Living with Nature
Environmental Politics as Cultural Discourse

Edited by
Frank Fischer and Maarten A. Hajer

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Living with Nature

*Environmental Politics as Cultural Discourse*

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and
MAARTEN A. HAJER

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Partnership Ethics and Cultural Discourse: Women and the Earth Summit

CAROLYN MERCHANT

The women’s tent at the 1992 Earth Summit in Rio de Janeiro bustled with activity. Stands of colourful scarves and saris from India, intricately decorated bowls and wooden utensils from the Pacific islands, and woven bags from Africa lined the tent’s entryway. Tables of literature on population, women’s rights, forest restoration, agriculture, and water purification surrounded the huge central amphitheatre, its rows of chairs occupied by hundreds of brightly dressed women from all over the world. A microcosm of the world’s women, their collective problems, achievements, and energy, the tent was christened Planeta Fêmea (the female planet) by the Brazilian Women’s Coalition. The Coalition had organized the women’s component of the Global Forum, the NGO conference running parallel to the Earth Summit. Tape-recorders, translation headsets, and microphones hummed with the sounds of human voices emanating from the speakers’ table in front. The speakers’ words, processed into many languages and common understandings, were finally interpreted by those eagerly listening to the reading of the final women’s documents arrived at after months of preparatory conferences and two hot, exciting weeks of negotiations in Rio (Darcy de Oliveira and Corral 1992, 1993).

The Earth Summit altered the discourse of environmentalism in significant ways. Sustainability, introduced in the 1987 Brundtland Report—Our Common Future—and enacted in the Rio agreements, became a new and accepted code word for development. After Rio, sustainability meant both development as usual and development as environmental and social change. Discourse shifted from promoting the idea of an environmental crisis to a debate on how to implement long-term sustainability. How would the various cultural meanings associated with the term ‘sustainable development’ be interpreted in North–South negotiations over funding. The debate fostered a new cultural politics of how humanity should live with nature.
How can and should society be restructured to create an enduring relationship with the non-human world?

After Rio, a new democratic praxis began to emerge that encompassed feminism, environmental justice, multicultural concerns, and North-South conflicts. Most important, the new discourse had to be congruent with a new environmental ethic that recognized the global movements for women's welfare and social justice and the global environmental movement for sustainability. A new cultural politics and a new environmental ethic arising out of women's experiences and needs can provide an ethic of sustainability. Many of the goals and gains of feminists are central to that new discourse and ethic. Women's interests and nature's interests intertwine. The goal is a sustainable partnership with the natural world.

Partnership as a word is experiencing a renaissance in the discourse of the business and environmental communities. Successful environmental partnerships, focused on resolving policy conflicts surrounding local issues, are forming among corporations, local communities, government agencies, and environmental organizations. Trees, rivers, endangered species, tribal groups, minority coalitions, and citizen activists may all find representation, along with business, at the negotiating table. The partnership process offers a new approach to collaboration, one in which non-human nature itself can be a partner (Long and Arnold 1994; MBE 1994 a, b, and c, Beckenstein et al. 1995).

In the new discourse, partnership can refer not only to humans and social processes, but also to natural entities and natural processes. Domestic partners with legal status may include not only married couples, but also stable relationships between men and women, women and women, and men and men. The international Rio environmental conference, the Cairo population conference, and the Beijing women's conference, by building on the idea of partnership, help to liberate cultural politics from the constraints of older contestable modes of development underlying industrial society and the spread of global capitalism. But the term partner can also refer to gnat-catchers, coho salmon, grizzly bears, checkerspot butterflies, and even the unpredictable activities of nature. An ethic of partnership may offer guidelines for moving beyond the rhetoric of environmental conflict and toward a discourse of co-operation.

Rio's Planeta Fêmea, a remarkable event by one of the most diverse groups of women yet assembled on a global scale, put forward the human dimensions of a partnership ethic. The need for a new ethic had been building out of the experiences of women in Third World countries for over a decade through the recognition that women and nature together bore the brunt of malconceived development programmes. Women all over the globe
in both the North and the South began to insist that women’s issues and environmental issues be addressed in the same context. Allowed to attend development conferences, but not involved in policy formation and planning, women saw vital questions affecting their livelihoods, resources, and security ignored and neglected. Realizing that women’s concerns would not be a part of the preparation for the Earth Summit unless they themselves seized the initiative, they drew on their experiences, history, and political skills to place their issues on the agenda. Women’s issues became integral to a new global discourse of sustainability. But while women succeeded in many of their aspirations for inclusion in the process and great strides have been taken in the post-Rio and post-Cairo years, concrete results remain difficult to evaluate. Even with some hopeful changes, much remains the same and much work remains to be done.

Planeta Fémea was the culmination of more than a decade of advancement on the roles of women in environment and development. While women had barely been acknowledged in development programmes in the 1960s, their contributions to agriculture in Third World households gained recognition as part of a Women in Development (WID) approach in the 1970s (Braidotti et al. 1994: 78–80, Boserup 1970). The United Nations Decade on Women, which concluded with a 1985 conference in Nairobi, brought women into development through access to education, resources, and grants that would help to eliminate poverty. As development agencies began to incorporate gender analysis into their programmes in the late 1980s, women’s concerns were added onto mainstream agency approaches in a shift to Gender and Development (GAD). An explicit environmental strand in development, Women, Environment, and Development (WEDO) gradually emerged from the United Nations Conference on the Human Environment in Stockholm in 1972 and within the subsequent United Nations Environmental Programme (UNEP). After the completion of the 1987 United Nations’ report, Our Common Future, chaired by Norwegian Prime Minister Gro Harlem Brundtland, and in preparation for the 1992 Earth Summit in Rio de Janeiro, the emphasis changed to sustainable development, or development that meets the needs of the present without compromising those of future generations (Braidotti et al. 1994: 86–7; Charlton 1984; Dankelman and Davidson 1988; Sontheimer 1988; Shiva 1989; Ofusu-Amaah 1991; Henshall Momsen 1991; Rodda 1993).

In order to present the needs and policy recommendations of women at the Earth Summit, two back-to-back conferences were held in Miami, Florida in November 1991. Here the discourse of partnership enters the working vocabulary of women positioning themselves to engage in sustainable relationships with the earth. The first conference, the Global
it that women’s issues and context. Allowed to attend polity formation and plan-livelihoods, resources, and men’s concerns would not unite unless they themselves issues, history, and political issues became integral while women succeeded in cess and great strides have been made. Concrete results remain within the range of the great and the small. In development, much remains to be done.

As development agencies programmes in the World Development Programme (WID) approach in 1970. The United Nations 85 conference in Nairobi, the education, resources, and development agencies programmes in the late stream agency approaches in explicit environmental development (WEDO) conference on the Human e, chaired by Norwegian preparation for the 1992 aged to sustainable development, present without comment 1994: 86–7; Charlton 1988; Shiva 1989; Ofusu-Johnson).

At the World Summit’s Planeta Fèmea conference, organized in cooperation with the Women’s Environment and Development Organization (WEDO) in New York City, co-chaired by former US Congresswoman Bella Abzug, was attended by representatives from women-and-environment organizations from all over the world. A constant stream of well-known female heads of state and local governments flowed through the women’s tent, as ideas were exchanged between grassroots groups and women of state-power. After examining and debating the themes of the Miami Women’s Action Agenda 21, the women’s tent adopted the ‘Global Women’s Treaty for NGOs Seeking a Just and Healthy Planet’, which was incorporated into the Global Forum’s final NGO treaty. Partnership was a key concept in the new agenda. Living with nature is essential to the health of both humanity and that of the blue planet.

At the official Earth Summit in Rio Centro, the second document to emerge from the women’s preparatory process was also adopted. ‘The Global Action for Women Towards Sustainable and Equitable Development’, was included as chapter 24 of UNCED’s final document, Agenda
21 (the 500-page agenda for the twenty-first century ratified at the Earth Summit). Additionally, women's interests were part of the Rio Declaration—the Earth Summit's 27-point proclamation replacing the intended Earth Charter that was to have enunciated far-reaching ethical principles on human–human and human–environment relations. Item 20 of the Rio Declaration stated that "women have a vital role in environmental management and development. Their full participation is therefore essential to achieve sustainable development" (cf. Grubb et al. 1993: 137).

The women's 'Code of Environmental Ethics and Accountability' exemplifies the first prong of what I have called a partnership ethic of earth-care; the second, as we shall see, is the autonomy of nature itself as partner. A ethic of partnership is formed from women's experiences in the post-Rio/Cairo/Beijing era and from treating nature as a living subject. What are the three most prominent forms of environmental ethics underlying the discourse at the Earth Summit and how does a partnership ethic emerge from that discourse?

Forms of Environmental Ethics

A partnership ethic differs from the three major forms of environmental ethics that currently dominate human–environment relations—egocentric, homocentric, and ecocentric. Each ethic reflects a different discourse stemming from conflicts among underlying modernist institutions. The 1992 Earth Summit in Rio de Janeiro illustrates the underlying assumptions of the three ethical frameworks and their associated discourses. The egocentric ethic is exemplified by GATT (General Agreement on Tariffs and Trade); the homocentric by UNCED and its Agenda 21 programme; and the ecocentric by many environmental organizations involved in sustainable development. While conflicts arise from the different discourses associated with the institutional arrangements of capitalism, the state, and environmentalism, a new transcendent ethic of partnership may help to resolve them. The concept of partnership arising out of women's social and environmental experiences and nature's inherent worth and activity should include both human–human and human–nature relationships and interactions.

Egocentric Ethics

The Uruguay round of GATT, which began in 1986 and by 1994 was concluded and undergoing ratification, assumes a free market model of world
Trade and an egocentric ethic. Based on the idea of trickle-down economic benefits, an egocentric ethic is the idea that what is good for the individual, or the corporation acting as an individual, is good for society as a whole. Here a discourse of individual freedom to act in one’s own self-interest, rhetoric that lies at the very heart of modernism, promotes human actions in which nature is represented as mere “raw material”. Nature comprises resources that can be turned into commodities for trade. It consists of free goods from an inexhaustible tap whose wastes go into an inexhaustible sink. Based on the model of a factory, nature is conceptualized as a dead machine, isolated from its environment, whose parts are manipulated for assembly line production. Resource depletion (the tap) and environmental pollution (the sink) are not part of the profit–loss accounts, hence there is no accountability to or for nature. Because the individual, or individual corporation, is free to profit, there are no ethical restraints on nature’s ‘free’ goods or on free trade. The result is the Hobbesian Good Society, an egocentric ethic, and a discourse rooted in individual gain.

GATT’s egocentric ethic eliminates barriers to trade and with it environmental and consumer-safety measures, despite the possibility of environmental side-agreements. For example, in 1990, the United States, in response to a consumer boycott of tuna caught in drift nets that trapped and killed dolphins, enacted an embargo on Mexican tuna. Mexico protested and a GATT review panel ruled that no country can restrict imports on the basis of methods of production, essentially invalidating a US law protecting dolphins (the Marine Mammal Protection Act) (cf. Greijn 1992). GATT harmonizes environmental and consumer safety standards to the lowest common denominator worldwide. It increases corporate control and decreases local control. Communities and resources are forced to comply with the demands of the global market. This approach essentially removes control from local communities, homelands, and indigenous and tribal peoples over their own resources. In addition, tropical and temperate old-growth forests suffer along with marine mammals and other components of local ecosystems. GATT further externalizes environmental costs and penalizes sustainable technologies that attempt to internalize costs. Again the discourse of profit maximization legitimates individual and corporate actions to treat nature as a passive backdrop to human achievement. Living with nature is not even an admissible term in the debate.

GATT’s egocentric ethic promotes Trans-National Corporations (TNCs) and limits democracy in these industries. The successful completion of GATT’s Uruguay Round is the dream of the self-made man, the darling of Reagan—Bush—Thatcher economics, and the ethic of capitalist patriarchy.
The Women's NGO treaty, adopted by the Global Forum, contains an indictment of GATT as a major cause of environmental degradation.

*Homocentric Ethics*

In contrast to GATT's egocentric ethic, the ethic of UNCED's sustainable development programme is a homocentric ethic. Here, new terms of discourse enter the vocabulary of national representatives. A utilitarian ethic based on the precept of the greatest good for the greatest number promotes a discourse whose terms of debate are in potential conflict with those of individualism. Developed by Jeremy Bentham and John Stuart Mill in the nineteenth century, utilitarian ethics became the conservation ethic of Theodore Roosevelt and Gifford Pinchot during the Progressive Era in the early twentieth century with the addition of the phrase 'for the longest time'. The idea of 'the greatest good for the greatest number for the longest time' is a public-interest, social-interest ethic that considers conservation of natural resources to be consistent with the needs and interests of the majority over those of the individual. In Bentham and Mill's formulations, it promotes the general good, the greatest happiness for the greatest number, and freedom from pain and suffering. In its purest form, it is the ethic of federal and state agencies, acting free of political forces and private lobbyists on behalf of the people for the common good. The utilitarian calculus of benefits and costs, rather than the bottom line of profits, guides the ethical choices made. In reality, however, the discourse of homocentric ethics is always in conflict with the egocentric discourse of private individuals and lobbyists who promote monopoly-capitalist interests. Conflicts of interest stem from underlying institutions and are expressed in the rhetoric of GATT versus the rhetoric of UNCED.

For the homocentric ethic of UNCED, as for the egocentric ethic of GATT, nature is viewed primarily as a resource for humans and as a source of commodities. But in contrast to GATT, the United Nations is dedicated to promoting the general good of all nations and all peoples in the world community. Its policies reflect the principle of the greatest good for the greatest number. Like the Progressive Era's conservation ethic, UNCED's sustainable development ethic adds the principle of the longest time. Sustainable development is development that fulfills the needs of the present generation without compromising the needs of future generations. This principle brings future generations into the accountability calculus. The Earth Summit's goal is to promote greater democracy for more people for a longer time by developing and conserving resources sustainably. Yet a cultural politics of social good conflicts with a cultural politics of individual
Ecocentric Ethics

Many (but not all) environmentalists attending the Earth Summit, subscribed to the assumptions of a third ethic—ecocentrism. Here a new discourse of what is good for non-human entities enters the conversation. Developed by ecologist Aldo Leopold, who formulated the land ethic in the 1940s, and elaborated as ecocentric (and biocentric) ethics by environmental philosophers over the past three decades, ecocentrism includes the entire biotic and abiotic world. Leopold's land ethic had expanded the human community to include 'soils, waters, plants, animals, or collectively the land'. 'A thing is right', Leopold said, 'when it tends to preserve the integrity, beauty, and stability of the biotic community. It is wrong when it tends otherwise.' Ecocentrism, as elaborated in the 1970s and 1980s, went a step further to assert that all things have intrinsic worth—value in and of themselves—not just instrumental or utilitarian value. Because biota have evolved over millennia, all organisms have a right to exist and should be preserved for future generations. Biodiversity is necessary not only for utilitarian and humanitarian reasons (for maintaining the present and future health of the entire biosphere, for enhancing the quality of life, and for aesthetic enjoyment), but for its own sake. Ecocentrism expands the good of the human community to embrace and include within it the good of the biotic community. From an ecocentric point of view, accountability must include the rights of all other organisms, as well as humans, to continue to exist (cf. Leopold 1949, Baird Callicott 1989, Holmes Rolston 1986).

Ethical dilemmas occur when real world situations produce conflicts among the three forms of ethics. Acting on the basis of GATT's egocentric ethic, with the goal of maximizing profits through free trade in natural resources, transnational corporations harvest rainforests for timbers and turn cut-over areas into range lands for grazing cattle. Acting on the basis of ecocentric ethics, with the goal of saving rainforests and endangered species, environmentalists engineer debt-for-nature swaps that preserve and value whole ecosystems. Both ethics, however, can negatively affect communities of indigenous peoples by forcing them out of long inhabited areas onto marginal lands, where they increase their populations to obtain the labour to survive, or migrate to cities where they end up jobless and homeless. In this example, the social-interest ethic of these communities to fulfil their basic needs conflicts with the egocentric ethic of transnational corporations and the ecocentric ethic of nature preservationists. From one point of view...
nature is victimized at the expense of people, from another people are victimized at the expense of nature ( Gilliam 1994).

The three dominant forms of environmental ethics all have conceptual and practical shortcomings. Egocentric ethics are criticized for privileging the few at the expense of the many ( narcissistic, cut-throat individualism), homocentric ethics for privileging majorities at the expense of minorities (tyranny of the majority, environmental racism), and ecocentric ethics for privileging the whole at the expense of the individual ( holistic fascism) (cf. Regan 1983: 262, Baird Callicott 1994: 53, 1989: 92–4). Egocentric and homocentric ethics are often lumped together as anthropocentrism ( by deep ecologists, for example). But this approach masks the role of economics and particularly of capitalism, placing the onus on human hubris and domination rather than the capitalist appropriation of both nature and labour. Moreover, it fails to recognize the positive aspects of the social-justice approach of homocentric ethics. On the other hand, the ecocentric approach of many environmentalists suggests the possibility of incorporating the intrinsic value of nature into an emancipatory green politics (cf. Ekersley 1992).

**Partnership Ethics**

An alternative that transcends many of these problems is a partnership ethic. A partnership ethic sees the human community *and* the biotic community in a mutual relationship with each other. It states that ‘the greatest good for the human and the non-human communities is to be found in their mutual, living interdependence’.

A partnership ethic draws on the principles and advantages of both the homocentric social-interest ethic and the ecocentric environmental ethic, while rejecting the egocentric ethic associated with capitalist exploitation of people and nature. The term partnership avoids gendering nature as a mother or a goddess ( sex-typing the planet), avoids endowing either males or females with a special relationship to nature or to each other (essentialism), and admits the anthropogenic, or human-generated ( but not anthropocentric, or human-centred) nature of environmental ethics and metaphor. A partnership ethic of earthcare means that both women and men can enter into mutual relationships with each other and the planet independently of gender. It does not hold women responsible for ‘cleaning up the mess’ made by male-dominated science, technology, and capitalism, or individual men responsible for creating it.

Just as egocentric ethics is grounded in the principle of self-interest, homocentric ethics in the concept of utility, and ecocentric ethics in intrinsic value,
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so partnership ethics is grounded in the concept of relation. A relation is
a mode of connection. This connection may be between people or kin in
the same family or community, between men and women, between people,
other organisms, and inorganic entities, or between specific places and the
rest of the earth. A relation is also a narrative; to relate is to narrate. A nar-
native connects people to a place, to its history, and to its multi-layered mean-
ings. It is a story that is recounted and told, in which connections are made,
alliances and associations established. A partnership ethic of earthcare is an
etic of the connections between a human and a non-human community.
The relationship is situational and contextual within the local community,
but the community is also embedded in and connected to the wider earth,
especially national and global economies.

A partnership ethic has the following precepts:

1. Equity between the human and non-human communities.
3. Respect for cultural diversity and biodiversity.
4. Inclusion of women, minorities, and non-human nature in the code of
   ethical accountability.
5. Ecologically sound management is consistent with the continued
   health of both the human and non-human communities.

A partnership ethic goes beyond egocentric and homocentric ethics in
which the good of the human community wins out over the good of the
biotic community (as in egocentric and homocentric ethics). It likewise
transcends ecocentric ethics in which the good of the biotic community may
take precedence over the good of the human community. In contrast to
Leopold’s extensionist ethic, in which the community is extended to encom-
pass non-human nature, partnership ethics recognizes both continuities and
differences between humans and non-human nature. It admits that humans
are dependent on non-human nature and that non-human nature has pre-
ceded and will postdate human nature. But also it recognizes that humans
now have the power, knowledge, and technology to destroy life as we know
it today.

For millennia, nature held the upper hand over humans. People were sub-
ordinate to nature and fatalistically accepted the hand that nature dealt. Since
the seventeenth century, the balance of power has shifted and humans have
gained the upper hand over nature. We have an increasing ability to destroy
nature as we know it through mechanistic science, technology, capitalism,
and the Baconian hubris that the human race should have dominion over
the entire universe. In the late twentieth century, however, the environ-
mental crisis and developments in postmodern science and philosophy have
called into the question the efficacy of the mechanistic world-view, the idea of Enlightenment progress, and the ethics of unrestrained development as a means of dominating nature.

A partnership ethic calls for a dynamic balance in which both humans and nonhuman nature are equal partners, neither having the upper hand, yet interacting cooperatively with each other. Both humans and nature are active agents. Both the needs of nature to continue to exist and the basic needs of human beings must be considered. As George Perkins Marsh put it in 1864, humanity should 'become a co-worker with nature in the reconstruction of the damaged fabric,' by restoring the waters, forests, and bogs 'laid waste by human improvidence or malice'. While thunderstorms, tornados, volcanos, and earthquakes represented nature's power over humanity to rearrange elementary matter, humans equally had the power 'irreparably to derange the combinations of inorganic matter and of organic life, which through the night of aeons she had been proportioning and balancing' (Perkins Marsh 1864: 35, 36).

In the 1970s Herbert Marcuse conceptualized nature as an opposing partner, emphasizing the differences, as well as the continuities that people share with nature. Nature is an ally, not mere organic and inorganic matter—a 'life force in its own right', appearing as 'subject-object'. Nature as subject 'may well be hostile to man, in which case the relation would be one of struggle; but the struggle may also subside and make room for peace, tranquility, fulfillment'. A non-exploitative relation would be a 'surrender, "letting-be," acceptance'. (Marcuse 1972: 65, 69)

**Partnership Ethic and Environmental Politics**

A partnership ethic draws on both homocentric, social-interest ethics and ecocentric ethics. The human dimension, the idea of a partnership among human groups, is reflected in both the preamble to UNCED’s Agenda 21 of 'a global partnership for sustainable development' and in the opening paragraph of the 'Rio Declaration on Environment and Development' proclaiming that the conference met 'with the goal of establishing a new and equitable global partnership through the creation of new levels of cooperation among states, key sectors of societies, and people'. Article 7 of the Rio Declaration asserts that 'States shall cooperate in a spirit of global partnership to conserve, protect, and restore the health of the Earth's Ecosystem'. The concept of partnership is also called forth in the title of the Miami 'Global Assembly of Women and the Environment—Partners in Life' (cf.
mechanistic world-view, the idea of unrestrained development as balance in which both humans neither having the upper hand. Both humans and nature are continue to exist and the basic... As George Perkins Marsh put worker with nature in the recono- oring the waters, forests, and ‘malice’. While thunderstorms, resected nature’s power over humans equally had the power inorganic matter and of organic ad been proportioning and bal-

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forth in the title of the Miami nment—Partners in Life’ (cf.


First, as they would apply to the sphere of production, the Women’s Action Agenda 21 and its Code of Environmental Ethics and Accountability hold (among other things) that:

- Fulfilment of basic needs takes precedence over profit.
- Depletion and pollution are part of individual and corporate accounts and should be paid by the producer and polluter.
- Resources should be replenished, environments restored, and biodi-

...versity maintained by all industries and businesses, especially transnational corporations.
- Air, water, and soil should be left clean and healthy.
- Corporations, institutions, organizations, states, and nations are accountable to the public.
- Environmental audits and impact assessments must be made for all pro-
posals before funding.

Second, as they would apply to the sphere of reproduction, the Women’s Action Agenda 21 and its Code of Environmental Ethics and Accountability hold (among other things) that:

- Voluntary birth control should be managed by women for women. Con-
traception should be safe and legal.
- Reproductive healthcare and family planning should be available to all
women.
- Education, sex education, job education, and old age security should be available to all women.
- Men should participate in childcare.

The women’s code of ethics thus exemplifies the human dimension of an active partnership. But a partnership ethic also recognizes nature as subject and actor leading to a new consciousness of and discourse about nature. Living with and communicating with nature as a partner, rather than a passive resource, opens the possibility of a non-dominating, non-
hierarchical mode of interaction between humanity and nature. Rather than speaking about nature as a machine to be manipulated, a resource to be exploited, or an object to be studied and transformed, nature becomes a subject. Nature’s voice is heard through winds and waves, sounds and smells, and the changing play of shadows on hillsides. As in any partnership, nature will sometimes win out; in other cases, humanity’s needs will receive greater consideration. But both will have equal voice and both voices will be heard.
The new postmodern sciences of ecology, chaos, and complexity theory help to make this partnership possible.

Postmodern science reconstructs the relationship between humans and nature. While mechanistic science assumes that nature is divided into parts and that change comes from external forces (a billiard ball model), ecology emphasizes nature as continuous change and process. Chaos theory goes a step further, suggesting that the human ability to predict the outcome of those processes is limited. Disorderly order, the world represented by chaos theory, becomes a component of the partnership ethic (cf. Hayles 1990, 1991; Abraham 1994; Waldrop 1992).

While a certain domain of nature can be represented by linear, deterministic equations, and is therefore predictable (or can be subjected to probabilities, stochastic approximations, and complex systems analysis), a very large domain can be represented only through nonlinear equations that do not admit of solutions. The closed systems and determinism of classical physics described by Isaac Newton and Pierre Simon Laplace gives way to a postclassical physics of open complex systems and chaos theory. These theories suggest that there are limits to the knowable world. This is not the same as saying there is a non-knowable noumenal world behind the phenomena. It says there is a real, material, physical world, but a world that can never be totally known by means of mathematics. It is a world that is primarily chaotic and unpredictable and therefore cannot be totally controlled by science and technology. Science no longer perform the god-trick—imposing the view of everything from nowhere. It cannot offer the totalizing viewpoint associated with modernism, the Enlightenment, and mechanistic science. The real world is both orderly and disorderly, predictable and unpredictable, controllable and uncontrollable, depending on context and situation.

Chaos theory challenges two basic assumptions of ecology as it developed in the 1960s and 1970s and formed the basis of environmental management: the ideas of the balance of nature and the diversity–stability hypothesis. The historical concept of a balance of nature which humans could disrupt implied that people could repair damaged ecosystems with better practices. The idea that biodiversity led to ecosystem stability meant that species conservation and ecological restoration could improve ecosystem health. Yet chaos theory suggests that natural disturbances and mosaic patches that do not exhibit regular or predictable patterns are the norm rather than the aberration. Moreover, the seemingly stable world that is the object of socially-constructed representations can be destabilized by human social practices (as when pesticides produce mutant insects or antibiotics produce resistant bacteria). Such theories undercut assumptions of stability at the root of
Leonard, and complexity theory help us understand the relationship between humans and that nature is divided into parts (a billiard ball model), ecological process. Chaos theory goes beyond the ability to predict the outcome of the world represented by chaos (cf. Hayles 1990, 1991; 1996) represented by linear, deterministic (or can be subjected to complex systems analysis), a very high nonlinear equations that do not have determinism of classical physics. Simon Laplace gives way to a metaphor of the chaos theory. These throwaway world. This is not the millennial world behind the phoca bale world, but a world that can ematics. It is a world that is necessarily cannot be totally controlled. It is not possible to perform the god's omnipotence. It cannot offer theism, the Enlightenment, and the order and disorder, precarious, uncontrollable, depending on the conditions of ecology as it developed: the diversity-stability hypothesis. Which humans could disrupt ecosystems with better practices. Ability meant that species could reproduce ecosystem health. Yet even and mosaic patches that do not norm rather than the aber that is the object of socially mediated by human social practices. Antibiotics produce resistant species at the root of Leopold's land ethic and holism as a foundation for ecocentrism. They reinforce the idea that predictability, while still useful, is more limited than previously assumed and that nature, while a human construct and a representation, is also a real, material, autonomous agent. A postclassical, postmodern science is a science of limited knowledge, of the primacy of process over parts, and of imbedded contexts within complex, open ecological systems.

This disorderly, ordered world of non-human nature must be acknowledged as a free autonomous actor, just as humans are free autonomous agents. But nature limits human freedom to dominate and control it, just as human power limits nature's and other humans' freedom. Science and technology can tell us that an event such as a hurricane, earthquake, flood, or fire is likely to happen in a certain locale, but not when it will happen. Because nature is fundamentally chaotic, it must be respected and related to as an active partner through a partnership ethic.

If we know that an earthquake in Los Angeles is likely in the next 75 years, a utilitarian, homocentric ethic would state that the government ought not to license the construction of a nuclear reactor on the faultline. But a partnership ethic would say that, we, the human community, ought to respect nature's autonomy as an actor by limiting building and leaving open space. If we know there is a possibility of a 100-year flood on the Mississippi River, we respect human needs for navigation and power, but we also respect nature's autonomy by limiting our capacity to dam every tributary that feeds the river and build homes on every flood plain. We leave some rivers wild and free and leave some flood plains as wetlands, while using others to fulfill human needs. If we know that forest fires are likely in the Rockies, we do not build cities along forest edges. We limit the extent of development, leave open spaces, plant fire-resistant vegetation, and use tile rather than shake roofs. If cutting tropical and temperate old-growth forests creates problems for both the global environment and local communities, but we cannot adequately predict the outcome or effects of those changes, we need to conduct partnership negotiations in which non-human nature and the people involved are equally represented.

Each of these difficult, time-consuming ethical and policy decisions will be negotiated by a human community in a particular place, but the outcome will depend on the history of people and nature in the area, the narratives they tell themselves about the land, vital human needs, past and present land-use patterns, the larger global context, and the ability or lack of it to predict nature's events. Each human community is in a changing, evolving relationship with a non-human community that is local, but also connected to...
global environmental and human patterns. Each ethical instance is historical, contextual, and situational, but located within a larger environmental and economic system.

Consensus and negotiation should be attempted as partners speak together about the short and long-term interests of the interlinked human and nonhuman communities. Seated at the table, participating in the discourse, are not only representatives of human concerns, but also those of non-human entities. The meetings will be lengthy and may continue over many weeks or months. As in any partnership relationship, there will be give and take as the needs of each party are expressed, heard, and acknowledged. If the partners identify their own egocentric, homocentric, and ecocentric ethical assumptions and agree to start anew from a partnership ethic of mutual obligation and respect, there is hope for consensus. A partnership ethic does not mean that all dams must be blasted down, electrical production forfeited, and irrigation curtailed for the sake of redwoods or salmon. It means that the vital needs of humans and the vital needs of trees and fish along with their mutually-linked terrestrial and aquatic habitats must both be given equal consideration. Indeed there is no other choice, for failure means a regression from consensus, into contention, and thence into litigation.

A partnership ethic offers new approaches to relationships between business and the environment that can transcend the egocentric ethic's emphasis on the domination of nature and the get-ahead individualistic mentality. Environmental partnerships are 'voluntary collaborations among organizations working toward a common objective'. Partnerships are formed, often among formerly contesting parties, to solve a specific problem and to avoid the acrimony and costs of litigation. Furthermore, the co-operative agreement that emerges from the process is one to which all parties have agreed and in which they have a stake. Hence the outcome may have the prospect of lasting longer than one settled through a courtroom battle (MIBB 1994a: 3).

For example, a manufacturing company in the midwestern United States is approached by a wildlife conservation organization about creating a wildlife reserve on 3,200 acres of company-owned grounds. The company has recently decided not to use the area for a formerly planned expansion. Employees are enthusiastic about developing the land for jogging, wildlife viewing, photography, and perhaps limited seasonal fishing and hunting. Schools and local Audubon societies are eager to have an educational wildlife viewing area. The business and the conservation organization agree to form a voluntary partnership and begin to hold regular meetings with the specific goal of 'protecting, restoring, and enhancing the 3,200 acres as a wildlife
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3,200 acres as a wildlife
conservation area with recreational facilities. Seated at the table (located
away from each of the partners’ home grounds) are not only company rep-
resentatives, wildlife biologists, planners, and employees who wish to hunt
and fish, but also people who speak on behalf of deer and trout. The dis-
course begins by asking questions:

1. Will the partnership project solve or significantly impact a problem?
2. Are the goals consistent with the company’s mission and objectives?
3. Are co-operation and collaboration needed to do the project?
4. Do the partners all have a reason to participate in the partnership?
5. Has the partnership identified all groups needed for the project to
 succeed?
6. Will the partnership be voluntary and equitable? (MIBE 1994a: 11–12)

After much discussion, the partners decide that a wildlife area will be
established on the 3,200 acre plot for a minimum of twenty years.
The company’s image will be enhanced within the community; employees
will have an area for jogging and hiking; wildlife viewing areas will be
set aside. The interests of deer and fish have been heard and, after an
intensely passionate discussion, their needs for survival are made compat-
ible with limited hunting and fishing through a well-defined management
plan. The conservation group has acquired an addition to a migratory bird
flyway, an educational site for school children, a refuge for birdwatchers,
and a recreational area for the surrounding community. While it has not
set aside the area in perpetuity, it has achieved a green zone in place of
potential concrete and pollution and time to become involved in and
respond to a longer-term company and community planning process (MIBE
1994a: 12).

The following are some examples of successful partnership negotiations
and how has business participated in them:

• On the Cooper River, near Charleston, SC, the Wildlife Habitat Enhance-
ment Council (WHSEC) worked with the Amoco and DuPont Chemical
companies to develop wildlife management programmes on company
lands. Landholders in the vicinity then developed a ‘wildlife corridor’
running 10 miles between the two companies (MIBE 1994b: 11).
• In 1989, a group of leading corporations that use CFCs as solvents
collaborated with each other and the US Environmental Protection
Agency in order to become CFC-free in advance of the time-lines
established by regulation. Several companies have used the new technolo-
gies to replace CFC use in plants in developing countries (Long and Arnold
1994: 5).
• In the Columbia River Basin, where salmon runs have declined from 16 million per year in the 1800s to less than two million in the early 1990s, the Northwest Power Planning Council (NPPC) initiated a partnership negotiating group comprising American Indian tribes, environmental groups, corporations, and agencies to plan and implement harvesting reductions, habitat restoration, hatchery projects, water flow changes, and other means of enhancing the salmon’s survival (Long and Arnold 1994: 5).

• The East Bay Conservation Corps of the San Francisco Bay Area formed a partnership with public agencies that resulted in funds for developing an environmental ethic in minority and lower income youth through a summer programme employing young people to assist with public land maintenance work. (MIBE 1994b: 32).

In these examples, the partnership process focuses mainly on human–human interactions, but it opens the way for the inclusion of persons representing non-human entities and the chaotic patterns of nature. Partnerships are a new form of co-operative discourse aimed at reaching consensus rather than creating winners and losers. Partnerships can be formed between women and men, men and men, women and men, people and nature, and North and South to solve specific problems and to work toward a socially just, environmentally sustainable world.

The partnership process draws on many of the skills and goals long advocated and practised by women’s groups. While not essentialist (i.e. the position that co-operation is an essential trait of being female), partnership discourse is nevertheless rooted in many women’s social experiences and attitudes toward problem-solving. But this co-operative discourse does not claim that women have a special knowledge of nature or a special ability to care for nature. Nor is it a case of ‘some’ women speaking for ‘all’ women or for ‘other’ women who are capable of speaking for themselves. Here women and minorities participate in the process. But ‘nature’, which often speaks in a different voice, is also heard at the table.

In addition to feminist discourse, a partnership ethic draws on social and socialist ecology in making visible the connections between economic systems, people, and the environment in an effort to find new economic forms that fulfil basic needs, provide security, and enhance the quality of life without degrading the local or global environment. Finally, a partnership ethic draws on work in the sciences of chaos and complexity that suggest possibilities for non-dominating relationships between humans and non-human nature.
Implementing a Partnership Ethic

Many difficulties exist in implementing a partnership ethic. The free market economy’s growth-oriented ethic that uses both natural and human resources inequitably to create profits presents the greatest challenge. The power of the global capitalist system to remove resources, especially those in Third World countries, without regard to restoration, reuse, or recycling is a major roadblock to reorganizing relations between production and ecology. Even as capitalism continues to undercut the grounds of its own perpetuation by using renewable resources, such as redwoods and fish, faster than the species’ or stock’s own recruitment, so green capitalism attempts to slow down the decline by submitting to some types of regulation and recycling. Ultimately new economic forms will need to be found that are compatible with sustainability, intergenerational equity, and a partnership ethic (Merchant 1997).

Another source of resistance to a partnership ethic is the property rights movement, which in many ways is a backlash against both environmentalism and ecocentrism. The protection of private property is integral to the growth and profit-maximization approaches of capitalism and egoecentrism and to their preservation by government institutions and laws. While individual, community, or common ownership of ‘appropriate’ amounts of property is not inconsistent with a partnership ethic, determining what is sustainable and hence appropriate to the continuation of human and nonhuman nature is both challenging and important (Merchant 1997).

Still other problems stem from the meaning of the term sustainable development and its relationship to power. Defined by the Brundtland Report as ‘development which meets the needs of the present without compromising the ability of future generations to meet their own needs’ and as ‘meeting the basic needs of all and extending to all the opportunity to satisfy their aspirations for a better life’, sustainable development can be used either to mean sustained economic growth or fulfilment of basic needs. Secondly, sustainable development cast as a partnership between North and South obscures existing, uneven power-relationships. The debt burden of Third World countries, imbalances between the G-7 and G-77 nations, the role of militarism, the export of military technology and toxic wastes, and the power of aid organizations such as the World Bank, the IMF (International Monetary Fund), and the economic power vested in TNCs and GATT are all implicated by their egocentric, self-interested ethical and power relationships.
Rather than sustainable development, which reinforces dominant approaches to development, women’s environmental groups, and many other NGOs, have substituted the term ‘sustainable livelihood.’ Sustainable livelihood is a people-oriented approach that emphasizes the fulfillment of basic needs—health, employment, and old-age security, the elimination of poverty, and women’s control over their own bodies, methods of contraception, and resources (Braidotti et al. 1994, WCED 1987: 43–4).

Another problem for the implementation of partnership ethics may come from relationships among women’s groups themselves. For example, some women of the South criticize the consumption-oriented lifestyles of many of those in the North and of elites in the South. At the same time, women of the South point out the burden on poor women stemming from Third World indebtedness to the North; the effects on women’s bodies of poor health and nutrition, involuntary sterilization, and ‘population control’ programmes; and the effects of environmental exposures to pesticides and toxics from cash crop production by TNCs.

From this perspective, the poor woman of the South is in a privileged position to criticize maldevelopment and the many northern environmental groups who blame the environmental crisis on women’s reproduction of large numbers of children. Moreover, if a woman’s body is her primary environment, the desperate need for food, water, and fuel just to stay alive would seem to preclude the possibility of a partnership with non-human nature. Women of the South focus instead on subsistence, healthcare, and security as the primary needs. The approach of the South is not inconsistent with partnership ethics, however, and a reconciliation of North–South differences might be achieved from other perspectives.

From the perspective of socialist ecofeminism, for example, the key causes of the crisis are the twin impacts of production on ecology and of production on reproduction. Production oriented toward profit-maximization sanctioned by the egocentric ethic uproots the conditions for its own perpetuation by destroying the environment from which it extracts ‘free’ resources. Production threatens biological reproduction by driving people onto marginal lands and into urban areas where they produce children as a labour asset to survive, while also threatening social reproduction by creating homelessness, poverty, crime, and political instability. Historically produced colonialism and capitalism in First World/Third World relations results in the expansion of profit-oriented market economies at the expense of basic needs oriented local/subsistence economies. An analysis of the role of colonial and capitalist forms of production in the larger system of historically generated power relations can illuminate common problems and suggest new strategies for change.
Thus to place the blame for the environmental crisis on the evolution of domination and Western dualism (as do some social ecologists and social ecofeminists) or on anthropocentrism (as do deep ecologists), or on the primacy of power relations and enlightenment rationality (as do some postmodernists) is insufficient. These approaches tend to ignore or downplay the critical role played by capitalism (as well as state socialism). They can be helpful, however, when integrated into an economic analysis of the capitalist exploitation of people and nature. The emphasis placed by many environmental groups on ‘overpopulation’ in the South and ‘overconsumption’ in the North neglects the crucial role of production that underlies and unites both causes of degradation. Instead, reduction of production for profit and its reorientation towards fulfilment of basic needs and human security would go a long way towards creating sustainable livelihoods and stabilizing populations.

A framework based on the dialectical, historical, structural, and systemic relations among the conceptual levels of ecology, production, reproduction, and consciousness can integrate these approaches into a comprehensive analysis and propose strategies for revolutionary transformation. Such strategies would analyse past and present power relations, identify the weak points in the system, and draw on the energy and vision of new social/ecology movements and NGOs to bring about a sustainable world.

If the goals of economic production were reoriented toward the reproduction of human and non-human life (rather than the reverse as is presently the case), many of the problems that promote exponential population growth, unlimited economic expansion, and environmental degradation would wither away. Such an ecological revolution could realize the goals of the Global Forum’s Planta Femea by implementing a partnership ethic of earthcare and a movement toward a sustainable world for the new millennium.

As philosopher Max Horkheimer put it, in 1947, when he called for the revolt of nature: ‘Once it was the endeavor of art, literature, and philosophy to express the meaning of things and of life, to be the voice of all that is dumb, to endow nature with an organ for making known her sufferings, or we might say, to call reality by its rightful name. Today nature’s tongue is taken away.’ Through a partnership ethic, discourse and reality can merge into sustainability. Nature, along with women and minorities, will speak in a different voice (Horkheimer 1947: 101, 113).
Endnotes

CHAPTER 1: SUSTAINABLE DEVELOPMENT AS CULTURAL CHALLENGE: ON THE POLITICAL ANATOMY OF AN OXYMORON

1. Susan George (1992) used the boomerang as metaphor for North-South relations.
5. World Commission on Environment and Development (1987;8).
6. Examples include Clark and Munn (1986), Scientific American (1989), Rambler et al. (1989), and, in a different spirit, also Lovelock (1979).

CHAPTER 2: THE NORTH AS/AND THE OTHER: ECOLOGY, DOMINATION, SOLIDARITY

1. The vision got an early expression in Harry Martinson's poem 'Aniara' (Swedish original published in 1956; Martinson was awarded the Nobel prize for literature in 1958).
2. Indeed, these are on the level of Kantian a priori categories, namely, uniform Newtonian space-time and straightforward causality. But as Zizek (1993: 84) pointed out, the Kantian antinomies ultimately lead to the opposite: '[T]here is no way for us to imagine in a consistent way the universe as a Whole; that is, as soon as we do it, we obtain two antinomical, mutually exclusive versions of the universe as a Whole.' The antinomical versions are sense data vs. the thing in itself. Through his Copernican revolution Kant demonstrated that to think anything at all, humans have to ground their thinking on assumptions that are ultimately unfounded.
3. For eco-Malthusian ecologists this question certainly ought to matter. We know that the continents actually do differ from each other because ecological processes on different continents are to a large extent uncoupled from each other (Falila and Levins 1992: 183–8). So, when does it make sense to add up what happens on different continents to a single formula? Does it
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Inson's poem 'Aniara' (Swedish awarded the Nobel prize for
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rately ought to matter. We each other because ecological are extent uncoupled from, when does it make sense to to a single formula? Does it
make sense to calculate the 'global impact' of kangaroos, or polar bears? If not, why does it make sense to calculate the 'global impact' of the human population, for instance, of pre-Neolithic hunter-gatherers who, according to Ehrlich (1993) used on average 300 watts of energy? The very idea of doing so reveals the underlying zero-sum-game logic. Why should the activities of gathering, hunting, eating, excreting, reproducing, and dying (and, hence, submitting one's body to the affective care of decomposer organisms) as performed by pre-Neolithic humans be any different from the same activities as per-formed by kangaroos or polar bears? The argument is fundamentally obscure.

Although there may be some human effects that in the present day need to be estimated on the global scale, this does not entail that everything humans have ever done is estimable in the same way. As a matter of fact, the very assumption that the estimation of global human effects is reasonable even today, is controversial (P. J. Taylor and Buttel 1992; Wynne 1994). One problem here is that most 'global effects' are due to local activities which occur, in actual fact, in very variable forms across the globe—think of forest destruction—but are 'added up' to the global scale.

4. A world doomed to starvation, inequality, oppression and superstition... is totally different from a world in which affluence and liberty are at least possible, and within which there is genuine knowledge, independent of any one tradition and independent of them all' (Gellner 1997).


6. An earlier and shorter version of this chapter, entitled 'The North as/and the Other', was published in the catalogue of an exhibition 'Strangers in the Arctic', curated by Pori Art Museum in 1996 (shown in Copenhagen and Helsinki-Pori in 1996, and Toronto in 1997). As part of the preparation the curator Marika Seppälä, our son Teemu, and myself made a trip to Yakutsk together with Jimmye Durham, and to the Ural Mountains together with Jussi Kivi. On an earlier trip to Magadan, Chukotka, and Kolyma in 1992 we were joined by Lauri Auttila, Marianne Heske, and Ian McKeever (Haha and Seppälä 1995). These trips would not have been possible without the help of our friends and hosts Gennadij Germogenov (Institute of Biology, Yakutsk), Aleksej Estafjev (Institute of Biology, Syktyvkar), and D. I. Berman (Institute of Biological Problems of the North, Magadan).

7. Nning as a means of taking into possession was an older habit; the Norse used it, too, in Greenland and 'Vinland'.

8. There certainly was a great variety of attitudes toward strangers or barbarians in the classical world, including also the myth of the 'noble savage' (Lovejoy and Boas 1935). Among the Greek gods the unstable boundary between civilization and wilderness was guarded and negotiated by Dionysos and Artemis
(Vernant 1991; Harrison 1992). However, it seems the development of the relation of 'otherness' requires a more stable political community than what was possible in Antiquity. After all, conceptions of the 'other' tell primarily about their beholders.

Let us note, too, that an important historical prerequisite for the evolution of a political community with a collective identity was a shared, codified language. The first grammar in any modern European language, Elío Antonio de Nebrija's *Gramática Castellana*, was published in Spain on 18 August 1492, fifteen days after Columbus had set sail toward the New World (Illich and Sanders 1989).

9. Hence, Polanyi (1944: 113) remarked that Malheus's doctrine was 'a paradigm which is not dependent upon empirical support'.

10. 'For Hegel nature as a whole implies mind in the same way in which the bud implies the leaf; nature must first of all be itself, so our conception of it is true and not illusory; but it is only being itself provisionally; it is going to stop being itself and turn into mind, as the bud is only being itself in order to stop being bud and turn into a leaf.' This is the idea of nature as a 'real abstraction' (Collingwood 1945: 130).

11. Again, however, with important variation across nations. Benedict Anderson (1991) hardly mentions 'nature' at all in his account of the origin and spread of nationalism.

12. The 'conquest' of the South Pole offers a perfect analogy (Katz and Kirby 1991).

13. A relevant example in the European tradition is the supplementation in the early modern period of traditional Greek geometry and arithmetics with the algorithmic style of reasoning which was mediated to Europe from India by Arab authors (Hacking 1992).

14. This claim is arguable. Certainly economic forces, commercialization, and increasing dependence on the markets and modern technology have had a tremendously destructive influence on the cultures of northern peoples from early on. However, 'internal colonialism' (Dryzek and Young 1985), for all the havoc it brings about, is less disastrous than purposeful elimination. Besides, another critical aspect is dignity. Jimmy Durham—a Cherokee activist—was impressed by what he experienced as dignified pride among our native hosts in Yakutia.

15. There is some specific evidence to support this conclusion; for instance, John Wiens (1996) concluded that seabird populations damaged by the Exxon Valdez disaster in the northern Pacific recovered remarkably quickly because they are adapted to harsh and fluctuating natural conditions.

16. But then we also have to unlearn most of what we have 'learned' on these matters; as Jimmie Durham writes, 'In school I learned of heroic discoveries / Made by liars and crooks. The courage / Of millions of sweet and true people / Was not commemorated' (Durham 1993: 11).

17. The Yakuts are of Turkic origin from Inner Asia. By the time of the Russian
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By the time of the Russian

colonization of eastern Siberia they were well established in the lowlands of the

ena and Tungus Rivers (Forsyth 1994).

18. While in Yakutia we made several excursions from the capital by cars. During

e of the trips the temperature was −54°C (in early January, 1996). The excursions

were made by two vehicles, just in case. A real feeling of safety, however,
came from the conviction that if something actually happened, nobody would

these conditions pass by and leave us stranded on the roadside.

CHAPTER 3: NATURE IN SPIRITUAL TRADITIONS: SOCIAL AND
CULTURAL IMPLICATIONS FOR ENVIRONMENTAL CHANGE

1. It is noteworthy that the official Agenda 21 for global environmental change

bears no mention of religious organizations or spirituality in its goals and

ategies for change (Sitartz 1993).

2. Perhaps the most vocal critic has been social ecologist, Murray Bookchin

who advances a strictly secular ecological theory which has no place for the

'spiritualism' proposed by 'eomystics', 'ecotheists' and deep ecologists.

3. I am indebted to Don Wolfe of Case Western Reserve University for these words

and thoughts on the spiritual dimension of environmental thinking and writing.

CHAPTER 6: MAPPING COMPLEX SOCIAL-NATURAL
RELATIONSHIPS: CASES FROM MEXICO AND AFRICA

I acknowledge the collaboration of Rivil García-Barrios, Yryo Halla, Derek Hall and

Chris London while developing the ideas in this chapter. Ann Blum, Chuck Dyke,

Frank Fischer, Maarten Hajer, and Jesse Ribot also provided valuable comments on

drafts.

1. I use the term process in this paper in the sense of sequences of events that

persist or are repeated sufficiently long for us to notice them and need to explain
them. This contrasts with a sense of process as a basic underlying causal structure
that allows people to explain events as instances of the process or as noisy
deviations from it.

2. A neologism interacting processes might better convey the processes' insepa-

rability.

3. The combination of differentiation, historical contingency and structuredness
distinguishes political ecology from more particularist and sceptical-of-theory
approaches that otherwise share many qualities (Vayda 1996).

4. Such discontinuities and transitions often rely on the sense of process that I

want to avoid; see n. 2.

5. Heterogeneous constructionism is similar to the 'heterogeneous engineering' of

sociologist of science John Law, and to the related approaches of Michel Callon.
and Bruno Latour. Heterogeneous constructionism places more emphasis, however, on explanation. See P. J. Taylor (1995) for a discussion of differences.

6. Although some of these resources will be real, material, and perhaps immovable aspects of the world, heterogeneous constructionism is not a realist philosophy of science. The difficulty of modifying science always depends on how such 'natural' resources are linked by people in the making of science to other resources, including 'social' ones. For this reason, heterogeneous constructionism is not philosophical relativism either (P. J. Taylor 1995).

7. For more recent assessments see Berkes et al. (1989); McCoy and Jentoft (1997).

8. Unattributed page numbers in this section refer to Picardi (1974).


10. In contrast, Little (1985, 1988) describes the differentiation of Il Chamus pastoralists in an area of Kenya whose ecology is similar to the West African Sahel. Having suffered prolonged droughts during the 1970s and into the 1980s, poor herders engaged in risky, but inexpensive, dryland (rainfed) farming in order to survive. Wealthy herders subject to the same drought could afford the labour and capital to engage in irrigated agriculture and thus reduce the need to sell livestock for grain during dry periods. After a drought, the rich herders-agriculturalists could rebuild their herds more rapidly; some of the poor became their hired labourers. The differentiation among pastoralists has been accentuated by rich herders commanding greater influence in land claims when states have initiated privatization of landholdings. Now that there has been an increase in cultivation and wage-earning activities, labour for herding has become a limiting consideration. Rich herders can pay for their herds to be grazed on better land some distance away from settlements, while the poor, who must make use of wage-earning opportunities, graze their herds near their households. As a result, environmental degradation, where apparent, lies close to population concentrations—not, contrary to the commons view of nomadic pastoralism, out on the range.

11. For example, Brokensha et al. (1977) point to labour demands rather than range area limiting pastoralists' herd expansion and Little (1985) connects environmental degradation with accumulation and impoverishment.

12. This is amplified by the full analysis of Picardi's modeling that uses nine contrasts (P. J. Taylor 1992).

13. The map-makers, to date, have been drawn from the fields of ecology and natural resources in two workshops of six or seven researchers: (i) ecologists at the University of Helsinki, where I collaborated with ecologist and philosopher, Yrjö Haila (see Ch. 2); and (ii) resource ecologists/economists at the University of California at Berkeley. Almost all were advanced graduate students with several years of research experience, self-selected by their willingness to commit time to reflect on their current research and possible future directions. Further details of the procedures adopted in these workshops are given in P. J. Taylor and Haila (1989).
14. In addition to the idiosyncrasy of maps, in P. J. Taylor (1990) I discuss the following issues: the relationship of mapping to modelling; the need for narration to accompany the diagrammatic representations; the reliability of self-reported information in the workshop setting; the representativeness of self-selected participants; the lack of a temporal dimension in most of the actual maps and in the metaphor of mapping itself; and the individual-centredness of maps.

15. One direction I am exploring in my teaching is to formulate critical heuristics—propositions that are simple enough to communicate, but disturb the simple analyses and always point to the need for further work to address the complexity of particular cases (Hall and Taylor 1998, Taylor 1999). For example, the first item in the list of eight implications of political ecology would become: 'Consider how the analysis of causes and the implications of the analysis changes if undifferentiated units were replaced by unequal units subject to further differentiation as a result of their linked economic, social and political dynamics.' The other items in the list of implications of political ecology in the first section, the alternatives or counterfactuals referred to in the second section, and the issues about mapping raised at the end of this chapter can all be rephrased in a similar way as critical heuristics that would be applicable to all three projects in this essay.

CHAPTER 7: SECURITY AND SOLIDARITY: TOWARD AN ANTI-REDUCTIONIST ANALYSIS OF ENVIRONMENTAL POLICY

1. Or, if there is a threshold (as the notion of carrying capacity implies), into a move towards that threshold.

2. For a thorough exposition of this argument for the social nature of human needs and wants see Douglas and Ney (1997).

3. The eccentric critic of anthropocentrism is nothing if not sweeping. It is an intensely disturbing idea, that men should not be the master of all, that other suffering might be just as important. And that individual suffering—animal or human—might be less important than the suffering of species, ecosystems, the planet. It is disturbing in a way that an idea like, say, Marxism is not. It is not all that radical to talk about who is going to own the factories, at least compared with the question of whether there are going to be factories' (McKibben 1990: 167).

4. A formulation that accommodates both eccentric and anthropocentric positions and their contradiction.

5. This distinction between can compensate and do compensate is far from trivial. The explicit intention in the Masyangdi Project, for instance, was that those who were displaced would be compensated but it did not happen. Nor is it just a matter of ineffective institutional co-ordination. Embedded in the seemingly value-free notion of economic efficiency is an idea of fairness that is not shared by all those
who are affected. This is the idea that those who put most in should get most out, and this means that, in those situations where there is a Pareto improvement, the carrying out of the compensation that is possible will quite likely destroy the incentive structure that generated the improvement in the first place.

6. Alternatively, to free it, Rousseau-wise, from the chains that for too long have weighed it down. Man, on this argument, is essentially caring and co-operative, and it is only the overlay of exploitative institutions that has made him appear self-seeking. So here are two 'contradictory certainties'—two myths of human nature—each of which, I will be arguing, is shaped by (and in its turn upholds) a particular form of social solidarity.

7. A thing is right, according to the earth ethic, when it tends to preserve the integrity, community and beauty of the natural environment. It is wrong when it tends otherwise (Leopold 1970).

8. Complexity (both natural and social) and its implications are explored in Thompson and Trissgillo (1997).

9. One suggestion that I heard recently is 'hospitality'. This nicely captures the way in which markets and hierarchies, in coming together around the idea of sustainable development, have excluded the egalitarian concern with caring, sharing and community. This exclusion then results in the fatalization of those, like the Dids, who, up until then, were making a tenuous (and hospitable) go of things. Fatalization, essentially, is the destruction of social capital: a process which, surely, has to be the opposite of what development is supposed to be.

10. This section summarizes the analysis of land uses in mountain ecosystems that is set out in Price and Thompson (1997).

11. Venerable they certainly look, but their origins may not in fact be lost in the mists of time. Prakash (1997) has observed the creation of one such commons-managing institution (in the Indian Himalaya)—it happened, literally, overnight—and we have all heard of the apocryphal American university that announced that 'With effect from tomorrow, it will be a tradition to . . .'

12. 'Cultural' because each of these solidarities shapes (and, in its turn, is strengthened by) a distinctive set of certainties (about how the world is and people are) which contradicts those that are shaped by the other certainties. Humans, individualists know, are self-seeking; hierarchists know they are malleable (born in sin but redeemable by firm and nurturing institutions); egalitarians know they are caring and co-operative until corrupted by coercive institutions (markets and hierarchies); fatalists know they are fickle. Physical nature, individualists know, is benign (capable of bouncing back from whatever insults we deliver); hierarchists know that it is perverse/tolerant (stable within discoverable limits, unstable beyond those limits); egalitarians know it is ephemeral (so intricately interconnected that any severing of any of those connections may result in the collapse of the entire system); fatalists know that it is capricious (operates without rhyme or reason).
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These social constructions of reality—cultural theorists call them myths of nature—do not require their holders to insist that water flows uphill, or that the sun goes round the earth; they are all contained within the uncertainty that surrounds pretty well all policy issues (global warming, for instance, mad cow disease, deforestation and nuclear power, to mention just a few). See Part I of Thompson, Ellis, and Wildavsky (1990) and Schwarz and Thompson (1990).

13. The recognition (starting in the 1970s) that environmental problems constitute a crisis and, in so doing, reveal fundamental omissions in the workings of our main institutional arrangements (see Hager 1995). Where radical environment- alists call for a whole new way of doing things, ecological modernisers believe these omissions can be rectified without much drastic recourse.

14. This evidence is assembled in Thompson, Warburton, and Hatley (1986) and in Ives and Messerli (1989).

15. Not all of them; many large forests remote from the farmed areas remain under their control.

CHAPTER 9: IMAGES OF PLACE IN GREEN POLITICS: THE CULTURAL MIRROR OF INDIGENOUS TRADITIONS

1. Bahro (1983: 159) describes the speech as 'one of the few more or less manda- tory cultural treasures of the green-alternative movement'.

2. Nuu-chah-nulth is the collectively adopted name of a number of tribes. Nootka, an older term coined and used by anthropologists (e.g. Kenyon 1980; Arima 1983), is not welcomed by the Nuu-chah-nulth.

3. It should be noted that the force of the resistance also arose from economic interests, particularly the interests of the tourist trade (Darling, n.d.: 13). I thank Leanne Burney, a participant-observer in the Clayoquot Sound case, for sharing with me material from her research and for answering many questions. In the following discussion, I have also relied heavily on her insightful thesis (Burney 1996). She does not bear any responsibility, of course, for my treatment of the case.

4. On this and related points, I am indebted to insights offered me by Gary Potts, former Chief of the Teme-Augamau Aimishnabi in Ontario.

5. This is not to deny the importance and value of politics (see Torgerson 1999).

CHAPTER 10: PARTNERSHIP ETHICS AND CULTURAL DISCOURSE: WOMEN AND THE HARTH SUMMIT

1. This chapter draws on material that appeared in Carolyn Merchant (1996).


3. The Global Women's Treaty contained the following paragraph: 'We recognize the failure of governments to either address the true causes of the planetary
crisis or reach agreement on urgent action to save our planet. We believe that the chief causes lie in militarism, debt and structural adjustment and trade policies being promoted by multinational corporations and international financial and trade institutions such as the International Monetary Fund, the World Bank, and the General Agreement on Tariffs and Trade (GATT). The policies of these institutions are causing the degradation of human and natural environments, leading to the growing impoverishment of the majority of the world’s people, perpetuating the inequity of the existing world order, and contributing to the continuing and intensified pressure on natural resources. We condemn these policies and call for the immediate adoption of alternative policies based on principles of justice, equity, and sustainability.” (Cf. Global Assembly of Women and the Environment, No. 4 (July 1992), p. 8.)

4. The Preamble to UNCED’s Agenda 21 states: “[the] integration of environment and development concerns and greater attention to them will lead to the fulfillment of basic needs, improved living standards for all, better protected and managed ecosystems and a safer, more prosperous future. No nation can achieve this on its own; but together we can—in a global partnership for sustainable development.” Quoted in Grubb et al. (1993: 101).

5. The idea of a partnership between women and men as the basis for a new society, but without explicit attention to environmental ethics, has been developed by Riane Eisler (1988). The concept of relation as a foundation for ecofeminism and the relational self has been developed by Val Plumwood (1993). On the connections between ethics and narrative, see Jim Cheney (1989). On the importance of seeing the local community as connected to a global capitalist system see, James O’Connor (1991).


8. In constructing this example I have drawn on a hypothetical case presented in Management Institute for Business and Environment (1993a: 11–12), but I have added representatives of affected natural entities.