Chapter 16

Political Ecology

Michael Watts

I want to begin by trawling through this week's newspapers, beginning with the occupation by a militant youth wing of the Istekiri people of a number of Chevron oil flow-stations in the Nigerian Niger Delta. Over the last five years, increasingly militant ethnic minorities throughout the oil-producing Delta have aggressively occupied a number of oil installations operated by transnational petroleum companies in the wake of a growing clamor over the control of local petro-revenues by impoverished oil producing communities, and claims for compensation for the ecological destruction associated with 40 years of commercial drilling and pumping. A second story speaks to the question of environmental cancer, and the Blair government White Paper on public health in Britain. It reports on studies that document the extraordinary rise of assorted cancers (of the breast and prostate most notably) over the last 50 years, and the belated public acknowledgment that "pollutants in the environment may cause cancer" (*Guardian Weekly*, July 15, p. 11). The third item marks the release of the new *Human Development Report* (1999) by the United Nations Development Programme (UNDP). Economic globalization, says the UNDP, is creating a dangerous polarization between haves and have nots but little in the way of regulatory structures to counter the risks and threats of globalization (*New York Times*, July 17, p. 4). Central to the UN agenda is the need for a new multilateral environmental agency to regulate the global commons (for example the seas, ozone, and so on). Finally there is a report on the escalating conflicts between, on the one hand, the Brazilian federal ministry of agriculture and coalitions of regional states (led by the Marxist-oriented Rio Grande do Sul), and on the other, local agro-cooperatives over the potential environmental and social consequences of the widespread introduction into Brazil of genetically modified soy by the Monsanto corporation (*Guardian Weekly*, July 15, p. 16).

Environmental issues of this sort are geographical in two senses. First, they are very much the object of study for the field of *political ecology*, which seeks to understand the complex relations between nature and society through a careful analysis of what one might call the forms of access and control over resources and their implications for environmental health and sustainable livelihoods. And second,

they display vividly what geographers call the *politics of scale*. These four events encompass a number of political arenas, from *the body* (the rise of breast cancers in the UK) to the locally imagined *community* (ethnic mobilization around corporate irresponsibility and ecological despoliation) to *state and intra-state* struggles (over Monsanto's first harvest of genetically modified soy) to new forms of *global governance* (multilateral regulation for global environmental problems such as climate change).

Struggles over biotechnology or public health may strike you as wholly commonplace and pedestrian, but it is precisely their quotidian character which marks the extent to which "nature" is now so deeply embedded in late twentieth- and early twenty-first century political identities. As it happens, my "green reading" of the popular press comes at a moment when we are shortly to celebrate the thirtieth birthday of a foundational moment in environmental activism, namely the first Earth Day (1970), and subsequently two years later the United Nations Stockholm Conference on the Environment. But has the politics of the environment changed since these defining moments in the late 1960s and early 1970s? One obvious difference is the enhanced knowledge of, and sensitivity to, trans-border and global forms of environmental harm (ozone depletion, climate change), and the extent to which green issues are legislated through inter-state agreements (the Rio Agenda 21 and the Biodiversity Convention of 1992 for example) and multilateral (inter-governmental) organizations. Indeed, one of the striking trends in the last decade has been the "greening" – with limited success it needs to be said – of multilateral institutions like the World Bank (e.g. the Global Environmental Facility), the World Trade Organization, and regional associations such as the European Union and the North American Free Trade Association (NAFTA).

Another difference turns on the restructuring of global capitalism itself, and quite specifically the profound environmental changes associated with the rapid growth and maturity of the newly industrializing countries (NICs) and the collapse of the socialist bloc. The chickens of rapid industrialization in Brazil and Taiwan, and of 50 years of Stalinist hyper-industrialization in the former soviet sphere, came home to roost in the 1990s. And not least, the deepening of the reach of transnational capital, marked incidentally by the rise of a massive corporate and transnational environmental technology industry (Pratt and Montgomery, 1998), has as its counterpoint a proliferation of social movements which typically link economic and ecological justice (the *politics of distribution*) with human rights and cultural identity (the *politics of recognition*). New social movements can be understood as an effort by national and global civil society – social networks and transnational coalitions – to impose some sort of control over transnational corporations and irresponsible or rogue states, most especially the environmental externalities (toxic dumping) and distributional conflicts generated by the export of industry to the Third World via an increasingly deregulated world economy. The road from Stockholm to Rio is littered, then, with new ecological problems and different ecological politics.

In this chapter, I address the ways in which environmental problems have been addressed in the last 30 years, with a particular attention to the field of political ecology. I want to provide a history of the field – it contains a large body of work, possesses its own electronic journal, and as one might expect of a "mature"

science contains substantial debates within its ranks – and also an overview of its conceptual toolkit and its theoretical claims. I want to show how, since its formation in the 1970s, political ecology has been challenged – and deepened – both by "internal" theoretical debates and by the "external" environmental and political economic realities it seeks to explain. What is striking about political ecology in the 1990s is the way in which it has, true to its name, grappled with environmental politics, by way of a broader and more sophisticated sense of the *forms* of political contention and a deeper conception of *what* is contended: what I have elsewhere referred to as a "liberation ecology" (Peet and Watts, 1996). Central to the new political ecology is a sensitivity to environmental politics as a process of cultural mobilization, and the ways in which such cultural practices – whether science, or "traditional" knowledge, or discourses, or risk, or property rights – are contested, fought over, and negotiated.

The Intellectual Origins of Political Ecology

What, then, is political ecology? The origin of the couplet – politics and ecology – is instructive in itself since it dates to the 1970s (Watts 1983b) when a variety of commentators – journalist Alexander Cockburn, anthropologist Eric Wolf, and environmental scientist Grahame Beakhurst – coined the term to think about the ways in which questions of access and control over resources (that is to say the toolkit of political economy) were indispensable for understanding both the forms and geography of environmental disturbance and degradation, and the prospects for green and sustainable alternatives. The fact that such writers were concerned to highlight politics and political economy – that is to say a sensitivity to the dynamics of differing forms of, and conflicts over, accumulation, property rights, and disposition of surplus – reflects a concern to distance themselves from other accounts of the environmental crisis which sought to locate the driving forces in technology, or population growth, or culture, or poor land use practice.

Political ecology's originality and ambition lay in its efforts to integrate human and physical approaches to land degradation, through an explicitly theoretical approach to the ecological crisis capable of addressing diverse circumstances (soil erosion in Nepal, water pollution in Delhi) and capable of accommodating both detailed local studies and general principles. As a defining text puts it: "[T]he phrase 'political ecology' combines the concerns of ecology and a broadly defined political economy. Together this encompasses the constantly shifting dialectic between society and land-based resources, and also within classes and groups within society itself" (Blaikie and Brookfield, 1987, p. 17). Less a problem of poor management, inappropriate technology, or overpopulation, environmental problems were *social* in origin and definition. Analytically, the fulcrum of any nature–society study must be the "land manager" whose relationship to nature must be considered in a "historical, political and economic context" (Blaikie and Brookfield, 1987, p. 239). Hence, rapid deforestation in eastern Amazonia, to take one example, needed to be understood in terms of why those who were clearing tropical rainforests did so in the pursuit of economically inefficient and environmentally destructive cattle ranching, and how these social forces – ranchers, peasants, workers, transnational companies – were shaped by larger political–economic forces, not the least of which was the role of the Brazilian state through subsidies, corruption, class alliances, and its

backing of the military. In the first generation of political ecology, however, the land managers were almost wholly male, rural, Third World subjects, and curiously unpolitical in their practices and intentions.

What set of ideas and events "produced," as it were, this welding together of ecology and political economy in the first place? To simplify, one can say that efforts to link culture and environment in anthropology and geography arose in part through a combination of Darwinian or evolutionary thinking, the new sciences of ecosystems and cybernetics, the growing political visibility of Third World peasantries (in China and in Vietnam), and the consequences of the Cold War and the atomic bomb. I shall emphasize a post-1945 confluence between three sets of ideas. First, the important connection between cybernetics and systems theory – which derived from the theory of machines and from artificial intelligence developed particularly during World War II – and community ecology. The central figures here were Gregory Bateson and Howard Odum who, while very different in intellectual orientation, provided languages and concepts for thinking about humans in eco- and living systems, the flows of matter, information, and energy that coursed through human practice with respect to the environment, and also the mechanisms – homeostasis, equilibrium, flexibility – by which "adaptive structure" could be maintained in ecosystems.

Second, within anthropology and geography the twin themes of cultural evolution and cultural materialism provided a powerful Darwinian framework for thinking about not only historical change but also patterns of resource use and human adaptation in different environments. In geography this approach was referred to as cultural ecology but it was the Columbia school of ecological anthropology which provided the most sophisticated ideas. Peter Vayda and Roy Rappaport (1967) in the 1960s showed how tribal subsistence people in isolated regions could maintain an "adaptive structure" with respect to their environment. In Rappaport's (1968) terms the natives' "cognized model" of the environment – embodied in various ritual, symbolic, and religious practices – could elicit adaptive behavior understood in terms of the "operational" model of Western ecology. The pig killing rituals of the Tsembaga Maring of highland Papua New Guinea could function as a cultural thermostat, preventing overpopulation by pigs and maintaining some sort of environmental balance with their fragile ecology. Much of this ecological anthropology of the 1960s sought out the "hidden" adaptive functions of culture with respect to the ecosystem, in order to build an abstract model of adaptive structure which existed in all living systems (see Bateson, 1972; Wilden, 1972).

The third lineage is rooted in the social science of the nuclear age and the post-war development of human responses to hazards and disasters. The immediate threat was of course atomic, and the deepening of the Cold War which produced a number of government-funded studies on the perception of, and responses to, environmental threats. Geographers – Gilbert White, Ian Burton, Robert Kates – were very much part of this work in the 1950s and 1960s, focusing on differing sorts of "natural" perturbations – tornadoes, earthquakes, floods – in the United States, and on the perceptions and behaviors of threatened communities and households. Disaster studies centers appeared around the country and sociologists and geographers schooled in survey research, cognitive studies, and behavioralism sought to understand why individuals misperceived or ignored environmental threats, and how

communities responded to, say, the threat of tornadoes versus floods or droughts. By the 1970s Clark University, the University of Colorado, and Ohio State University were centers of hazard or disaster research. Much of this work also drew upon organic analogies – adaptation and response – but was also sensitive to cultural perceptions and questions of organizational capacity and flexibility, and access to information. Systems theory was again central to the intellectual architecture of this body of scholarship (Watts, 1983b).

These three approaches – ecosystems/cybernetics, ecological anthropology/cultural ecology, and natural hazards/disaster research – naturally differed in terms of theoretical approach, points of emphasis and method, and geographical sites, but they defined a ground from which political ecology emerged. What triggered the debate within these fields in the 1970s was a debate over the limits of organic analogies, adaptation, and systems/organization theory. In geography and anthropology the challenge came from two related sources. The first was the proliferation of what one might called peasant studies (Shanin, 1970) in which questions of exploitation, social differentiation, and the role of the market among the Third World rural poor were central. Second, and relatedly, was the growth of Marxism within social sciences, and especially in development studies in a variety of guises (world systems theory, dependency, structural Marxism, and so on) during the late 1960s and 1970s (Bryant, 1998). These two tendencies confronted cultural ecology and ecological anthropology by examining not isolated or subsistence communities in harmony with their physical environment, but rather peasant societies marked by the presence of the markets, deep social inequalities, enduring conflict, and forms of cultural disintegration associated with their integration into a modern world system. Here maladaptation rather than adaptation was the order of the day, in which disequilibrium and positive feedback, rather than balance and community maturity, prevailed. While some geographers tried to understand the development of capitalism within peasant communities in ecological terms (Nietschmann, 1972; Grossman, 1984), political economy provided a different set of questions and answers which had more purchase than the evolutionary and Darwinian toolkit. Marginalization, surplus appropriation, relations of production, and exploitation displaced the old lexicon of self-regulation, adaptation, homeostasis, and system response.

The Political Ecological Toolkit

From its very inception, political ecology never represented a coherent theoretical position for the very good reason that the meanings of ecology and political economy, and indeed politics, were often in question. For Watts (1983a) political economy drew upon a Marxian vision of social relations of production as a dialectical arena of possibility and constraint; for Blaikie and Brookfield (1987) a "broadly defined political economy" (p. 17) meant a concern with effects "on people, as well as on their productive activities, of ongoing changes within society at local and global levels" (p. 21). For Martinez-Alier political economy was synonymous with "economic distributional conflicts" (see Guha and Martinez-Alier, 1998, p. 31).

Notwithstanding this diversity of opinion, the work of Blaikie and Brookfield (1987), and their notion of political ecology (PE), can plausibly be taken as an exemplary formulation of the PE perspective. In their view it contains three essential

assumptions. The first is interactive, contradictory, and dialectical: society and land-based resources are mutually causal in such a way that poverty can induce, via poor management, environmental degradation which itself deepens poverty (p. 48). Second, Blaikie and Brookfield argue for regional or spatial accounts of degradation which link, through "chains of explanation" (p. 46), local decisionmakers to spatial variations in environmental structure (stability and resilience as traits of particular ecosystems in particular). Locality studies are, thus, subsumed within multi-layered analyses pitched at a variety of regional scales. And third, land management is framed by "external structures" which in the lexicon of PE means the role of the state (p. 17), the core-periphery model (p. 18), and "almost every element in the world economy" (p. 68).

What then was the political ecology conceptual toolkit? The first is a refined concept of *marginality* in which its political, ecological, and economic aspects may be mutually reinforcing: "land degradation is both a result and a cause of social marginalization" (p. 23). Second, *pressure of production on resources* is transmitted through social relations which impose excessive demands on the environment (see Watts 1983a on the "simple reproduction squeeze"). And third, the inadequacy of environmental data of historical depth linked to a chain of explanation analysis compels a *plural approach*. One must, in short, accept "plural perceptions, plural definitions . . . and plural rationalities" (p. 16). Implicit here is a sense that one person's profit is another person's toxic dump. While it is not explored in depth by the authors, PE opens the possibility for a serious discussion of how nature and environmental problems are represented and the discursive formations which shape policy and practice (Peet and Watts, 1996).

Collectively this body of work has undermined the Malthusian idea that the "pressure of population on resources" causes environmental collapse, and also challenged the idea that distorted or unfree markets, or poor local management by farmers or regulators, generate environmental degradation (see Little and Horowitz, 1987). Rather, relations of poverty and wealth are a major cause of ecological deterioration (Martinez-Alier, 1989). Political ecology has the great merit of focusing on the social relations that shape practice, and in its sympathy with the poor and exploited it addresses the plight of the vulnerable: both their abilities (local knowledges and practices, see Richards, 1985; Zimmerer, 1996), and their constraints (how relations of production make degradation situationally rational). How persons or households are politically and economically vulnerable is a central analytical device in both the work of Blaikie (1985) on why knowledgeable Nepalese peasants mine the soil and in Watts' (1986) account of how herders in West Africa were unable to manage their rangelands. During the 1980s the focus of PE has been largely Third World and "peasant," in which the land manager figures centrally. Curiously the majority of the world's population – those who live in cities and increasingly in the mega-cities, and without direct access to land – have been studiously ignored.

Deepening Political Ecologies

Like any other field of study, political ecology has been an object of debate and contention (see Vayda and Walters, 1999; Escobar, 1999). For purposes of brevity I shall simply take note of four issues. The first is the uneven way in which politics

was treated within PE. Analysis focused on how marginalization or production pressure caused soil erosion but less on how peasants struggled and fought over those conditions and how such struggles shaped environmental outcomes and attitudes. An exploration of the ways in which the environment appeared in various political arenas – the household, the workplace, the state – was largely missing. A mapping of the variety of environmental politics and movements – and its relationship to theory – had to await the subsequent work of Guha and Martinez-Alier (1998), and Harvey (1996). Second, the weak specification of political economy – and in PE its vague reference to "exogenous" forces and chains of causation – often produced studies that did not explore such key areas as property rights, the politics of markets, and forms of class power which are central to the materialist basis of environmental problems. In this sense, as Bryant (1998) has noted, perhaps PE was not materialist enough, a deficiency that has subsequently been addressed in the field of "ecological Marxism" (see O'Connor, 1999). Third, while PE and earlier ecological anthropology raised questions of perception and cognition, almost no attention was given to the social constructedness of environment and environmental issues by a panoply of actors (the farmer, the scientist, the regulator, the politician, and so on). One effect of not taking discourses seriously was that it left ecology as an unproblematic category (an arena of "natural laws"). It was here that poststructuralism was to have an impact in the 1990s (Soper, 1995).

As a response to this internal critique, political ecology has moved forward substantially in the last 15 years along a number of key fronts which for convenience I shall discuss under two headings: knowledge, power and practice; and politics, justice and governance.

Knowledge, power and practice

Underlying this new work on knowledge is the recognition that any sophisticated political ecology must contain a phenomenology of nature. That is to say it must take seriously Blaikie's (1985) point that the environmental problem can be "perceived" in a variety of ways. The newer political ecology, however, draws from poststructuralism's concern with knowledge, power, and discourse (see Peet and Watts, 1996). Much of this newer scholarship turns especially on what individuals and groups (and *de facto* communities) know and practice with respect to their local environments (so-called indigenous technical knowledge (ITK) which harkens back to earlier studies of ethnobotany). Perhaps the best political ecological study that addresses the question of peasant experimentation and practice, and the threats which this world confronts, is Zimmerer's book, *Changing Fortunes* (1996) which examines biodiversity and peasant livelihoods in the Peruvian Andes. ITK has been widely explored (and there are a number of international organizations devoted to its generation, propagation, and use) and now widely understood within academic and activist circles (Richards, 1985; Brush, 1996). In problematizing environmental knowledges, political ecology has identified a number of core issues. First, a recognition that environmental knowledge is unevenly distributed *within* local societies; second, that it is not necessarily right or best just because it exists (i.e. it can be often wrong or inappropriate); and third, that traditional or indigenous knowledge may often be of relatively recent invention (which is to say these knowledges are not

static or stable but, as Paul Richards (1985) suggests, may be predicated on forms of experimentation). Indeed, it may not be indigenous as such but really is *hybrid* (see Gupta, 1998; Aggrawal, 1999). Indigenous knowledge is of course a tricky idea because most knowledges are not simply local but complex hybrids drawing upon all manner of knowledges – farmers in India may simultaneously employ concepts from Hindu religion and modern Green Revolution technologies. ITK can also take on mystical and ideological forms as in Vandana Shiva's account (1989) of Indian women as "natural" peasant scientists. Insofar as local actors know a great deal about local ecology and that this knowing is typically culturally "institutionalized" and "embedded" in a variety of persons, offices, rituals, and customary practices, the questions become: (i) why has this knowledge been so difficult to legitimate, (ii) under what circumstances can such knowledge/practice be institutionalized without co-optation or subversion, and (iii) how might it be systematized in some way?

Candace Slater's (1994) excellent work on Amazonia reveals another aspect of the knowledge question focusing on how there is a popular imagery of the region (perhaps transnational in appeal), and how this imagery is constructed or made, and how literary, media, and other cultural machinery contributes to what I have elsewhere called a "discursive ecological formation" (Peet and Watts, 1996; see also Guthman, 1997). In her account, the Edenic or naturalized narrative always silences (the Indians have no voice or no voice of their own), and these tropes exclude or distort. Slater ends with the provocation that there is an absence of competing images of Amazonia. True (perhaps?) but under what conditions can competing images *really* compete? In a quite different context, Kuletz's (1997) account of the nuclear damage to the US West also turns on how the landscape is constructed, in part by science, as "worthy" of being subject to nuclear attack (its desirability for the state was its "undesirability" and of course the invisibility of Native American communities). But do these images and constructions of landscape really have the power and effect implicit in these accounts of narratives? Are they "just" images and irrelevant to the hard edges of political economy and environmental destruction?

Another approach to environmental knowledge production targets environmental science and policymaking through the work on epistemic communities, or communities of expertise. Here the knowledge is Western science, and more properly the cosmopolitan scientist-expert-policy maker. Peter Haas (1990) has argued in the context of understanding regional (European Union) and global (multilateral) conventions that the process of consensus building and collective action more generally is *knowledge-based* and *interpretive*. That is to say, international regulatory co-operation is fueled by fundamental scientific uncertainty about the environment which ensures that governments seek out authoritative advisors (experts) who, to the extent that they are part of epistemic communities, are more important to the political solution than the content of the ideas *per se*. Cross-national differences in state behavior are determined by the variation in the penetration and institutionalization of experts (epistemic communities). Biodiversity and stratospheric ozone co-operation are seen in this way as instances of the cognitive and bureaucratic power of scientific experts. This is an argument that has also been made for NAFTA by Benton (1996) who argues that the trade and environmental constituencies brought together around tariff reduction actually created a dialogue – a transnational community of experts – which had not hitherto existed.

The epistemic community idea is not unrelated to new political ecological work that examines particular scientific–policy discourses, "conventional models" as Leach et al. (1997) call them, rooted in particular institutions and practices, which become hegemonic and are then subsequently contested. Some of the most interesting research has examined the politics of colonial and post-colonial conservation. For example, work in Africa has traced debates over soil erosion and land conservation in the 1930s to the complex political struggles among and between the colonial state, white settlers, and the Native Reserves (Mackenzie, 1997). Neumann's excellent book (1999), *Imposing Wilderness*, on the creation of the Arusha National Park in Tanzania and the ideas of landscape and nature which lay behind state appropriations of land from local peasant communities is an especially compelling illustration of how cultural and historical representations of nature intersect with colonial and post-colonial rule. Fairchild and Leach's (1996) reinterpretation of the forest–savanna mosaic is a careful deconstruction of a conventional model in which historical studies coupled with detailed local analysis of agro-ecology confirm what the new "non-equilibrium" ecology posits, namely that climax models of ecological stasis are unhelpful. These static models however do enter into administrative practice (colonial and post-colonial) which reinforces the idea of Guinea's forest cover as "relic" (which Fairchild and Leach see as the basis for driving "repressive policies designed to reform local land use practice") rather than as the outcome of intentional local management practice. Similarly, Swift (1997) has shown how the assumptions about desertification not only rest on remarkably sparce evidence but on questionable models of the dynamics of semi-arid rangelands – their resiliency and stability in other words – which are (i) expressions of linear, cybernetic models of ecological structure and temporalities, and (ii) are attached to neo-Malthusian models of social change. The key here is that conventional wisdom is challenged as an embodied form of knowledge, and the challenge itself reflects a peculiar unity of local knowledge and practice with non-linear models of new ecology. There emerges a concern with pluralism (at the level of truth claims), with democracy (to open up the practices of policymaking to other voices), and complexity/flexibility (of local conditions and historical dynamics).

It remains an open question whether these epistemic communities or conventional models have real power, in contrast to power politics approaches in which inter-state rivalries dominate or indeed, as Raustiala (1997) has shown in examining the differences between Britain and USA at the Biodiversity Convention, whether it is domestic regulatory and political structures and the differing influence of business, not scientists and experts, that matter. The epistemic community is nonetheless especially relevant to the "greening" of multilateral organizations. Kingsbury (1994) shows in his account of the incorporation of environmental issues into the WTO and trade debates, that the process of greening these institutions has only just begun. Robert Wade's (1997) work on the greening of the World Bank and McAfee's (1999) work on what she calls "green developmentalism" show precisely how discourses (like gender and development) are institutionalized in quite specific ways with quite specific institutional powers. Of course much of this discourse turns on how the idea that nature has to be sold to be saved is constructed and legitimated.

Politics, justice and governance: toward an ecological democracy

Political ecology's concern with knowledge, representation, and imagery addresses politics – the politics of knowledge. But politics of another sort, what one might call "ecological democracy," has been addressed by political ecologists explicitly in a number of ways in the 1980s and 1990s (Zerner, 1999). I shall focus on three aspects: gender and resistance, community and governance, and entitlements. Perhaps the most influential studies have been those that have linked questions of cultural studies and everyday resistance with gender. Nancy Peluso's pathbreaking political ecological study of timber and forestry in Indonesia, *Rich Forests, Poor People* (1992a), showed how local communities resisted the incursions of the state, and how the state in turn attempted to "criminalize" local customary rights over access to, and control over, local forest products. Politics, community, and state, were also central to Hecht and Cockburn's (1989) account of Amazonian deforestation in which state subsidies and powerful ranchers and timber companies were key to understanding the dynamics of the frontier violence, and, in turn, relevant to understanding the panoply of social movements (Chico Mendes most visibly) – often with links to left-wing political parties and transnational green NGOs – which resisted loss of local autonomy. The state figures centrally in these accounts: as an instrument through which conservation takes on a coercive or military cast (Peluso, 1992b), and as the means by which land becomes a geostrategic matter (for example, the Brazilian military government accelerating deforestation to "secure" the country's borders).

"Feminist" political ecology (Rocheleau et al., 1996) explores the ways in which environmental concerns are traced through gender roles, knowledges, and practices. Perhaps the most compelling work is drawn from Africa. Mackenzie's book (1997) traces both the erosion – what she calls the "silencing" – of women's environmental knowledge in central Kenya after 1890, and the ways in which women organized and struggled to resist the impact of colonial conservation on their economic liberty, not least through male appropriation of property rights. Richard Schroeder's book, *Shady Practices*, (1999) focuses on the ways in which efforts to create sustainable development projects in drought-prone Gambia – local forest and fruit tree projects – precipitated struggles within the household and often over the obligations and reciprocities of conjugality. Local "traditional" women's work groups become the vehicle for local protest as resistance to male claims over property and access rights spills into a larger public domain.

The community looms large in the new political ecology of the 1990s. But the community turns out to be – along with its lexical affines, namely tradition, custom, and indigenous – a sort of keyword whose meanings (always unstable and contested) are wrapped up in complex ways with the problems it is used to discuss. The community is important because it is typically seen as: a locus of *knowledge*, a site of *regulation* and management, a source of *identity* (a repository of "tradition"), an *institutional nexus* of power, authority, governance, and accountability, an object of *state control*, and a theater of *resistance* and struggle (of social movement, and potentially of *alternate visions of development*). It is often invoked as a unity, as an undifferentiated entity with intrinsic powers, which speaks with a single voice to the

state, to transnational NGOs or the World Court. Communities, of course, are nothing of the sort.

One of the problems is that the community expresses quite different sorts of social relations and forms: from a nomadic band to a sedentary village to a confederation of Indians to an entire ethnic group. It is usually assumed to be the natural embodiment of "the local" – configurations of households, lineages, longhouses – which has some territorial control over resources which are historically and culturally constructed in distinctively local ways. A community, then, typically involves a territorialization of history ("this is our land and our resources which can be traced in relation to these founding events"), and a naturalized history ("history becomes the history of my people and not of our relations to others"). Communities fabricate, and refabricate through their unique histories, the claims they take to be naturally and self-evidently their own. This is why communities have to be understood in terms of hegemonies: not everyone participates or benefits equally in the construction and reproduction of communities, or from the claims made in the name of community interest. And this is exactly what is at stake in the current political ecological work on the infamous tree-hugging or Chipko movement in northern India (see Rangan, 1995; and Sinha et al., 1997). Far from the mythic community of tree-hugging, unified, undifferentiated women articulating alternative subaltern knowledges for an alternative development – forest protection and conservation by women in defense of customary rights against timber extraction – we have three or four Chipkos each standing in a quite different relationship to development, modernity, sustainability, the state, and local management. It was a movement with a long history of market involvement, of links to other political organizations in Garawhal, and with aspirations for regional autonomy. Tradition or custom hardly captured what is at stake in the definition of the community.

The community-politics focus has also been central to the work – largely based in the advanced capitalist states – on economic justice, particularly in regard to toxic dumping and hazardous exposure in minority and working class communities. Pulido's book *Environmentalism and Economic Justice* (1996) is an excellent example of how a sensitivity to community struggles over environment and health meets up with larger claims over economic justice and class politics. These sorts of movements were in no simple sense "environmental" since they typically combined human rights, ethnicity/identity, and questions of social justice (Escobar, 1995).

A number of implications stem from the community and justice approaches addressed by political ecologists. First, and most obviously, the forms of community regulations and access to resources are invariably wrapped up in questions of identity. Second, these forms of identity (articulated in the name of custom and tradition) are not stable (their histories are often shallow), and may be put to use (they are interpreted and contested) by particular constituencies with particular interests. Third, images of the community, whether articulated locally or nationally, can be put into service as a way of talking about, debating, and contesting various forms of property (and therefore claims over control and access). Fourth, to the extent that communities can be understood as differing fields of power – communities are internally differentiated in complex political, social, and economic ways – then to that same extent we need to be sensitive to the internal political forms of resource use or conservation (there may be three or four different Chipkos or Love

Canal movements within this purportedly community struggle). Fifth, communities are rarely corporate or isolated which means that the fields of power are typically non-local in some way (ecotourism working through local chiefs, local elites in the pay of the state or local logging companies, and so on). And not least, the community – as an object of social scientific analysis or of practical politics – has to be rendered politically; it needs to be understood in ethnographic terms as consisting of multiple and contradictory constituencies and alliances (Li, 1999, 1996; Moore, 1999). This can be referred to as identifying "stakeholders" – a curiously anemic term – but often what is at stake is something that comes close to class analysis or at the least the identification of wildly different forms of political power and authority.

Kingsbury (1998) has shown beautifully how the contested nature of the community has its counterpoint in international environmental law over the cover term "indigenous" (and one might as well add "tribe" or "ethnicity"). The UN, the ILO and the World Bank have, as he shows, differing approaches to the definition of indigenous peoples. The complexity of legal debate raised around the category is reflected in the vast panoply of national, international, and inter-state institutional mechanisms deployed, and the ongoing debates over the three key criteria of non-dominance, special connections with land/territory, and continuity based on historical priority. These criteria obviously strike to the heart of the community debate which I have just outlined, and carry the additional problems of the normative claims which stem from them (rights of indigenous peoples, rights of individual members of such groups, and the duties and obligations of states). Whatever the current institutional problems of dealing with the claims of non-state groups at the international level (and there are knotty legal problems as Kingsbury (1998) demonstrates) the very fact of the complexity of issues surrounding "the indigenous community" makes for at the very least what Kingsbury calls "a flexible approach to definition," and at worst a litigious nightmare.

Inevitably, in its concern with the community and environmental politics, political ecology has turned to institutions as a necessary starting point to linking socially differentiated communities with biologically differentiated environments. Institutions – understood not simply as the "rules of the game" but as the habituated and regularized "rules-in-use" maintained by human practice and investment performed over time – are typically distinguished from organizations understood as actors or players brought together for a particular purpose. One way to approach institutions and their character is through Amartya Sen's (1980, 1990) theory of entitlement. Leach et al. (1997) suggest that "environmental entitlements" provide a way of linking what Sen calls "capabilities" with institutional design and performance. Entitlements refer to effective command over alternative commodity bundles which derive from a person's endowments (i.e. through direct access to land I can command commodities produced on my land). Environmental entitlements can be seen as the "sets of benefits derived from environmental goods and services over which people have *legitimate effective command* and which are instrumental in achieving well-being" (Leach et al., 1997, p. 9, emphasis added). Environmental entitlements are thus a subset of a larger group of entitlements which collectively provide the means by which basic human needs are met and people experience well-being. All of this sounds very abstract but it highlights the means by which

differentiated social actors gain access to and control over resources through institutionalized practices.

What might all this mean for environmental governance and democracy? Ribot's work (1998) opens up a number of important avenues for analysis. He examines state institutional arrangements which shape access to and control of fuelwood in Senegal. In his view the state deploys law as a form of rural control. Local appointed authorities backed by the state create fictions in which there is no local representation. Community participation is in fact disabled by forms of state intervention – and in his view by the continuance of the colonial model of rule through "decentralized despotism." Ribot argues that participation without locally accountable representation is no participation at all. As he has put it (1998, p. 4) "when local structures have an iota of representativity no powers are devolved to them, and when local structures have powers they are not representative but rather centrally controlled." What passes in Mali or Niger or Senegal as community participation is circumscribed by the continuing power of chiefs backed by state powers, by the lack of open and free elections, and by the decentralized despotism of postcolonial regimes. In the case of institutions that involve state–community linkages, it is influence and prestige, coupled with authority and money, that fundamentally frame the forms of governance and hence who participates and who benefits.

Finally, governance has been addressed through the role of NGO and civic action around green concerns (Princen and Finger, 1994). The work of Peter Evans (1996) on social capital is especially relevant here because his concern with what he calls *public–private synergies* speaks to the ways in which multiple institutions of control and access associated with the state and with civil society, operating at different scales and levels, operate synergistically. It poses the question sharply of how public institutions can be coherent, credible, and have organizational integrity and how the institutions of civil society can engage in accountable ways with the public sphere. In the case of environmentalism, however, these public–private synergies cross cut international boundaries and pose difficult questions for both multilateral regulation and transaction activism. The work of Keck (1995) on NGO activism and community watershed management in Brazil (and her work on the Acre rubber tappers, which shows how the movement gained power precisely by presenting their interest as "worker" interests rather than as ethnic or tribal) and Pezzoli's (1998) book on community activism in Mexico City pay testimony to both the powers and the limits of local green activism, and to the difficulty of building new forms of public–private contract. Baviskar's (1995) account of the Narmada Dam movement reveals the tensions between sustainable development activists and a community attracted to a collaboration with the state as "tribal" peoples. Along the way, some constituencies – the migrant laborers – are left out completely.

Transnational advocacy groups (TNGOs) – and transnational environmental organizations in particular such as World Wide Fund for Nature or Nature Conservancy – also highlight questions of governance and institutional politics (Keck and Sikkink, 1998; Bryant and Bailey, 1997). Brosius (1997) shows how activists can be guided by self-centered interests of program building which rest on misleading stereotypes of the community, just as Tsing (1999) documents the ways in which Meratu community leaders play to a "fantasy" of tribal green wisdom to mobilize international attention. A number of the large TNGOs have themselves been shaped

by the changing political and market-driven winds in the West producing a sort of in-house corporate environmentalism ("green corporatism") within the larger TNGO community. This itself raises the question of how large TNGOs as major donors: (i) change the domestic politics and structure of the local NGO communities in the South, (ii) how foreign and local NGOs actually build political strategy and alliances, and (iii) how social capital is constructed in North–South inter-NGO collaborations. Bailey's (1998) work on the activities of the WWF in Ecuador highlights the tensions between transnational and local NGO green activism – and that there is a necessary unity of interests between North and South environmentalism.

Political Ecology by Any Other Name: New Frontiers and Questions

I want to conclude with a brief discussion of three emerging fields which join up with the new political ecology. In this border zone there is a complex mixing and hybridity of ideas but it is precisely here in the brackish intellectual water that the rigor of political ecology will be tested, and where new ideas and approaches will be hatched. The first, *reflexive modernization*, associated with the work of Ulrick Beck and Anthony Giddens (Beck et al., 1994), and *ecological modernization* associated with Maarten Hajer (1997) (see also Macnaghten and Urry 1998), draw upon a concern with modernity and green discourses, both of which are distinguished by their efforts to link social theory and the environment. The focus is on the self-reflexive qualities of modernization and on the ways in which the ecological costs and consequences of capitalist modernity are built reflexively into modernity itself; that is to say, it is the environmental consequences of modernity and the scientific understanding of them that constitute a defining quality of modernity itself. Discourses of "risk" or "uncertainty," what Rom Harré (Harré et al., 1999) calls "greenspeak," often constitute the powerful languages in which this self-reflexivity is constituted. These approaches often employ linguistic and discursive analysis rooted in social studies of science, and institutional analyses of regulation. Ecological modernization has been overwhelmingly urban and First World in orientation and has the great merit, like political ecology, of focusing on politics. It draws, however, from a heady mix of social studies of science and discursive institutional analysis (Lash et al., 1996), and has the advantage of examining the corporate sector and firm which have been largely neglected by political ecology (see Mol's research on "refinement of contemporary production technologies" (1996)). If political ecology had as its cornerstones vulnerability, marginalization, and access, ecological modernization has risk, uncertainty, and discourse.

A second body of work focuses on the relations between environment, geopolitics, and violence – the field of "environmental security" (see Dalby, 1996). The central ideas – that the environment is the post-Cold War security issue and that environmental change can cause war and violence – have a long pedigree dating at least to Malthus and Hobbes. In the 1960s, the return of apocalyptic views of food shortage, and of oil scarcity a decade later, brought environmental concerns onto a larger Cold War geo-strategic landscape. There is now a substantial industry around environmental security which arose around a nexus of geo-political conditions: namely, the end of the Cold War, the need of overfunded militaries to legitimize their existence in the face of the clamor for the "Peace Dividend," and the emergence of "new" forms

of violence often articulated as identity politics (or the "clash of civilizations") within putatively weak or rogue states which represent "threats" (Islamic terrorism, ethnic cleansing) to peace and security. The most rigorous and systematic effort to theorize environmental security, however, has been provided in Homer-Dixon's book *Environment, Scarcity and Violence* (1999). Here, the debt to Malthus is clear and explicit, and the entire argument rests on a more differentiated notion of "scarcity." The essence of his argument is that environmental scarcity (which means, to him, scarcity of renewable resources) has three forms, namely degradation, increased demand, or unequal distribution. The presence of any of these "can contribute to civil violence" especially through "resource capture" (generally by "elites"), and subsequent "ecological marginalization" of vulnerable or disenfranchised people as a result of resource capture (p. 177). The language of this analysis is replete with ecological systems theory of old – interactive effects, adaptability, thresholds, and so on – and contains a simple model of social friction and conflict, but environmental security does raise important geopolitical questions – of violence and mass conflict – on which political ecology has been remarkably silent.

And finally, there is the field of environment and rights. The attraction here is that it compels political ecology to dig further into philosophies of nature (Soper, 1995), and to link this political philosophy to questions of rights. The emerging geography of animal rights, for example, (Wolch and Emel, 1995; Faber, 1998) suggests other ways in which political ecology can deepen its concern with ecology and a broad-based political economy.

These confluences and inter-mixings suggest, as Peter Taylor (1997) says, that "appearances notwithstanding, we are all doing something like political ecology." Mike Davis's account in *Ecology of Fear* (1997) of the environmental foibles of Los Angeles, or Daniel Weiner's (1999) story of the survival of independent scientist-led citizen's movements for nature protection in the Soviet Union from Stalin to Gorbachev, all confirm, for example, a "family resemblance" to political ecology. Like any family there are complex interdependencies, interactions, conflicts, and negotiations among members. And yet these dialectics of ideas reflect precisely the dialectics of nature and society itself.

Acknowledgment

I am especially grateful to Trevor Barnes for his stalwart efforts to whip this chapter into shape.

Bibliography

Aggrawal, A. 1999. *Greener Pastures*. Durham: Duke University Press.

Anderson, J. 1973. Ecological anthropology and anthropological ecology. In J. Honigmann (ed.), *Handbook of Social and Cultural Anthropology*. Chicago: Rand, 179–239.

Bailey, J. 1998. Green corporatism. Unpublished Manuscript, University of California, Berkeley.

Bateson, G. 1972. *Steps toward an Ecology of Mind*. New York: Ballantine.

Baviskar, A. 1995. *In the Belly of the River*. Delhi: Oxford University Press.

Beck, U. 1992. *The Risk Society*. London: Sage.

Beck, U., Giddens, A. and Lash, S. 1994. *Reflexive Modernization*. London: Polity.

Benton, L. 1996. The greening of free trade? *Environment and Planning A*, 28, 2155–77.
Blaikie, P. 1985. *The Political Economy of Soil Erosion*. London: Longman.
Blaikie, P. and Brookfield, H. 1987. *Land Degradation and Society*. London: Methuen.
Blaikie, P. Cannon, T., Davis, I. and Wisner, B. 1994. *At Risk*. London: Routledge.
Brosius, P. 1997. Prior transcripts, divergent paths. *Comparative Studies in Society and History*, 39, 468–510.
Brush, S. 1996. Whose knowledge, whose genes, whose rights? In S. Brush and D. Stabrisky (eds), *Valuing Local Knowledge*. Washington, D.C.: Island Press, 1–24.
Bryant, R. 1998. Power, knowledge and political ecology in the third world. *Progress in Physical Geography*, 22, 79–94.
Bryant, R. and Bailey, S. 1997. *Third World Political Ecology*. London: Routledge.
Burton, I., Kates, R. and White, G. 1978. *Environment as Hazard*. Oxford: Oxford University Press.
Dalby, S. 1996. The environment as geopolitical threat. *Ecumene*, 3, 472–96.
Davis, M. 1997. *Ecology of Fear*. New York: Vintage.
Escobar, A. 1995. *Encountering Development*. Princeton: Princeton University Press.
Escobar, A. 1999. After Nature. *Current Anthropology*, 40, 30.
Evans, P. 1996. Government action, social capital and development. *World Development*, 24, 1119–32.
Faber, D. (ed). 1998. *The Struggle for Ecological Democracy*. New York: Guilford Press.
Fairchild, J. and Leach, M. 1996. *Misreading the African Landscape*. Cambridge: Cambridge University Press.
Fairchild, J. and Leach, M. 1997. *The Lie of the Land*. London: Curry.
Friedmann, J. 1976. Marxist theory and systems of total reproduction. *Critique of Anthropology*, 7, 3–16.
Grossman, L. 1984. *Peasants, Subsistence Ecology and Development in the Highlands of Papua New Guinea*. Princeton: Princeton University Press.
Grove, R. 1995. *Green Imperialism*. Cambridge: Cambridge University Press.
Guha, R. and Gadgill, M. 1995. *Ecology and Equity*. New Delhi: Oxford University Press.
Guha, R. and Martinez-Alier, J. 1998. *Varieties of Environmentalism*. London: Earthscan.
Gupta, A. 1998. *Postmodern Development*. Durham, NC: Duke University Press.
Guthman, J. 1997. Representing crisis. *Development and Change*, 28, 45–69.
Haas, P. 1990. *Saving the Mediterranean*. New York City: Columbia University Press.
Hajer, M. 1997. *The Politics of Environmental Discourse*. London: Clarendon Press.
Harré, R., Brockmeier, J., and Mulhausler, P. 1999. *Greenspeak*. London: Sage.
Harvey, D. 1996. *Justice, Nature and the Geography of Difference*. Oxford: Blackwell.
Hecht, S. 1985. Environment, development and politics. *World Development*, 13, 663–84.
Hecht, S. and Cockburn, A. 1989. *The Fate of the Forest*. London: Verso.
Homer-Dixon, T. 1999. *Environment, Scarcity and Violence*. Princeton: Princeton University Press.
Keck, M. and Sikkink, K. 1998. *Activists Without Borders*. Ithaca: Cornell University Press.
Keck, M. 1995. Social equity and environmental politics in Brazil. *Comparative Politics*, 27, 409–24.
Keil, R. and Fawcett, L. (eds). 1998. *Political Ecology*. London: Routledge.
Kingsbury, B. 1994. Environment and trade. In A. Boyle (ed.), *Environmental Regulation and Growth*. Oxford: Clarendon Press, 45–78.
Kingsbury, B. 1998. Indigenous peoples in international law, *The American Journal of International Law*, 92, 414–57.
Kingsbury, B. 2000. The international concept of indigenous peoples in Asia, forthcoming in D. Bell and J. Bauer (eds), *Human Rights and Economic Development in East Asia*.
Kuletz, V. 1997. *The Tainted Desert*. London: Routledge.

Lash, S. Szerszyuski, B. and Wynne, B. 1996. *Risk, Environment and Modernity*. London: Sage.
Leach, M. and Mearns, R. 1997. Challenging the received wisdom in Africa. In J. Fairhead and M. Leach (eds), *The Lie of the Land*. London: Curry, 1–33.
Leach, M., Mearns, R., and Scoones, R. 1997. *Environmental Entitlements*. IDS Working Paper, University of Sussex.
Li, T. 1996. Images of Community. *Development and Change*, 27, 501–27.
Li, T. (ed). 1999. *Transforming the Indonesian Uplands*. London: Harwood.
Linkenbach, A. 1994. Ecological movements and the critique of development. *Thesis Eleven*, 39, 63–85.
Little, P. and Horowitz, M. (eds). 1987. *Lands at Risk in the Third World: Local Level Perspectives*. Boulder: Westview.
Mackenzie, F. 1997. *Land, Ecology and Resistance in Kenya*. London: IAI.
Martinez-Alier, J. 1989. Poverty as a cause of environmental degradation. Unpublished Manuscript prepared for The World Bank (Latin American Division), Washington, D.C.
Martinez-Alier, J. and Schulpmann, 1987. *Ecological Economics*. Oxford: Blackwell.
McAfee, K. 1999. Selling nature to save it? *Environment and Planning D: Society and Space*, 7, 155–74.
Macnaughten, P. and Urry, J. 1998. *Contested Natures*. London: Sage.
Mol, A. 1996. *The Refinement of Production*. Utrecht: Van Arkel.
Moore, D. 1999. The crucible of cultural politics. *American Ethnologist*, 26, 3, 1–36.
Neumann, R. 1999. *Imposing Wilderness*. Berkeley: University of California Press.
Nietschmann, B. 1972. *Between Land and Water*. New York: Academic Press.
O'Connor, J. 1999. *Natural Causes*. New York: Guilford.
Peet, R. and Watts, M. 1996. *Liberation Ecologies*. London: Routledge.
Peluso, N. 1992a. *Rich Forests, Poor People*. Berkeley: University of California Press.
Peluso, N. 1992b. Coercing conservation? The politics of state resource control. *Global Environmental Change*, 3, 199–217.
Peluso, N. 1996. Fruit trees and family trees in an anthropogenic forest. *Comparative Studies in Society and History*, 38, 510–48.
Pezzoli, K. 1998. *Human Settlements and Planning for Ecological Sustainability*. Cambridge, MA: MIT Press.
Pratt, L. and Montgomery, W. 1998. Green imperialism. *Socialist Register 1997*. London: Monthly Review Press, 75–95.
Princen, T. and Finger, M. 1994. *Environmental NGOs in World Politics*. London: Routledge.
Pulido, L. 1996. *Environmentalism and Economic Justice*. Tucson: University of Arizona Press.
Rangan, P. 1995. Contesting boundaries. *Antipode*, 27, 343–62.
Rappaport, R. 1968. *Pigs for the Ancestors*. New Haven: Yale University Press.
Raustiala, K. 1997. Domestic institutions and international regulatory cooperation. *World Politics*, 49, 482–509.
Reichel Dolmatoff, G. 1972. *Amazonian Cosmos*. Chicago: Aldine.
Richards, P. 1985. *Indigenous Agricultural Revolution*. London: Hutchinson.
Ribot, J. 1998. Theorizing Access. *Development and Change*, 29, 307–41.
Rocheleau, D., Thomas-Slayter, B., and Wangari, E. 1996. *Feminist Political Ecology*. New York: Routledge.
Schroeder, R. 1999. *Shady Practices*. Berkeley: University of California Press.
Sen, A. 1980. *Poverty and Famines*. Oxford: Clarendon Press.
Sen, A. 1990. Food, economics and entitlements. In J. Dreze and A. Sen (eds), *The Political Economy of Hunger*, Vol. 1. London: Clarendon, 34–50.
Shanin, T. (ed). 1970. *Peasants and Peasant Societies*. London: Penguin.

Shiva, V. 1989. *Staying Alive*. London: Zed Press.
Sinha, S., Gururani, S., and Greenberg, G. 1997. The new traditionalist discourse of Indian environmentalism. *Journal of Peasant Studies*, 24, 65–99.
Slater, C. 1994. *The Dance of the Dolphin*. Chicago: University of Chicago Press.
Soper, E. 1995. *The Problem of Nature*. Oxford: Blackwell.
Swift, J. 1997. Narratives, winners and losers. In J. Fairhead and M. Leach (eds), *The Lie of the Land*. London: Curry, 73–90.
Taylor, P. 1997. Notwithstanding appearances, we are all doing something like political ecology. *Social Epistemology*, 11, 111–27.
Tsing, A. 1999. Becoming a tribal elder and other green development fantasies. In T. Li (ed.), *Transformation of the Indonesian Uplands*. London: Harwood, 159–202.
UNDP 1999. *Human Development Report 1999*. New York: Oxford University Press, for the United Nations Development Programme.
Vayda, P. and Rappaport, R. 1967. Ecology, cultural and non-cultural. In J. Clifton (ed.), *Introduction to Cultural Anthropology*. Boston: Houghton & Mifflin, 477–97.
Vayda, P. and Walters, B. 1999. Against Political Ecology. *Human Ecology*, 27, 1–18.
Wade, R. 1997. Greening the Bank. In R. Kanbur, J. Lewis and R. Webb (eds), *The World Bank*. Washington, DC: Brookings Institution, 611–734.
Watts, M. 1983a. *Silent Violence*. Berkeley: University of California Press.
Watts, M. 1983b. The poverty of theory. In K. Hewitt (ed.), *Interpretations of Calamity*. London: Allen & Unwin, 231–62.
Watts, M. 1986. Drought, environment and food security. In M. Glantz (ed.), *Drought and Hunger in Africa*. Cambridge: Cambridge University Press, 171–212.
Weiner, D. 1999. *A Little Corner of Freedom*. Berkeley: University of California Press.
Wilden, A. 1972. *System and Structure*. London: Tavistock.
Wolch, J. and Emel, J. 1995. *Animal Geographies*. London: Verso.
Zerner, C. 1996. Telling stories about biological diversity. In S. Brush and D. Stabinsky (eds), *Valuing Local Knowledge*. Washington DC: Island Press, 68–101.
Zerner, C. (ed). 1999. *People, Plants and Justice*. New York: Columbia University Press.
Zimmerer, K. 1996. *Changing Fortunes*. Berkeley: University of California Press.