

through reference to the deficiencies of the other two, while remaining within the basic parameters of problem solving within the political-economic status quo of liberal capitalism. But the manifest difficulties of all three discourses lead others to be a bit more creative in looking for alternatives. Let me turn now to emerging discourses which remain reformist in their orientation to industrialism, but are more imaginative in seeking to dissolve familiar dilemmas and impasses.

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#### NOTES

- 1 [www.epa.gov/adminweb/leavitt/enlibra.htm](http://www.epa.gov/adminweb/leavitt/enlibra.htm).
- 2 There are good economic reasons why they do not. As Mancur Olson (1965) pointed out in his classic analysis of the logic of collective action, the fact that individuals share an interest does not mean they will act upon it. Each person has an incentive to take a 'free ride' on the efforts of others. This logic parallels that of the tragedy of the commons introduced in Chapter 2, in that rational individual decisions lead to collectively bad outcomes.

## PART IV

### THE QUEST FOR SUSTAINABILITY

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The apocalyptic horizons of environmental concern were set in the early 1970s by survivalists who argued that economic growth and population expansion would have to yield to global environmental limits, sooner rather than later. Prometheans denied the existence of limits. The problem-solving discourses surveyed in Part III are essentially agnostic about global limits, focusing instead on the work to be done in the here and now. Yet problem solving is energized by the need to achieve some kind of resolution to conflicts between ecological values and economic values.

Life would certainly be less troublesome if such conflicts did not exist, or, failing that, could be dissolved. The unresolved dispute between survivalists and Prometheans could be put behind us, and environmental problem solving could proceed with renewed vigor in the knowledge that solutions are available that can respond effectively to a range of key ecological and economic concerns. Throw in commitments to global justice through the eradication of poverty and to the wellbeing of future generations, and the prospect would surely be irresistible. But what could possibly combine ecological protection, economic growth, social justice, and intergenerational equity, not just locally and immediately, but globally and in perpetuity? The answer is sustainable development, which specifies that we can have them all.

Since the early 1980s, sustainable development has become hugely popular as an integrating discourse covering environmental issues from the local to the global, as well as a host of economic and development concerns. Just what sustainable development means in practice is a matter of some dispute, as is the question of whether it can actually deliver on some, most, or all of its promises.

The notion of sustainability receives greater precision in the second discourse covered in Part IV: ecological modernization. Ecological modernization addresses the restructuring of the capitalist political economy along more environmentally defensible lines. The key is that there is money to be made in this restructuring. At one level ecological modernization is about the search for green production

Dryzek, John S. 2005.  
The Politics of the Earth. 2<sup>nd</sup> Ed.  
 Oxford U. Press

technology. But this search also opens the door to intriguing possibilities for more thoroughgoing transformation, involving political change as well as technological change. So although at first sight ecological modernization looks like a rescue mission for industrial society, albeit an imaginative one, it also points to political and economic possibilities beyond industrial society.

# 7

## Environmentally Benign Growth: Sustainable Development

### What is sustainable development?

Sustainable development refers not to any accomplishment, still less to a precise set of structures and measures to achieve collectively desirable outcomes. Rather, it is a discourse. Since the publication of the report of the Brundtland Commission in 1987 (World Commission on Environment and Development, 1987), it is arguably the dominant global discourse of ecological concern. As Torgerson (1995: 10) puts it, 'public discussion concerning the environment has become primarily a discourse of sustainability.' But just what is sustainable development? The most widely quoted definition is Brundtland's: 'Humanity has the ability to make development sustainable—to ensure that it meets the needs of the present without compromising the ability of future generations to meet their own needs' (World Commission on Environment and Development, 1987: 8). Later in the report Brundtland declares that 'In essence, sustainable development is a process of change in which the exploitation of resources, the direction of investments, the orientation of technological development, and institutional change are all in harmony and enhance both current and future potential to meet human needs and aspirations' (p. 46).

Sustainable development as a concept did not begin with Brundtland. The two words have been joined occasionally since the early 1970s, when sustainable development was actually a radical discourse for the Third World. The concept has a deeper history in the renewable resource management concept of maximum sustainable yield. The latter is the maximum catch from a fishery, or cut from a forest, or kill of game animals, that can

be sustained indefinitely. But the maximum sustainable yield concept says nothing about growth in resource use (indeed, rules out growth), or about how management of different resources might interact, or what to do with non-renewable resources. Sustainable development is a much more ambitious concept in that it refers to the ensemble of life-support systems, and seeks perpetual growth in the sum of human needs that might be satisfied not through simple resource garnering, but rather through intelligent operation of natural systems and human systems in combination.

Brundtland's definition did not satisfy everyone, and other definitions of sustainable development proliferated. Opinions differ as to what human needs count, what is to be sustained, for how long, for whom, and in what terms. Attempts to take an analytical razor to the concept (e.g., Dobson, 1998) are only partially successful because they soon leave the ambiguities of the real-world discourse behind. In the early 1990s the Transportation Research Board of the United States National Academy of Sciences spent a million dollars trying to come up with a definition, but failed to do anything more than simply agglomerate the concerns of its members. By 1996 the United Nations Educational, Scientific, and Cultural Organization (UNESCO) was sponsoring a project to clarify the meaning of the concept in a number of disciplines, with a view to making the concept a scientifically usable one—implying that it was not yet a scientific concept.<sup>1</sup> Yet the UNESCO project has a difficult task. For the proliferation of definitions is not just a matter of analysts trying to add conceptual precision. It is also an issue of different interests with different substantive concerns trying to stake their claims in the sustainable development territory. For if sustainable development is indeed emerging as a dominant discourse, astute actors recognize that its terms should be cast in terms favorable to them. So environmentalists might try to build in a respect for intrinsic values in nature that is conspicuously missing in Brundtland. Third World advocates would stress the need for global redistribution, and highlight the needs of the poor to which Brundtland pointed. Business groups equate development with economic growth, such that sustainable development mainly means continued economic growth. Partisans of the limits discourse re-cast their survivalism in the language of sustainability. After endorsing Brundtland, those arch-survivalists Meadows et al. (1992: 209) go on to say that 'From a systems point of view a sustainable society is one that has in place informational, social, and institutional mechanisms

to keep in check the positive feedback loops that cause exponential population and capital growth.' For Meadows and colleagues sustainability means an end to economic growth; for the World Business Council for Sustainable Development, sustainability requires perpetuation of economic growth. As the Council declares in its foundational document, 'Economic growth in all parts of the world is essential to improve the livelihoods of the poor, to sustain growing populations, and eventually to stabilize population levels' (Schmidheiny, 1992: xi).

Does this variety of meanings mean we should dismiss sustainable development as an empty vessel that can be filled with whatever one likes? Not at all. For it is not unusual for important concepts to be contested politically. Think, for example, of the word 'democracy,' which has at least as many meanings and definitions as does sustainable development. Part of what makes democracy interesting is this very contestation over its essence. Democracy is doubly interesting because just about everyone who matters in today's political world claims to believe in it. The parallels with sustainable development are quite precise. Just as democracy is the only game in town when it comes to political organization, so sustainable development became the main game (though not the only game) in environmental affairs, at least global ones. Sustainable development, like democracy, is a discourse rather than a concept which can or should be defined with any precision. The discourse itself does, though, have boundaries. Sustainable development is different from survivalism because while it recognizes that ecological limits should be respected, they can also be stretched if the right policies are chosen, so that economic growth can continue indefinitely. Langhelle (2000: 310–11) suggests that for Brundtland, at least, the limits in question were energy supply and climate change; though he also recognizes lingering ambiguities in the discourse on the question of limits. Sustainable development is different from Promethean discourse because it requires coordinated collective efforts to achieve goals, rather than relying on human spontaneity and ingenuity. And it is different from the varieties of environmental problem solving surveyed in the previous three chapters because it is much more imaginative in its reconceptualization of the terms of environmental dispute and in its dissolution of some long-standing conflicts.

## The career of the concept

Prior to the 1980s, sustainable development was part of the environmentalist lexicon, especially in the context of discussions of developing societies in the Third World. The concept was explored as an alternative to mainstream interpretations of development as economic growth, which had failed to deliver. Impetus was received through contention by the emerging limits discourse that the Earth could not withstand a Third World that duplicated Western levels of affluence (Carruthers, 2001). Advocates were interested in the potential of appropriate technologies or intermediate technologies, which were low-cost, low in the environmental stress they imposed, and consistent with local cultural norms (see Schumacher, 1973). They preferred energy generation from cattle dung over nuclear power stations or large dams, small workshops over large factories.

The concept's prominence grew, and its meaning began to change, in 1980 with the publication of the International Union for the Conservation of Nature's *World Conservation Strategy*. But the real transformation into the contemporary discourse of sustainable development can be dated to 1983, when Gro Harlem Brundtland, Prime Minister of Norway, was asked by the Secretary-General of the United Nations to chair an inquiry into interrelated global problems of environment and development. Brundtland's World Commission on Environment and Development published its report, *Our Common Future*, in 1987. The report contains analyses and recommendations pertaining to the international economy, population, food, energy, manufacturing, cities, and institutional change. Its main accomplishment was to combine systematically a number of issues that have often been treated in isolation, or at least as competitors: development, global environmental issues, population, peace and security, and social justice both within and across generations. Brundtland developed a vision of the simultaneous and mutually reinforcing pursuit of economic growth, environmental improvement, population stabilization, peace, and global equity, which could be maintained in the long term. Such a vision was seductive, though Brundtland did not demonstrate its feasibility, or indicate the practical steps that would be required.

Since 1987 the discourse of sustainable development has flourished at the international level, especially inasmuch as international society is

constituted by international governmental organizations (IGOs) and non-governmental organizations (NGOs). The Earth Summit, more formally the United Nations Conference on Environment and Development (UNCED), held in Rio de Janeiro in 1992, was a high point. The 171 national government delegations, many with heads of government present, gave sustainable development their stamps of approval (though the various delegations may have held to different meanings of the term). The Earth Summit endorsed *Agenda 21*, a lengthy and detailed follow-up to Brundtland's efforts, which argued that global environmental problems had arisen mainly as a result of the profligate consumption and production of the richer countries, but also recommended more economic growth for all to finance solutions. After the conference the United Nations established a Commission on Sustainable Development to implement *Agenda 21*, with special reference to how national and local governments might act, and how conflicts between First World and Third World notions of development and environmental protection might be resolved. Sustainable development advanced as a discourse for all, North and South, rich and poor; though the rich eventually lost sight of the global equity aspect that was central to Brundtland and her more radical predecessors (Meadowcroft, 2000: 379).

In 2002 Johannesburg hosted the World Summit on Sustainable Development (WSSD), the world's largest-ever international conference. The sheer number and variety of meetings held at the WSSD makes assessment difficult. The WSSD endorsed a 'Plan of Implementation' for *Agenda 21*. The plan was a little short on concrete measures, how they should be accomplished, and who exactly should do it (von Frantzius, 2004: 470), with the partial exception of targets and dates for improved access to clean water and sanitation for the world's poor. Thus sustainable development remained very much a discourse, rather than a plan of action. The WSSD saw some major repositioning in relation to the discourse. Wealthy states, long the champions of environmental concern at such gatherings, now seemed more interested in pushing the benefits of development that could be achieved through globalization and free trade (this was somewhat less true for the EU than the United States). And Third World governments, once skeptical about environmental concern as a luxury for the rich, now recognized the severity of their own environmental problems (Wapner, 2003: 4-6). Perhaps the most successful

discursive repositioning was accompanied by the corporations present, which confirmed the status of business as a major participant in sustainable development, not a source of problems to be overcome. This role was solidified in partnerships involving business, governments, and NGOs, several hundred of which were established at the WSSD.

Outside summits, sustainable development has infused the discourse of international institutions. Even the World Bank, long castigated by environmentalists for its complicity in ecologically disastrous development projects (such as large dams and high-technology agriculture), has tried to improve its environmental image by establishing an Environment Department, appointing a Vice-President for Sustainable Development, and sponsoring a series of publications on environmentally sustainable development. The main theme of the Bank's 1992 *World Environment Report* was that environmental management and economic development could proceed together. Its 2002 *World Development Report* was organized around the idea of sustainable development, though it lost sight of the global equity aspect of the discourse, recommending that the rich countries could best help the poor by becoming still richer and providing bigger markets for poor countries' products. The Bank has also sponsored research on the development of indicators of sustainable development as alternatives to more established measures of national wellbeing such as gross national product (see, for example, World Bank, 1995). The EU has incorporated sustainable development in some of its constituent treaties, and saw the WSSD as an opportunity to distinguish itself from the more skeptical position of US negotiators. The EU proved the lone champion of renewable energy against the United States and Third World countries pushing expanded fossil fuel use (von Frantzius, 2004: 472).

While the sustainability discourse is most evident at this international level, it has made inroads within states (see Meadowcroft, 2000 for a catalogue). In 1990 Japan established a sustainable development program, with an eye to maximizing Japanese opportunities in the emerging sustainable eco-economy (opportunities which are not hurt by the existing energy-efficiency of the Japanese economy). In Brundtland's own Norway, ProSus (Program for Research and Documentation for a Sustainable Society) is a think-tank committed to sustainable development. In Australia, the federal government in 1990 set up an ecologically sustainable development process, with working groups on agriculture, energy,

fisheries, forestry, manufacturing, mining, transport, and tourism. Symbolizing sustainable development's positive-sum approach to economy and environment, each working group contained representatives of both industry and environmental groups (along with government and trade-union officials). The working groups reported in 1992, and their efforts were incorporated into a National Ecologically Sustainable Development Strategy, though for domestic political reasons the process and the strategy subsequently languished (see Christoff, 1995).

In the United States, the sustainable development torch was carried in the Clinton administration by the President's Council on Sustainable Development, which could draw support from Vice-President Al Gore's personal views (Gore, 1992). However, the dominant US approach to sustainable development is captured succinctly by Bryner (2000): 'Sorry, not our problem', with little support in Congress, and no resonance for any broader public. With the exception of the United States, sustainable development received at least lip service from governments in the developed world (Lafferty and Meadowcroft, 2000), though none has addressed their own over-consumption of resources and stress on global ecosystems (Meadowcroft, 2000: 374). In Britain, the government initially endorsed Brundtland's stress on sustainable development but—astonishingly—asserted that existing British economic policy met these principles, further proof of just how far the concept can be stretched (Department of the Environment, 1988; see also Jacobs, 1991: 59). The British government's subsequent approach to sustainable development was halting and begrudging, though after 1997 Tony Blair's Labour government did set up a Sustainable Development Unit to examine the practices of all government departments (to little effect).

Among developed countries, sustainable development has been taken most seriously in Northern Europe. Researchers developing an Environmental Sustainability Index for the World Economic Forum rated Finland as the most sustainable country, followed closely by Norway and Sweden (as of 2002).<sup>2</sup>

International business is increasingly prominent. The International Chamber of Commerce and World Business Council for Sustainable Development, chaired by Stephan Schmidheiny of the Swiss company UNOTEC, were active at the 1992 Earth Summit. The Business Council was formed in 1990 at the invitation of Maurice Strong, secretary-general of

the Summit. The Council is committed to economic growth, but with an environmentally sensitive face. Its component corporations such as 3M, Rio Tinto, Du Pont, Shell, Mitsubishi, and ALCOA can point to success stories in their own operations of environmentally aware practices such as recycling, efficiency benefits achieved by waste reduction, sustainable forestry, and energy-efficient production (see Holliday et al., 2002 for a compilation). By 2002 the Council was composed of 162 of the world's largest corporations, mostly from the manufacturing, mining, and energy sectors (membership is by invitation only). It was chaired by Philip Watts of Royal Dutch Shell. Not all of these 130 companies have exemplary environmental records. They included Enron, the energy supply corporation linked to President George W. Bush, before it went bankrupt in 2002.

Under the banner of 'Business Action for Sustainable Development', the Council was highly visible at the 2002 WSSD, where it mounted a concerted effort to publicize and embed the business view. The major statement launched at the WSSD by Holliday et al. (2002) argued that economic growth produced by free trade was the only hope for the world's poor. However, the Council did not propose growth at all costs, proclaimed commitment to corporate social responsibility, and joined with Greenpeace to criticize the United States' withdrawal from the Kyoto Protocol on climate change. The Council succeeded in establishing partnerships with business as the dominant tool for pursuing sustainable development. Cynics saw this as 'the privatization of sustainable development' (von Frantzius, 2004: 469), threatening to reduce the discourse to a series of commercial projects (Wapner, 2003: 4).

Where are the environmentalists in these developments? After all, sustainable development began life long ago as one of their concepts. Environmental groups have become less visible with time. But some environmentalists, such as Friends of the Earth Europe, have tried to keep up with the discourse, to remind everyone that sustainable development requires wholesale reductions in the stress that economic activity imposes on the environment, and respect for intrinsic values in nature. Environmentalists were present in large numbers at the WSSD, but their impact was much less obvious than that of business.

## Discourse analysis of sustainable development

The core storyline of sustainable development once began with recognition that the legitimate developmental aspirations of the world's peoples cannot be met by all countries following the growth path already taken by the industrialized countries, for such action would over-burden the world's ecosystems. Yet economic growth is necessary to satisfy the legitimate needs of the world's poor. The alleviation of poverty will ameliorate what is one of the basic causes of environmental degradation, for poor people are forced to abuse their local environment just to survive. Economic growth should therefore be promoted, but guided in ways that are both environmentally benign and socially just. Justice here refers not only to distribution within the present generation, but also across future generations. Sustainable development is not just a strategy for the future of developing societies, but also for industrialized societies, which must reduce the excessive stress their past economic growth has imposed upon the Earth.

### Basic entities whose existence is recognized or constructed

Sustainable development's purview is global; its justification rests in present stresses imposed on global ecosystems. But unlike survivalism, it does not stay at that global level. Sustainability is an issue at regional and local levels too, for that is where solutions will have to be found (as made clear in *Local Agenda 21*, whose principles have been adopted by local governments around the world). Thus the basic entities stressed in sustainable development are nested systems, ranging from the global to the local. The systems in question are both social and biological. Natural systems are not separate from humanity: as Brundtland put it: 'The environment does not exist as a sphere separate from humans ambitions, actions, and needs . . . the "environment" is where we all live' (World Commission on Environment and Development, 1987: xi). The biological components of systems are treated with more respect than the brute matter that Prometheans see in nature. While survivalists see problems in terms of global limits and solutions in terms of global management, sustainable development takes a more disaggregated approach. Particular resources and

systems can be used and developed more or less wisely, imposing more or less environmental stress.

The Brundtland report itself is a bit ambiguous on the existence of limits. A statement that 'Growth has no set limits in terms of population or resource use beyond which lies ecological disaster' in part because 'accumulation of knowledge and the development of technology can enhance the carrying capacity of the resource base' is followed immediately by a recognition that 'But ultimate limits there are' (World Commission on Environment and Development, 1987: 45). These ultimate limits too prove capable of being stretched by technology. As Brundtland herself later put the point, 'The commission found no absolute limits to growth. Limits are indeed imposed by the impact of present technologies and social organization on the biosphere, but we have the ingenuity to change' (quoted in Hardin, 1993: 205). Ecological constraints should be respected, but once this is done economic growth can proceed indefinitely. Some commentators have tried to resolve the ambiguity here by distinguishing between 'strong' and 'weak' versions of sustainable development, the former explicitly recognizing limits, the latter denying them (see Hay, 2002: 214–17). But any such resolution leaves most sustainable development discourse somewhere between the two poles; the zone of ambiguity is much larger than the polar regions.

When it comes to social systems, sustainable development now takes the capitalist economy pretty much for granted (this was not true in the more radical discourse of the 1970s). However, the structure of political systems is not taken as given. The reorientation in problem solving that sustainable development prescribes may require shifts in power between different levels to meet more effectively the challenge of sustainability. The frequent appeals to coordinated international action and grassroots participation suggest that these shifts would be away from the nation-state as presently constituted to both higher (transnational) and lower (local) levels of political organization, as well as sideways to partnerships with business. Networked governance as an alternative to top-down administration (see Chapters 4 and 5) fits well here.

### Assumptions about natural relationships

The most important relationship regarded as if not exactly natural then at least attainable is the positive-sum one: economic growth, environmental protection, distributive justice, and long-term sustainability are mutually reinforcing. In the contemporary world of sustainable development there are few hierarchies recognized in human affairs. Instead, there is cooperation. However, there is a hierarchy which puts human beings above the natural world. In keeping with its integration of a range of agendas, sustainable development can take the protection of nature on board. For example, Brechin et al. (2003) argue that the basic needs of the world's poor can be met while protecting biodiversity in the ecosystems on which they depend. But for the most part sustainable development remains anthropocentric. It is sustainability of human populations and their well-being which is at issue, rather than that of nature. Relationships of competition are de-emphasized, though it exists in the background capitalist economy. Sustainable development is to be achieved through cooperative rather than competitive effort (witness the partnerships that dominated the 2002 WSSD), distancing the discourse from both economic rationalists and Prometheans.

### Agents and their motives

Sustainable development's key agents are not the global managers of the survivalists or the experts with a managerial hierarchy at their disposal of the administrative rationalists. Instead, the relevant actors can exist at many levels, consistent with basic notions about the existence of nested social and biological systems. In practice, sustainable development marginally de-emphasizes national governments and state actors, though states are still needed to construct international agreements and work with NGOs and business. In the 1980s sustainable development was established as a discourse of international society, especially as that society is populated by IGOs (such as the United Nations and the World Bank) and NGOs (such as global environmental groups). There is a role for the grassroots too: the green radical slogan 'think globally, act locally' can be adopted here. The Earth Summit's *Agenda 21* called for more citizen participation in environment and development decisions. And corporations have

clambered on board the bandwagon to show that business too can play a constructive role. Sustainable development is sometimes cast as a discourse of and for global civil society (see Conca, 1994; Lafferty, 1996; Wapner, 1996), defined in terms of political interaction not encompassed by the state. But more traditional areas of state action are not excluded.

### Key metaphors and other rhetorical devices

Prometheans and economic rationalists alike rely on mechanistic metaphors, treating the world as a machine whose bits can be arranged to better meet human needs. In contrast, sustainable development's metaphorical structure is organic. Organisms grow and develop; so can societies. Growth here is not just physical maturation that happens automatically, for sustainable development also stipulates self-conscious improvement. As such, it is consistent with notions of personal human growth that stress education and growing awareness, enabling the individual to negotiate his or her social environment in more effective fashion. The image is of an increasingly sensitive, caring, and intelligent human being—only, of course, it is sensitive, caring, and intelligent political-economic systems which are at issue, and the environment to be negotiated is not just a social one, but also a natural one. Just as in models that portray human development in terms of lifetime learning, the growth in political-economic capacities is seen as open-ended. The difference is that individual humans eventually die, whereas for sustainable development growth in political-economic capacities can go on in perpetuity.

The discourse does respect nature—to a point. But nature is treated mainly as something that provides useful services to humans. The 'natural capital' metaphor is sometimes invoked (Dobson, 1998: 41–7; Sachs, 1999: 33). **That is, nature's capital stock deserves respect and should be sustained because it is imperfectly substitutable by man-made capital.** This way of thinking about nature is very economic.

**Sustainable development in its very name links itself to the idea of progress,** and progress is one of the most powerful notions in the modern world. Whatever their other differences, Victorian industrialists, Marxists, social democrats, liberal democrats, and market liberals have all believed in the essential idea of history moving in the direction of social improvement. Sustainable development carries this idea into an environmental era.

Sustainable development also involves **a rhetoric of reassurance.** We can have it all: economic growth, environmental conservation, social justice; and not just for the moment, but in perpetuity. No painful changes are necessary. This rhetoric of reassurance is far from the images of doom and redemption found in survivalism, or the horror stories beloved of economic rationalists. Advocates of sustainable development are more likely to highlight local success stories of sustainability than they are to dwell on instances of unsustainability (Holliday et al., 2002; Schmidheiny, 1992: 181–333).

### Whither sustainable development?

If we were to look for sustainable development, where would we find it? As discourse, there is a lot of it about. But can we identify any practices and policies inspired by, committed to, and achieving sustainable development?

This question may not be quite the right one to ask, if we conceptualize sustainable development as a discourse rather than a target. But the same

#### BOX 7.1

#### Discourse analysis of sustainable development

1. **Basic entities recognized or constructed**
  - Nested and networked social and ecological systems
  - Capitalist economy
  - Ambiguity concerning existence of limits
2. **Assumptions about natural relationships**
  - Cooperation
  - Nature subordinate
  - Economic growth, environmental protection, distributive justice, and long-term sustainability go together
3. **Agents and their motives**
  - Many agents at different levels, transnational and local as well as the state; motivated by the public good
4. **Key metaphors and other rhetorical devices**
  - Organic growth
  - Nature as natural capital
  - Connection to progress
  - Reassurance



might be said of 'democracy,' yet this does not stop political scientists producing comparative studies of the quality of different democracies. However, such comparisons are rough and contested. It is easy to conclude that (say) contemporary Canada is more democratic than Russia under the Tsars, very hard to say which of Canada and Japan is today more democratic, harder still to conclude that Canada is a true democracy. The same applies to sustainable development. The World Economic Forum (WEF) has ranked 142 countries according to a sustainability index, and Finland, Sweden, and Norway occupy the top three places. But Finland's number one ranking does not mean it has achieved an adequate level of sustainability, and environmental groups were quick to point out Finnish shortcomings in forest management. The WEF index is controversial, and really just compiles measures of environmental performance rather than sustainability per se. As such, it misses the 'development' part of the equation. So the fact that Finland is on top gives no guidance to poor countries that would like to emulate Finland. This question becomes especially perplexing in light of sustainable development's core storyline, which specifies that poor countries cannot follow the growth path already taken by wealthy countries such as Finland without over-stressing the world's ecosystems.

Thus it is better to think of sustainable development not as a path taken by countries such as Finland, **but as at most a discourse that will inspire experimentation with what sustainable development can mean in practice.** Sustainability, like democracy, is largely about social learning, involving decentralized, exploratory, and variable approaches to its pursuit. Sustainable development (unlike survivalism) can be a multilayered and multifaceted enterprise. Rather than try to impose a common definition replete with an associated set of precise goals (which is what survivalists and administrative rationalists would do), a 'decentered' approach would stress pluralistic and local experimentation (Brooks, 1992; Torgerson, 1994; 1995). In this search, the very fact that agreement on the essence of sustainable development has been elusive proves to be a help rather than a hindrance, for no avenues are ruled out by stipulation, and so all kinds of new possibilities might be unearthed (Torgerson, 1994: 310–13; see also Thompson, 1993).

But if the pursuit of sustainability is to be decentered and piecemeal, what would actually harness all these efforts to the common good? The

answer lies in the necessity for widespread commitment to the discourse itself, the only conceivable glue to hold these various efforts together. In this light, the sought-after restructuring of power relationships becomes understandable. Sustainable development is a discourse of and for global civil society, not just states. Luke (1997: ch. 6) interprets this feature quite cynically as simply serving the interests of managerial 'ecocrats' employed in IGOs and NGOs. Luke's argument would be plausible if sustainable development did indeed constitute a unified approach. But with the decentered, piecemeal twist, the role played by global civil society can become democratic rather than managerial, an antidote to governments increasingly under the sway of market liberal ideas and committed to reducing environmental controls, expanding trade, and promoting economic growth at all costs (Lafferty, 1996). The problem is that market liberalism is now a powerful discourse in the international system itself, furthered by the same corporations now so active in the international politics of sustainable development.

There is no guarantee that widespread commitment to and pursuit of sustainable development in piecemeal fashion will deliver the goods. Economic rationalists see the whole enterprise as just the latest in a long line of futile attempts to replace markets by political management, trying to impose a discipline on people's decisions which is properly exercised by the market's price system (see Anderson and Leal, 1991: 167–71).<sup>3</sup> Prometheans see a lingering stress on limits poisoning the discourse (for example, Beckerman, 2002). Radical environmentalists deny that development (interpreted as economic growth) can ever be sustainable, and denounce the anthropocentric arrogance implicit in the discourse (for example, Merchant, 1992; Richardson, 1994). Radicals also argue that in an age of market liberalism, sustainable development's promise of social justice is hollow, as inequalities between rich and poor expanded in the 1990s within and across nations (Carruthers, 2001: 103). Even moderate environmentalists might wonder whether sustainable development diverts their energies by asking them to take on all the problems of the world, poverty and economic development as well as environmental protection (Wapner, 2003: 10). Survivalists attack any denial of limits and carrying capacity explicit in the discourse; so Garrett Hardin (1993: 204–6) takes Brundtland to task for failing even to ask whether the population growth she sees as inevitable and the economic growth she sees as desirable can be

accommodated by the earth's resources (see also Milbrath, 1989: 320–3). Similarly, Herman Daly (1993) believes that Brundtland's vision of a world economy five to ten times larger than its present size is impossible given that the present human economy already appropriates 25 per cent of the world's 'net primary product of photosynthesis.' The more pessimistic conservation biologists argue that resources are rarely managed with sustainability in mind until after they have collapsed, for only then does their overuse become apparent (Ludwig et al., 1993; but for a catalogue of local cases where resources have been managed sustainably, see Ostrom, 1990).

Such criticisms notwithstanding, Lafferty (1996) argues that there is simply no better vehicle than sustainable development for environmentalists to pursue their various goals. The different strategic choices made by some eminent survivalists are noteworthy in this context. Meadows et al. (1992) disguise their survivalism in the words of sustainable development, and praise Brundtland; Hardin (1993) rubbishes sustainable development, and berates Brundtland.

The success or failure of sustainable development rests on dissemination and acceptance of the discourse at a variety of levels, followed by action on and experimentation with its tenets. Yet the twenty years that have seen sustainable development establish itself as the leading transnational discourse of environmental concern have seen much less in the way of wholesale movements in policies, practices, and institutions at global, regional, national, and local levels. Those same twenty years have seen a more effective global movement in a very different direction about which sustainable development is sometimes silent, sometimes (in its business-friendly variant) accepting. That direction involves the increasing transnationalization of capitalism, especially following establishment of the World Trade Organization in 1994. The WTO joined the International Monetary Fund and World Bank in policing international economic regimes. Free trade, capital mobility, and governments all over the world committed to market liberalization and ordinary (unsustainable) economic growth as their first imperatives threaten to override sustainable development. At the WSSD there were no serious suggestions that the WTO could be made to submit to sustainable development, but plenty of arguments from developed countries' national delegations that on trade issues the WSSD had to proceed in the context set by the WTO.

In a world dominated by market liberalism, sustainable development's

prospects are poor unless it can be demonstrated that environmental conservation is obviously good for business profitability and economic growth everywhere, not just that these competing values can be reconciled. As we shall see in the next chapter, this is exactly the claim advanced by ecological modernization.

## NOTES

- 1 This project was under the auspices of UNESCO's Management of Social Transformation Program, and organized through the Institute for Social-Ecological Research in Frankfurt, Germany.
- 2 The rankings are available online at [www.ciesin.org/indicators/ESI/rank.html](http://www.ciesin.org/indicators/ESI/rank.html).
- 3 Anderson and Leal regard sustainable development as sufficiently important for its contrast with their free-market environmentalism to form the conclusion of their book, which is widely regarded as the definitive statement of economic rationalism applied to environmental affairs. However, they wrongly assert that sustainable development involves a globally administered regime of zero economic growth and zero use of non-renewable natural resources. In other words, they mistake sustainable development for an extreme form of survivalism.

## 8

## Industrial Society and Beyond: Ecological Modernization

### Cleanest and greenest

Mirror, mirror on the wall, who is the greenest of them all? Which countries turned in the most successful environmental policy performance in the 1980s and 1990s? Among developed nations, consensus picks include (in alphabetical order):

- Finland
- Germany
- Japan
- The Netherlands
- Norway
- Sweden

Of course, different indicators of environmental policy success produce different rankings, and some dimensions of environmental conservation (such as biodiversity protection) are not easily measured. So any such ranking is likely to be controversial, especially from the point of view of those not at the top of the list. The most comprehensive ranking of 142 countries according to 68 measures has been carried out by Yale and Columbia researchers working for the World Economic Forum (WEF).<sup>1</sup> The indicators range widely over air and water quality, number of threatened species, change in forest cover, infant mortality, renewable energy as percentage of total energy use, civil liberties, and democratic government (justified on the grounds of institutional capacity). The

summary index placed Finland, Norway, and Sweden at the top. Focusing more narrowly on changes in pollution levels over time, Scruggs (2001) identifies Germany as the top performer across sixteen developed countries in the 1980s and 1990s. Emphasizing level of as well as change in pollution, Jahn (1998) has the Netherlands as the top performer.<sup>2</sup> Japan is not so clearly at the top of any league table, though it can claim leadership when it comes to energy efficiency (the amount of energy required to produce national income), and in its development of pollution control technology (Revell, 2003: 24–48). These six countries have been very supportive of international initiatives for environmental protection.

Comparative statistics tell only part of the story. If we dig a little deeper, we find that these six countries have adopted innovative and advanced procedures, policies, and institutions for dealing with environmental issues. Around 1970, environmental policy innovations mostly began in the United States, and were then copied elsewhere. But since the 1980s, the United States has fallen behind, stuck in a standoff between supporters and opponents of the laws and regulations established around 1970 (Bryner, 2000: 277). Let us take a look at what others have been doing in the meantime.

In 1989 the Netherlands adopted a National Environmental Policy Plan designed to integrate environmental criteria into the operations of all departments of government. A plan has been published every four years since then, and every year a State of the Environment Report ascertains progress. The plan is oriented by a set of environmental quality targets along with a timetable for achieving them, and grounded in a sophisticated theory of how pollutants are generated in and travel through human social systems. Rather than control pollutants at the end of the pipe, the Dutch plan seeks to identify and change activities that cause pollution in the first place. The changes are identified in consultation with the relevant industry, citizen groups, and responsible government officials, especially those from departments dealing with industry, agriculture, and transport. Under the plan, which relies on collaboration, not rules and penalties, 250,000 businesses have agreements with government. The plan encourages energy-efficient manufacturing and transport, agriculture that can achieve good yields while minimizing use of herbicides and pesticides, conservation of biodiversity, and so forth. The 2001 plan began to address the international dimension of Dutch environmental issues. None of this is done piecemeal,

but rather in the context of the targets of the plan as a whole. The driving idea is that economic growth should be delinked from rising environmental stress, though this has yet to be achieved in practice. The environment is not treated as a policy area to be dealt with in isolation. Instead, environmental concerns are woven into all the relevant areas of government. The National Environmental Policy Plan has had its political ups and downs, and there have been inevitable disappointments in its implementation. However, as a process for 'turning government green' as Weale (1992: 122–53) puts it, the plan remains a landmark, though the Netherlands has not yet got as far as restructuring the economy on more ecological lines (van Muijen, 2000).

In Germany, concern over the implementation deficit associated with earlier environmental policies led in the 1980s to the adoption of the *vorsorgeprinzip*, or precautionary principle, as the guiding force for policy. The precautionary principle specifies that scientific uncertainty is no excuse for inaction on an environmental problem. Thus if there are good reasons for thinking a problem may be serious, it will be addressed, even in the absence of scientific proof. Dealing with a problem immediately and cheaply is better than waiting for it to get worse, by which time the amount of money required to fix the problem may have multiplied many times over.

The precautionary principle was strongly resisted—indeed, barely comprehended—by the national governments of Britain and the United States in the 1980s. In the US, the administrations of Reagan and Bush the elder used scientific uncertainty as an excuse for inaction on acid rain, especially over claims that sulfur emissions in the United States caused acid rain that damaged lakes and forests in Canada. This sort of excuse can also be found in the George W. Bush administration when it comes to climate change. In Britain, the absence of conclusive science was long the standard governmental excuse for inaction on every major regional and global pollution issue: acid rain, carbon dioxide, chlorofluorocarbons, coastal pollution, and sludge dumping in the North Sea, among others (matters began to change in the late 1990s). Germany moved ahead in tackling all the pollution problems that Britain denied. By the mid-1990s environmental protection was established as a goal in the German constitution (which in a legalistic state really matters), along with a comprehensive and complex set of environmental laws (Jänicke and Weidner, 1997).

Japan stands out largely because of the energy-efficiency of its economy. This efficiency may be explained to a degree by the extent to which Japan depends on imported oil, and so was shaken by the energy crises of the 1970s. We find in Japan environmental policy made with a minimum of fuss and a maximum of consensus. As in Japanese policy making on all major issues, the key players are government officials and business executives. Like the Netherlands, Japan has aimed to decouple economic growth from environmental stress in terms of pollution (Barrett and Fisher, 2005). Japanese politicians have recognized economic possibilities in the export of green technologies, together with 'green' public work projects as an alternative to the traditional approach to dispensing money to regions that involves covering Japan with concrete structures nobody needs.<sup>3</sup>

Norway has its environmental blemishes, most notably its continued support for commercial whaling. But, as befits the home of Gro Harlem Brundtland (the Sultana of Sustainable Development), Norway has made strenuous efforts to incorporate environmental values into policy making. It has pioneered policy instruments such as green taxes. The policy-making structure of Norway is corporatist in that economic and social policies are made behind closed doors by a small number of leaders from government, the labor-union federation, and the business sector. Norway, however, is unique in admitting environmental groups to the center of corporatist policy making. Thus the Norwegian Society for the Conservation of Nature, also known as Friends of the Earth Norway, is largely funded by government through operating grants, and is represented on key policy-making committees. The society also helps implement government policy through receiving project grants (Dryzek et al., 2003: 22–7). This situation is very different from that in the United States and Britain, where Friends of the Earth is a campaigning group that tries to influence government from the outside.

Sweden pioneered integrated pollution control (see Weale, 1992: 97–100). In most countries, anti-pollution policy is organized around single-medium and single-substance legislation and regulation. The result is that one pollutant may be reduced, but another pollutant increased as a result. For example, a pollutant discharged into a watercourse may be eliminated by collecting it as a toxic sludge, which might then be dried and burned, leading to air pollution. In Sweden, licenses for new

manufacturing plants are issued only after a consideration of the total emissions of the plant, and what might be done to reduce that total to an acceptable level. Along with the Netherlands, Sweden has led in integrating environmental principles across all departments of government, coordinated by key cabinet ministers serving on a Delegation for Ecologically Sustainable Development (Lundqvist, 2004).

Finland, the top environmental performer according to the WEF Sustainability Index, adopted the world's first carbon tax in 1990. Despite the cold climate, carbon dioxide emissions are relatively low. Finland has pioneered other environmental policy instruments (Sairinen, 2003), and has made substantial progress in reducing pollution levels. Finnish industry sees environmental performance as a competitive advantage, so reforms can draw on consensus spanning industry and environmental groups.

What do Germany, Japan, the Netherlands, Norway, Sweden, and Finland have in common that might explain their apparently superior environmental performance? The first three are densely populated countries that have largely destroyed their native ecosystems (replaced by agro-ecosystems and urban ecosystems), and so have strong incentives to find a way to accommodate a dense population while minimizing further environmental damage. But the same might be said for environmental laggards like Britain, Belgium, and Denmark. And Norway, Sweden, and Finland have a relatively low population density (at least by European standards). The environmental movements are not any stronger in these countries than comparable others. Indeed, in Norway the movement's numbers are tiny compared to similar countries (Dryzek et al., 2003: 24). The Green Party has played a key role in German policy development, partly by forcing other parties to adopt green positions for fear of losing votes to the Greens. But the other five countries lack a green party of comparable force (though Greens have participated in the national government in Finland); Japan and Norway have no green party of any consequence.

What these countries have in common is a political-economic system where consensual relationships among key actors prevail. In discussing Norway, I introduced the idea of corporatism. They are all, to greater or lesser degrees, corporatist systems. Japan can be described as 'corporatism without labor,' leaving only government officials and business leaders to

cooperate in policy formation (Lehmbruch, 1984). Thus the six countries all eschew both adversarial policy making and unbridled capitalist competition. Their polar opposites in these respects are the English-speaking developed countries: Britain, the United States, Canada, Australia, and New Zealand. Jahn (1998: 120) finds a clear positive relationship between degree of corporatism and environmental policy success. Until the 1970s, corporatist systems were all organized to emphasize issues of economic growth and income distribution. Yet once environmental values were taken on board, corporatism eventually enabled these values to be addressed in a particular fashion: that of ecological modernization. Here lies the key to apparently superior performance.

### The idea of ecological modernization

Ecological modernization was first identified in the early 1980s by the German social scientists Joseph Huber (1982) and Martin Jänicke (1985), who observed and interpreted its development in Germany. **Ecological modernization refers to a restructuring of the capitalist political economy along more environmentally sound lines.** Environmental degradation is seen as a structural problem that can only be dealt with by attending to how the economy is organized, but not in a way that requires an altogether different kind of political-economic system (Hajer, 1995: 25). Environmental criteria must be built into the re-design of the system, as in the Dutch National Environmental Policy Plan.

Conscious and coordinated intervention is needed to bring the required changes about. It is no good relying on any supposed 'invisible hand' operating in market systems to promote good environmental outcomes (of the sort Prometheans stress). Yet this intervention does not take place in adversarial fashion, in terms of government imposition. Industry itself cooperates in the design and implementation of policy. The key to ecological modernization is that there is money in it for business. Thus business has every incentive to embrace rather than resist ecological modernization, provided only that business is sufficiently far-sighted, rather than interested only in quick profits.

What exactly is in it for business? First, 'pollution prevention pays,' as a popular slogan has it. Pollution is a sign of waste. Less pollution means

more efficient production. Second, if a problem is not solved in the present, solving it in the future may be vastly more expensive for both business and government. For example, poorly managed toxic waste dumps become a stew of dangerous chemicals leaking into ground water, soil, and the air. To clean them up is extraordinarily expensive (as the experience of the Superfund in the United States demonstrates). Far better and far cheaper not to let such problems develop in the first place. Third, an unpolluted and aesthetically pleasing environment means healthier, happier, and more productive workers, who may even willingly sacrifice wages and salaries for these environmental rewards. Fourth, there is money to be made in selling green goods and services. Consumers increasingly demand products that are not excessively packaged, that do not contain artificial and toxic ingredients, and that are not produced in environmentally damaging ways. Fifth, there are profits to be had in making and selling pollution prevention and abatement products.

Traditionally, increased national income per head has gone hand-in-hand with increased stress on the environment. As an old Yorkshire saying has it, 'where there's muck there's brass.' Successful ecological modernization would decouple muck and brass, such that income per head could go on increasing without additional strain on the environment. This possibility would, it seems, dispel the darkest fears of the survivalists. A qualitatively different kind of growth would not have to hit ecological limits, even if those limits did have real existence.<sup>4</sup> Reconciliation with the overarching need for governments to promote economic growth means that environmental values now support economic ones, which in turn allows (moderate) environmentalists to be included in the core of policy making (Dryzek et al., 2003: 64–5). This inclusion has been most successful in corporatist political systems, with Norway the very best example.

Ecological modernization is sometimes treated as a merely technical concept, referring to the re-tooling of industry and agriculture along more environmentally sensitive but still profitable lines. Yet if this is the case, there is nothing truly 'ecological' about it, for it would say little about human interactions with ecosystems (see Christoff, 1996a). There really has to be more to the discourse than narrow engineering and technical concerns. For ecological modernization is not something that can be accomplished by business managers and engineers operating voluntarily and independently on their own products and processes. It requires

political commitment, to the enlightened long term rather than the narrow-minded short term, and to a holistic analysis of economic and environmental processes rather than piecemeal focus on particular environmental abuses. Its subject matter encompasses nothing less than how capitalist society shall be guided into an environmentally enlightened era, and so involves commitments on the part of the entire society, not just industry. These commitments include foresight, attacking problems at their origins, holism, greater valuation of scarce nature, and the precautionary principle. There is a role for government in setting standards and providing incentives to industry, which helps explain why ecological modernization has flourished in countries with interventionist governments that work closely with business.

Ecological modernization bears a family resemblance to sustainable development. In his seminal book on the subject Hajer even categorizes the Brundtland report as a key ecological modernization document (Hajer, 1995: 26). But ecological modernization has a much sharper focus than does sustainable development on exactly what needs to be done with the capitalist political economy, especially within the confines of the developed nation-state.<sup>5</sup>

### Discourse analysis of ecological modernization

The storyline of ecological modernization is that the capitalist political economy needs conscious reconfiguring and far-sighted action so that economic development and environmental protection can proceed hand-in-hand and reinforce one another.<sup>6</sup> This storyline is constructed from the following discourse elements.

#### Basic entities whose existence is recognized or constructed

Ecological modernization entails a systems approach that takes seriously the complex pathways by which consumption, production, resource depletion, and pollution are interrelated. This is most explicit in the Dutch National Environmental Policy Plan, which, as Weale (1992: 128) points out, is rooted in general systems theory. The key to effective action is therefore to anticipate and prevent unwanted environmental ramifications

of production and consumption decisions. This orientation is very different from the atomistic underpinnings of Promethean and economic rationalist discourse, which have little time for system complexity. However, ecological modernization's embrace of the system concept is incomplete, for it can still view natural systems in limited terms, as mere adjuncts to the human economy. Nature is treated as a source of resources and a recycler of pollutants—a giant waste treatment plant, whose capacities and balance should not be overburdened. Denied are any notion that nature might spring surprises on us, defy human management, have its own intrinsic value, and its own open-ended developmental pathways. This limited view of nature warrants green radical suspicion of ecological modernization.

Like sustainable development, ecological modernization pushes limits to growth into the background. This displacement of the limits discourse is symbolized by the 1997 report to the Club of Rome, *Factor Four*, which argued the compatibility of doubling wealth while halving resource use (von Weizsäcker et al., 1997). In 1972 it was the Club of Rome that commissioned the key survivalist report, *The Limits to Growth*. In ecological modernization discourse, limits are not so much explicitly denied as ignored. Certainly the idea of limits becomes fuzzier once economic growth is decoupled from growth in environmental stress, which seems to be happening in the six countries I identified at the beginning of this chapter. The existence of the capitalist political economy is taken for granted. Unlike sustainable development, economic redirection does not necessarily require a de-emphasis of the state and concomitant promotion of international society and the political grassroots. Finland, Germany, Japan, the Netherlands, Norway, and Sweden are strong states which if anything become stronger as a result of their promotion of ecological modernization (but see Mol, 1996: 314–15 for an argument that ecological modernization can allow a more participatory and decentralized state).

#### Assumptions about natural relationships

Ecological modernization implies a partnership in which governments, businesses, moderate environmentalists, and scientists cooperate in the restructuring of the capitalist political economy along more environmentally defensible lines. This partnership is an anthropocentric one, in

that the natural world is subordinate to human desires and calculations. Whether or not there are necessary hierarchies in human affairs is an open question. Certainly, there are those who would want to make ecological modernization into a doctrine for managers of the political economy; on the other hand, there is room for more egalitarian political relationships across different actors. There is also a crucial natural relationship between environmental protection and economic prosperity, in that the two are seen as properly proceeding hand-in-hand.

#### Agents and their motives

The key agents in ecological modernization are the partners I have just identified: governments, businesses, reform-oriented environmentalists, and scientists. Their motivations have to do with the common good or the public interest, defined in broad terms to encompass economic efficiency and environmental conservation. Ecological modernization requires widespread commitment to and action upon its principles. If it is resisted by key actors, as in the United States and United Kingdom, then ecological modernization simply will not happen.

The question of agency under ecological modernization does, on closer inspection, provide a doorway into a potentially more far-reaching change in the way developed societies organize their economic and—especially—political systems. For the partnership is in a major enterprise: the ecological restructuring of capitalism. But the partnership itself might prove to constitute a major restructuring of political life, because its scope will be extended to questions of economic organization that have traditionally been placed off-limits to collective political control. Shortly, I will turn to the radical ramifications of this possibility.

#### Key metaphors and other rhetorical devices

The words 'economics' and 'ecology' both derive from the Greek *oikos*, meaning household. In a sense, ecological modernization returns both ecology and economics to their household root, and re-establishes their commonality. For the implicit metaphor in ecological modernization, helping to explain its widespread appeal, is that of a tidy household. This household is concerned with maximizing its wellbeing, but at the same time realizes that minimizing waste also means meeting its needs

efficiently, and that commodious surroundings contribute to the household's sense of wellbeing. In this light, perhaps it is not surprising that ecological modernization has prospered in countries noted for the tidiness, prudence, and far-sightedness of their households.

The word 'modernization,' like the word 'development,' connotes progress, and so ecological modernization is linked with the ever-popular notion of social progress. Again like sustainable development, ecological modernization is a discourse of reassurance, at least for residents of relatively prosperous developed societies. No tough choices need to be made between economic growth and environmental protection, or between the present and the long-term future. Unlike sustainable development, it is rarely claimed that this happy coincidence of values extends to social justice, still less justice across the rich and poor nations of the world. However, Hawken et al. (1999: 1–2) say that justice too will follow if the technological changes they advocate are adopted. Ecological modernization was long silent about what might be the appropriate developmental path for Third World societies, and attempts by theorists to apply ecological modernization concepts to these societies often misfire. To get to the point where they can now choose ecological modernization, countries like the cleaner and greener six spent a lot of time in a modernization mode that was decidedly anti-ecological. If followed by the world's poor, then that developmental path would surely impose intolerable stress on the world's ecosystems. Sustainable development speaks more explicitly to Third World development than does ecological modernization.

### Radicalizing ecological modernization?

In its limited technical sense, ecological modernization looks like a discourse for engineers and accountants. However, ecological modernization can also be treated as a restructuring of political and economic life, rather than a mere re-tooling of industry.

At one extreme we find ecological modernization for engineers and accountants. Hajer (1995) refers in this context to 'techno-corporatist' ecological modernization, which treats the issues in technical terms, and seeks a managerial structure for their implementation. Management is

#### BOX 8.1

#### Discourse analysis of ecological modernization

1. **Basic entities recognized or constructed**
  - Complex systems
  - Nature as waste treatment plant
  - Capitalist economy
  - The state
2. **Assumptions about natural relationships**
  - Partnership encompassing government, business, environmentalists, scientists
  - Subordination of nature
  - Environmental protection and economic prosperity go together
3. **Agents and their motives**
  - Partners; motivated by public good
4. **Key metaphors and other rhetorical devices**
  - Tidy household
  - Connection to progress
  - Reassurance

supplied by the existing administrative organization of the corporatist state, open to the findings and recommendations of environmental scientists and engineers. Relatedly, Christoff (1996a) refers to 'weak' ecological modernization, characterized by:

- an emphasis on technological solutions to environmental problems;
- a technocratic/corporatist style of policy making monopolized by scientific, economic, and political elites;
- restriction of the analysis to privileged developed nations, who can use ecological modernization to consolidate their economic advantages and so distance themselves still further from the miserable economic and environmental conditions of the poorer nations of the world.

Christoff's 'strong' ecological modernization would feature in contrast:

- consideration of broad-ranging changes to society's institutional structure and economic system, with a view to making them more responsive to ecological concerns;
- open, democratic decision making maximizing not only participatory opportunities for citizens, but also authentic and competent communication about environmental affairs;



- concern with the international dimensions of environment and development.

An excellent illustration of the contrast between weak and strong ecological modernization, especially when it comes to the difference between technical and structural solutions, can be found in González's (2001*b*) analysis of air pollution policy in California. California has long pursued a policy of forcing technical changes to car engines in order to reduce emissions. However, total emissions continue to rise because the benefits of these changes are more than offset by increases in the number of cars on the road and average per-year distance traveled. Planning to reduce reliance on private cars and control urban sprawl is not on the agenda. Such planning would be central to strong ecological modernization.

Consistent with Christoff's 'strong' viewpoint, Hajer (1995) speaks of the possibility of 'reflexive' ecological modernization. By reflexive, Hajer means political and economic development that proceed on the basis of a critical self-awareness. Modernization was for long treated in nonreflexive terms as just a matter of hitching a ride on the ineluctable progress from 'traditional' to 'modern' society. Reflexive modernization still recognizes that the ride must be taken, but introduces a host of anxieties about the quality and trajectory of the ride which must be subject to continued monitoring and control. No longer can experts and governments be trusted to know what is best for the rest of us; no longer should we regard economic growth of whatever composition as automatically a good thing; no longer should we place economic affairs and the organization of the economic system as off-limits to public scrutiny and democratic control. Experts and elites would have to justify their policies in front of the citizens, in comprehensible language, and with no recourse to the privilege of rank or expertise. Reflexive ecological modernization is for everybody.

Clearly it matters a great deal to which of these two versions of ecological modernization a society commits itself. Weak or techno-corporatist ecological modernization might, as Hajer (1995: 32–4) recognizes, involve just a rhetorical rescue operation for a capitalist economy confounded by ecological crises. This would defuse the radical potential of environmentalism and deflect the energies of green activists without really changing the political-economic system to make it more ecologically sustainable and socially convivial.

Much more is at stake in the strong version, which points to the exit from industrial society. Ulrich Beck (1992) has argued that issues of environmental risk, especially risk related to chemical pollution, toxic wastes, nuclear energy, and biotechnology, call into question the very foundations of industrial society. In industrial society, Beck argues, we happily put issues of economic organization and technological change off-limits to conscious and collective human control. For this reason, Beck believes that industrial society was only 'semi-modern,' in that it only partially fulfilled modernity's promise of rational social development. Beck's emerging 'risk society,' in contrast, puts these issues firmly on the agenda. To Beck, the politics of industrial society was mostly about conflict between social classes, and redistributive issues reflecting this conflict between capitalists and workers. In contrast, the politics of the emerging risk society is organized around the environmental risks which industrial society has generated, but with which it has shown itself incapable of dealing. Unlike industrial society's main hazard of poverty, the rich have no immunity from the hazards of risk society. As Beck (1992: 36) puts it, 'smog is democratic.'

The prospects for strong or reflexive ecological modernization are improved to the extent that environmental affairs can be joined to the risk drama portrayed by Beck. But so long as these affairs are treated in more mundane terms of pollution control and management of material flows, weak or techno-corporatist ecological modernization will prevail. Mol (1996: 317) and Blowers (1997) believe this mundane character is inescapable, and so exclude ecological modernization from any contribution to a reflexive modernity. Langhelle (2000) and Pepper (1999) both see more radical potential in sustainable development discourse, for all its faults. However, sustainable development for Langhelle comes in its Nordic version, true to the spirit of Brundtland rather than the World Business Council for Sustainable Development version. For Pepper, a now-marginalized conception of 'strong sustainability' is the key.

In the weak or techno-corporatist version of ecological modernization, government, corporate capitalism, and the scientific establishment manage the transition to a more environmentally sensitive economic system. But in Beck's risk society, these three institutions share only public disgust for their complicity in the production of risks. Beck sees scientists as risk apologists, their work for sale to the highest bidder. Thus the dominant

institutions of industrial society lose their legitimacy in the eyes of the public. Risk society is in fact conducive to the insurgency of a whole new set of interlinked democratic institutions. Experts would lose their privilege, and science would be reformed such that 'research will fundamentally take account of the public's questions and be addressed to them' (Beck, 1999: 70), enabling citizens to reach their own judgments on technical issues. Authority in general would be reconstituted in networks that would cross traditional boundaries of the state, economy, and society. These networks would be the institutions of a reflexive modernity (see also Beck et al., 1994). They could resemble a radicalized version of the governance networks discussed in Chapters 4 and 5.

### Ecological modernization in the balance

If ecological modernization does prevail, which kind will it be? Will we get environmentally sensitive management of technological change? Or will we see instead wholesale transformation of the capitalist political economy, the doorway to a reflexive ecological modernity in which the latent human potential for full control of our destiny comes into view for the first time in history? The jury is still out. When it comes to the prospects for this strong or reflexive version of ecological modernization, Beck overstates his case that the transition from industrial society to risk society has occurred. Politics is still mostly about the distribution of material rewards rather than about the production, allocation, amelioration, and distribution of risks, even though the occasional risk issue, such as mad cow disease (BSE) in Britain in the late 1990s or genetically modified organisms, occasionally rises to the top of the political agenda. Moreover, if and when risk society does arrive, it will not necessarily be as conducive to broad-ranging democratization as Beck hopes. For risks can be distributed along class lines, as the environmental justice movement in the United States emphasizes. This movement begins from the recognition that toxic waste dumps and other noxious facilities are normally located in the vicinity of the poor and ethnic minorities. The rich can escape the risks of mad cow disease and genetically modified food by buying organic food. Weak ecological modernization in the wealthy countries could be bought by transferring risks to poor countries—by locating polluting industries in

poor countries, or exporting wastes to them, or exploiting their resources in unsustainable fashion. Japan's ecological footprint is very large, but the negative effects are felt mostly outside Japan, in destroyed tropical forests in Southeast Asia, in Pacific islands covered in golf courses, in depleted ocean fisheries, in polluting industries relocated to other countries.

Of the six countries I have emphasized, glimpses of strong ecological modernization can be seen mainly in Germany, where consensual elite-level politics confronts strong oppositional social movements. Ecological research institutes such as the Institute for Applied Ecology (and more than eighty others) supply Beck's 'counter-expertise' for the public, and raise structural questions in their influence upon public policy. The Green Party in the federal governing coalition has negotiated a planned phase-out of nuclear power. German environmentalists have become major players without having to suppress radicalism (the increasing moderation of the Green Party notwithstanding), which has been the price of inclusion elsewhere (Dryzek et al., 2003: 185–91).

I argued at the end of the previous chapter that sustainable development fits uneasily in a world seemingly committed to free trade and the deregulation of markets (unless the discourse is bent heavily in the direction of market liberalism). Ecological modernization faces even greater problems here, given its commitment to conscious collective control of the political economy in the ecological restructuring of capitalism. However, states that operate along these lines might find that they can obtain a competitive edge in the emerging world economic order, if there is money to be made in environmental conservation.

Concerted pursuit of ecological modernization requires a consensual and interventionist policy style consistent with corporatism. This style is, however, anathema to governments under the sway of market liberal doctrines, which helps explain why ecological modernization faces an uphill struggle in the English-speaking industrialized nations. González (2002) points out that at least one element of ecological modernization has been present in the United States since the late nineteenth century, as local economic elites have sought to control pollution for the sake of local economic advantage. Similarly, Scheinberg (2003) suggests looking at the local level, for example at recycling. More far-reaching ideas appeared in former Vice-President Al Gore's book, *Earth in the Balance* (1992), whose proposals are essentially consistent with ecological modernization (though

he never uses the term). Gore the Vice-President proved a pale shadow of Gore the author, and none of the book's prescriptions found any place in policy making, still less his 2000 presidential campaign. The disillusioned environmentalists who greeted his public appearances with a chant of 'Read your book!' had a point. Targeting US industry rather than government, Hawken et al. (1999) in *Natural Capitalism* argue that technological measures can enable reductions in resource use and environmental stress while economic growth continues. These US developments remain fragmentary and limited.

The United Kingdom for its part did eventually begin to consider some aspects of ecological modernization in the late 1990s. Fabian Society Director Michael Jacobs (1999) sketched the idea of 'environmental modernisation,' and tried to link it to the general modernization agenda of Tony Blair's Labour government. In 2000 Blair responded, speaking of 'a new coalition for the environment . . . that harnesses consumer demand for a better environment, and encourages business to see the profit of new technologies.' As Barry (2003: 199) points out, Blair's 'new coalition' apparently does not contain environmentalists. In 1998 the UK's Royal Commission on Environmental Pollution published a report, *Setting Environmental Standards*, which remarkably (for a British report) recommended abandoning the established secretive and informal approach to regulation in favor of a more participatory process involving citizens with conscious scrutiny of public values (Weale, 2001: 362–8). This report is actually consistent with strong ecological modernization, but the response from government was tepid, and its recommendations were not implemented.

Such straws in the wind notwithstanding, if the ecological modernizers are right, the United States, United Kingdom, along with Canada, Australia, and New Zealand, are going to be left standing in the transition to a new green capitalist era.

The idea that capitalism's future might be green and corporatist is ridiculed by Prometheans. They regard ecological modernization's precautionary principle as tantamount to lunacy (see, for example, Wildavsky, 1995: 427–33), as guaranteeing only that the wealth which is the real key to environmental health will be dissipated by excessive and costly regulations. Economic rationalists see in corporatism only opportunities for special interests to conspire against the public good. However, policy instruments

developed by economic rationalists, notably quasi-market incentive mechanisms (as discussed in Chapter 6), have often found favor among ecological modernizers, who paradoxically find it much easier to implement them because they can strip the instruments of their 'free market environmentalism' ideological baggage.

Green radicals are uneasy with ecological modernization because it threatens to deflect their critiques of industrial society. Ecological modernization might pave the way for the inclusion of green groups in policy making, but at the price of their moderation (Barry, 2003: 204–6). The strong reflexive version of ecological modernization could be stretched to encompass green radical views, though some more romantic green notions would have to be jettisoned to fit this very rationalistic discourse. However far it is stretched, ecological modernization does not easily admit the idea that nature might have intrinsic value beyond its material uses, or green desires for living simply upon the earth in convivial fashion. Human life on earth for ecological modernizers is always going to be a complicated affair, and will never be for living simply.

Survivalists, Prometheans, economic rationalists, and green romantics are probably never going to accommodate themselves to ecological modernization. Governments that have always resisted consensual and corporatist policy making will probably also continue to resist ecological modernization. The discourse at the moment has little to offer Third World societies in terms of developmental alternatives. And it is therefore largely silent on what to do at the global level.

Still, in its weak and techno-corporatist senses, ecological modernization has already proved itself in the cleanest and greenest developed nations. Strong ecological modernization linked to a reflexive modernity is both more intriguing and more speculative. Alone among the discourses surveyed here, it offers a plausible strategy for transforming industrial society into a radically different and more environmentally defensible (but still capitalist) alternative.

## NOTES

- 1 Available at [www.ciesin.org/indicators/ESI/rank.html](http://www.ciesin.org/indicators/ESI/rank.html).
- 2 For an earlier comparative study, see Jänicke, 1992.
- 3 'Green Dreams: Japan,' *The Economist* 362 (12 January 2002): 40-1.
- 4 Survivalists might remain unconvinced by even demonstrably successful ecological modernization. For even if the rate of increase of resource depletion slows to zero, the depletion is still occurring, and so eventually the resources will run out.
- 5 Ecological modernization can also be treated as a social science theory for the analysis of environmental developments (Mol and Spaargaren, 2000). As a theory, it is often over-stretched, interpreting any kind of environmental protection as a step on the ecological modernization road; this is especially true when it is applied to societies in the Third World and post-communist world. In this chapter I confine the discussion to ecological modernization as a discourse, not a theory.
- 6 Hajer (1995: 65) defines the 'credible and attractive story-lines' of ecological modernization as 'the regulation of the environmental problem appears as a positive-sum game; pollution is a matter of inefficiency; nature has a balance that should be respected; anticipation is better than cure; and sustainable development is the alternative to the previous path of defiling growth.'

## PART V

### GREEN RADICALISM

As befits its imaginative and radical leanings, the world of green discourse is a diverse and lively place, home to a wide variety of ideologies, parties, movements, groups, and thinkers. Found here are green parties and their factions, animal liberationists, bioregionalists, ecofeminists, deep ecologists, social ecologists, eco-Marxists, eco-socialists, eco-anarchists, ecological Christians, Buddhists, Taoists, pagans, environmental justice advocates, green economists, critical theorists, postmodernists, and many others. This variety makes classification difficult. However, green radicalism can be divided into two categories: one that focuses on changed consciousness, another that looks more explicitly to green politics. A stress on green consciousness means that the way people experience and regard the world in which they live, and each other, is the key to green change. Once consciousness has changed in an appropriate direction, then policies, social structures, institutions, and economic systems are expected to fall into place. This prioritization of consciousness is widespread in the green movement, among deep ecologists, bioregionalists, ecofeminists, eco-theologists, and lifestyle greens, among others. Other greens are more attuned to the need to target recalcitrant social, economic, and political structures and practices more directly. They include green parties, social ecologists, eco-socialists, and environmental justice, Third World, and anti-globalization activists. Sometimes the difference between green consciousness and green politics is just a matter of emphasis, and the two join to constitute a green public sphere. Some greens endeavor to combine consciousness change and political change. At other times some contrasts come into play.

These two aspects of green radicalism represent the main options for any social movement. Movements aim to change both the way people think and so behave on the one hand, and social institutions and collective decisions on the other. These institutions and decisions include governments and their policies, though social movements can also target international organizations and corporations, and even help create alternatives to the formal structures of government.