationship between development policies and the environment that diverge from the one portrayed here.

Southgate and Whitaker start with a premise about Ecuador's environmental problems that most social scientists would probably accept: "Renewable resource depletion is symptomatic of a policy regime that hinders economic activity in rural areas" (p. 5). The critical questions arise over *why* such policies have come to dominate Latin America. Unfortunately, Southgate and Whitaker never examine the economic and political forces underlying the formulation of these policies. In contrast, the political ecologists whose works will be reviewed in this essay provide more multifaceted and illuminating insights into the causes of environmental degradation.

Southgate and Whitaker suggest that natural resources need to be complemented with more human-made wealth, which could be encouraged by providing secure property rights, more effective macroeconomic and sectoral economic policies, and investment in human capital (meaning better management of workers' capabilities). Their prescription is based largely on technology transfer (of an unspecified sort) and more thoroughgoing neoliberal economic reforms. Their belief in the virtues of modern technology and free-market capitalism is so absolute that Southgate and Whitaker apparently see no need to provide evidence to support sweeping assertions about their efficacy. For example, they claim that the success of the Green Revolution proves that economic growth does not necessarily entail environmental degradation. This very selective reading ignores the significant body of literature criticizing the environmental and social impacts of the Green Revolution.⁷

Economic Progress and the Environment includes many such unsubstantiated assertions. Although Southgate and Whitaker present good evidence that the public sector has mismanaged the economy (and environment), they never demonstrate credibly that neoliberal policies will solve

7. Various critiques of the Green Revolution have been published over the past twenty years that have highlighted its negative social and ecological consequences. They are even discussed in introductory textbooks in human geography, such as Jordan and Rowntree (1990). For more in-depth analyses, see Shiva (1991, 1994) and Yapa (1979).

the ecological and social crises in Latin America. Another unsubstantiated conclusion they put forth is that neoliberalism has had a positive impact on Ecuador's rural economy. The authors neither define what they mean by "positive impact" nor provide any proof that such has occurred. A reading of Ricardo Rezende's *Río María* or any of the political-ecological studies included in this essay would reveal a number of serious challenges to this claim. Southgate and Whitaker's failure to acknowledge other scholarly critiques of the environmental and social impacts of public policy is notable, especially in reinforcing the impression that their worldview is so absolute that it is impervious to alternate explanations.⁸

Finally, *Economic Progress and the Environment* exhibits a number of internal contradictions that suggest a shallow understanding of basic ecology and physical geography as well as social and cultural studies made by scholars in other social sciences. For example, Southgate and Whitaker apparently do not understand the major differences between natural (or semi-natural or managed) forest ecosystems and monocultural tree farms. Tree farms do not represent "reforestation." They are farms like any other, except that their crop is trees. Tree farms lack the species diversity and thus many of the ecological structures and functions of wild forests. In this respect, Southgate and Whitaker stand out among the other authors reviewed here in their lack of understanding of tropical ecology. Other contradictions include a lack of awareness of the relationship among neoliberal policies, modernization, and environmental degradation. For example, in one chapter, they discuss water pollution due to industrial and agrochemicals but make no connection between these chemicals (and their discharge into the environment) and the neoliberal policies and technology transfer that they themselves espouse as part of modernization. Neoliberal economic policies encourage foreign investment in industrial and agribusiness enterprises, while simultaneously discouraging environmental protection by the state. Yet Whitaker and Southgate conclude, "For the most part, environmental problems analyzed in this book arise because of excessive governmental interference with market forces and private property rights" (p. 77). Rezende (in *Río María*) powerfully refutes this analysis, as do Stephen Nugent and the other authors discussed in the following section on political ecology.

The Political Ecology Approach

The analysis offered by the political ecology framework seems to reveal most effectively the processes whereby the global economy, work-

8. For alternate explanations, see Hecht (1985), Goodman and Redclift (1991), and Thrupp (1994).

ing through various domestic interests, undermines environmental health in Latin America. Nugent's discussion paper is only one of four examples of political ecology reviewed here. The increasing popularity of this perspective suggests that many researchers find its holistic and integrative approach more satisfying than monocausal explanations of environmental degradation. Painter and Durham have pulled together an edited volume of scholarly papers on various environmental problems in Latin America, all analyzed from the perspective of political ecology. Helen Collinson has done the same for a popular audience in a collection in which many contributors are activists or journalists rather than academics. Vandermeer and Perfecto, both academics, have written a more focused book on Costa Rica's political ecology for a popular audience. Among them, these titles cover a broad range of topics, geographical areas, and viewpoints under the overall rubric of "political ecology."

Stephen Nugent's thought-provoking essay, *From "Green Hell" to "Green" Hell: Amazonia and the Sustainability Thesis*, challenges the argument presented by Southgate and Whitaker. Nugent clearly wants to provoke debate and employs a cheeky journalistic style in doing so. He too makes rather sweeping statements that are not always thoroughly documented. A sample of Nugent's rhetoric suggests the tone of this essay:

The second reading [of the assassination of Chico Mendes] belongs to an emerging discourse, still immature, but granted a name: eco-babble. Discussions of Amazonia have become a centre-piece in a concerted claim whose broad features are the following: in an effort to maintain the historical asymmetry between mega-resource consumers and the inhabitants of crucial resource domains, the "green" card is being played, and while it is nominally being played "for the greater good" (i.e. the planet), the major sub-text is that if neo-Amazonians wish to play the game of conservation, they will do so as Tontos to the Lone Rangers of global management: they will be available as management resource, local talent willing to play ball with the technocrats. (P. 8)

Nugent's essay occupies interesting terrain that bridges political ecology and the emerging academic concern with new social movements, and from an interesting angle. His intent is to reconsider the issues raised by remote interest groups that have "rediscovered" the Amazon and are attempting to affect its development by applying the notion of "sustainability," sometimes by utilizing local grassroots activists. Nugent's clever title reveals his concern: that foreign environmentalists have imposed their views on the region, views that are being implemented via policies that lead to restrictive control of the resources necessary for the livelihoods of Amazonian peoples. Nugent critiques "sustainability" as fundamentally flawed because it is based on perceiving the Amazonian environment as a management (technical) issue that can be solved by technology transfer or more efficient application of indigenous (or local) knowledge. Furthermore, the mainstream view of the Amazon "natural-

izes" its human inhabitants by treating them as part of the environment, not as agents of environmental change. Yet a common contradictory view holds that humans are destructive agents, whose impact on the environment must be restricted for the common (meaning global) good.

Nugent argues that these views are naive and ignore the social and historical context of Amazonian peoples. In particular, he points out that extractive economies are embedded in a set of highly exploitative social relations. Amazonian forest peoples have been progressively marginalized since Europeans began to exploit the region economically in the nineteenth century. First the Indians and then the caboclos became "largely invisible against the backdrop of Amazonia as nature" (p. 7). Denying these groups agency and naturalizing them makes it easier to subsume them under an allegedly higher priority—global ecological stability (whether couched in terms of preserving biodiversity or stabilizing the global climate). And as Nugent points out, current concern with tropical deforestation is framed by an analysis that is "self-serving of those interests whose activities have generated the global environmental crisis" (p. 3).

The Social Causes of Environmental Destruction in Latin America, edited by Painter and Durham, is an interesting collection of scholarly case studies of deforestation by anthropologists who all utilize the analytical framework of political ecology. The six case studies, half from Central America and the other half from South America, highlight differences in the political ecologies of the various countries. Yet, the underlying causes of deforestation are clearly the same in all of the countries, despite differences in how the process unfolds in each locale. Each case study is amply documented with data, sometimes excessively so. This evidence provides support for Nugent's generalizations, and further calls into question the conclusions reached by Southgate and Whitaker.

The Social Causes of Environmental Destruction in Latin America demonstrates the usefulness of political ecology for exploring the linkages between local, national, and global levels. It makes a valuable contribution to the development of political ecology as a coherent analytical framework seeking a balance between theory and field-based data collection and analysis. Editors Michael Painter and William Durham contend that political ecology situates the causes of environmental degradation in the social relations of production, specifically in the dynamics of social classes and power differentials on levels ranging from local to international. All the case studies move beyond simplistic application of dependency theory to examine how international economic and political forces interact with national and local institutions and power relations, and how they affect policy formation and implementation. Some contributors also bring in such factors as ethnicity, gender, and spatial location in addition to class analysis. Each case study elucidates a different aspect of political ecology and enhances understanding of how capital accumulation simultaneously en-

riches and impoverishes different groups. Together they demonstrate how this process follows two different paths to environmental degradation: by increasing market demand that fuels the expansion of commercial production while the immiseration of the poor leads to environmental degradation. *The Social Causes of Environmental Destruction in Latin America* helps advance the debate about “sustainable development” by exposing the oxymoronic nature of much of the discussion, especially by mainstream international development and environmental agencies.⁹

Breakfast of Biodiversity: The Truth about Rain Forest Destruction by John Vandermeer and Ivette Perfecto situates deforestation in the complex interdependent interactions among various processes of the natural world and human societies. The result in Latin America is often land hunger and food insecurity. The authors assert that poverty and hunger are the root causes of deforestation in the third world, and they set out to find out what causes them. Vandermeer and Perfecto use Costa Rica as a case study to explore the question of why there are peasants who need to cut down forests. The authors reveal how peasants are forced to destroy forests by politico-economic structures over which they have no control. *Breakfast of Biodiversity* is well documented and integrates a wealth of information from the natural and social sciences. Vandermeer and Perfecto present the basics of tropical ecology more strongly than the social science aspects, not surprising in light of their training in the natural sciences. Nonetheless, they present a detailed and sophisticated study of Costa Rica’s unsustainable development policies from the perspective of political ecology.

Vandermeer and Perfecto succinctly portray the current situation in Costa Rica and show why it cannot be sustained over the long run. They outline how foreign conservation groups and ecotourism operators dominate the remaining forest areas (with minimal local benefits). Banana corporations dominate the rest of the region (at least in Sarapiquí, their study area), hiring and firing workers chaotically. The resulting economic and food insecurity drives *campesinos* into the remaining forests in order to provide for their families. They thus come into conflict with conservation and ecotourism interests over the fate of the remaining forest. Vandermeer and Perfecto carry their analysis to its logical conclusion: the world system has created the conditions that produce deforestation, and therefore the global economy must be changed if tropical forests are to be saved. Overall, *Breakfast of Biodiversity* is intended for an educated general audience and is more readable than *The Social Causes of Environmental Destruction in Latin America*, but the former lacks the range of explanations provided by Painter and Durham in their anthology.

Green Guerrillas: Environmental Conflicts and Initiatives in Latin Amer-

9. Several excellent critiques of “sustainable development” have been published in the past decade. See, for example, Adams (1990) and Redclift (1987).

ica and the Caribbean, edited by Helen Collinson, is an eclectic mix of short case studies. The volume's eclecticism includes the topics and geographic locations of the cases as well as the backgrounds of the contributors, who are more likely to be activists or journalists than academics (nine in number). As noted, this is the only book reviewed here with a section on urban environmental issues. It also includes several pieces on ecotourism and case studies from the Caribbean.

Although the volume's scope is ambitious, some parts are disappointing in their superficiality and lack of comprehensive analysis of the complex interacting factors involved in the environmental problems at hand. Unfortunately, the editor provides no unifying theory or analytical framework to help readers make sense of the disparate case studies included in the anthology. But when read in combination with one of the other political ecology titles reviewed here, *Green Guerrillas* offers a rich body of evidence supporting the conclusions drawn by academic political ecologists.

As a whole, *Green Guerrillas* provides a comprehensive survey of Latin America's environmental problems as well as a hint of some actions being taken to address those problems. Overall, the volume makes a good introduction for undergraduates or the general public to the state of Latin America's environments, particularly in providing some answers by describing the strength and variety of popular struggles against the despoilers and in suggesting policies that work. Unfortunately, the book's usefulness is limited by the short (and sometimes inadequate) bibliographies for each part.

Elizabeth Dore's introductory essay clearly demonstrates the contradictions between neoliberal policies and environmental and social deterioration, an outcome that many of the other contributions corroborate. She also points out the contradictory nature of the "greening" of development discourse during this period. Dore contends that many mainstream environmental organizations "sold out" to the neoliberals who have increasingly come to dominate policy-making in the region. She reminds readers, "In 1970 there was no legitimate voice calling for preservation of the forest. In 1990 no group that sought legitimacy could oppose it in words" (p. 15). State policy continues to promote large capitalist modernization projects in many countries while espousing sustainable development. As a result, grassroots environmental groups have emerged as a major form of political opposition in Latin America. Unfortunately, environmentalists at this point rarely move beyond pressuring for amelioration of a specific environmental problem. Dore calls for a linking of environmental consciousness with a critique of capitalism, which could stimulate a powerful movement for social and environmental transformation in the region. Many of the case studies presented in the anthology begin that process, as do the other political ecology titles reviewed in this essay.

Social and Cultural Perceptions of the Environment

Culture and Global Change: Social Perceptions of Deforestation in the Lacandona Rain Forest in Mexico, by Lourdes Arizpe, Fernanda Paz, and Margarita Velázquez, bridges the gap between political ecology and cultural analysis. The volume's main concerns are values, attitudes, and perceptions regarding deforestation on the part of various groups within Chiapas. The authors seek to understand the cultural and social factors that shape what a person or group perceives and understands. They apply this concept of social perceptions as an instrument of analysis to explain how different social groups understand environmental issues. Unfortunately, however, Arizpe and her coauthors never inquire into the underlying reasons why these groups perceive the issue as they do. The authors pay lip service to the political economy that drives land use in Chiapas but do not attempt to analyze the factors underlying the destruction of the Lacandón rain forest. Yet surely the powerful economic interests that drive land use and environmental policies should be considered as at least part of the social forces affecting the perceptions of various groups, depending on their relative positions within the local and regional economy. Arizpe, Paz, and Velázquez do not deal with this variable in any systematic way. This volume would have been strengthened by a coherent analytical framework such as the one developed by Painter and Durham in *The Social Causes of Environmental Destruction* (both belong to the series "Linking Levels of Analysis").

Culture and Global Change describes environmental perceptions among the inhabitants of a region at the vortex of struggle over resources, cultural survival, and social and environmental justice. The book also makes the case for the need to include social aspects of environmental degradation in the emerging discourse on "global change," which has been dominated by geocentric and biocentric perspectives. To this end, Arizpe, Paz, and Velázquez engage in an interesting discussion of sustainability. They argue persuasively that the concept of social reproduction must be incorporated into the economic and biological definitions that dominate the sustainability discourse.

Unfortunately, the text is difficult to follow in its flow of ideas and language. The authors' point of view swings from that of social critic exposing inequitable access to resources and social reproduction of inequality to the totalizing discourse of resource-management technocrats. For example, they comment, "There is no doubt that global change is transforming all local inhabitants into global citizens" (p. 100). They go on to point out that this trend can have two possible outcomes: a reinforcement of current inequities or a recognition that blatant inequalities in standards of living are immoral and unsustainable. But they do not pursue this line of thought in any depth. At another point, they assert, "since humans are all

equally at risk from the irreversible changes altering the world's biogeochemical balance . . . , reducing this risk means that every one of us will have to pay the cost . . ." (p. 60). Yet it is clear from the data provided in this book and in most of the other volumes reviewed here that not all humans are equally vulnerable. Nor do all pay equally the cost of global environmental degradation (and regulation). This point is what the analysis of social reproduction of environmental and social relations is all about. Those already marginalized by class, ethnicity, gender, age, or geographic location bear the brunt of vulnerability to environmental change and also pay a disproportionate share of its cost. Unfortunately, Arizpe et al. never really engage with the issue of power relations and hierarchies, which lie at the heart of the issue they are considering.

Philippe Descola's *In the Society of Nature: A Native Ecology in Amazonia* is a technical social anthropology monograph on the construction of nature among the Achuar Jivaros of the western Amazon. The author combines a symbolist approach with ecological analysis, although he deals more with culture than with the environment per se. Descola shows how the Achuar perceive their environment and how their technical knowledge of nature is interwoven with cosmological ideas. The book will interest primarily research anthropologists, as it goes into excruciating detail about kinship systems, the meanings of certain Achuar words, and cropping systems. It was obviously written for professional anthropologists familiar with the various schools of thought within the discipline and its specialized vocabulary. For example, Descola disagrees with the perspective of cultural ecology and repeatedly argues against the theories and analytical conclusions of Marshall Sahlins and Marvin Harris. All the while, Descola assumes that readers are familiar with these matters and never summarizes their ideas. The language is turgid and will put off all but the most determined reader.

The detailed field data and intimate knowledge of this group of Amazonian Indians that Descola provides make a valuable contribution to scholarly understanding of alternative ways of living with and utilizing the tropical rain forest. But scholars interested mainly in understanding environmental issues in Latin America will have to wade through several hundred pages of indigenous symbolic meanings in order to learn a bit about the tropical rain forest and a system of living within it without destroying it.

Ricardo Rezende's *Río María: Song of the Earth* focuses primarily on the dynamics of human society, although it implies that as they are constituted in Amazonia, they may lead to degradation of the environment. The book's focus, despite its subtitle, is not the earth but rather the social relations of exploitation of the earth. *Río María* provides compelling documentation of the pervasive social injustice associated with transformation of the Amazon region into real estate in the global economy. Based on

the daily journal of a parish priest in the outback of the northern Brazilian state of Pará, the book is reminiscent of Rigoberta Menchú's autobiography in the horrors that it documents. Although it is not explicitly environmental in focus, the environmental consequences of the unequal struggle over land can be inferred, especially when read in conjunction with other titles reviewed here. Rezende offers an intriguing counterpoint to Southgate and Whitaker's contention that letting the market work will encourage economic growth that benefits the rural poor. Rezende's journal is also a good example of how the progressive wing of the Catholic Church can support social justice movements with environmental implications. Thus implicit in this modest journal is the possibility of a kind of grassroots mobilization of environmental awareness informed by a critique of capitalist "development," like that called for by Elizabeth Dore in *Green Guerrillas*.

In conclusion, the works reviewed here as a group suggest that the political ecology approach provides perhaps the best way yet devised of understanding the dynamics of environmental change in Latin America. Because the state of the environment at any time results from the interaction of society with nature, it is necessary to analyze the complex constellation of social factors that mediate the relationships between humans and the environments in which they live. Multidisciplinary approaches that integrate perspectives from various social sciences with those of ecology (and other natural sciences) seem to provide the most satisfying analyses of relations between humans and the environment.

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