

Yet there is no process to permit this larger discussion to take place. The House of Commons has never held a full debate on nuclear power policy, and even if one is scheduled in the near future (as promised) it will attract little interest among MPs. It is most likely that the inspector who will conduct the forthcoming public inquiry into the merits and demerits of the uranium dioxide reprocessing plant will be briefed by the DOE to curtail commentary on matters not pertaining directly to the construction and siting of the plant.

The environmental challenge makes explicit a number of criticisms that have been voiced by many with respect to various sectors of policymaking—namely that the value judgements of a surprisingly small number of people come to be regarded as ‘the national interest’. Yet it is disturbingly possible that because of their influence these people will establish our norms against our conscience and contrary to our best interests. To bring premises to the fore at any early stage in policy analysis, before any hasty political commitments bind us to specific decisions which in turn decide policy for us, requires that we look carefully at the procedures for policy review and decisiontaking with a new urgency.

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Environmental ideologies

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Abstract. Environmentalism as a social and political movement mirrors the dualities existing within mankind generally in failing to connect desired aims with daily deeds. This is partly because environmentalism has emerged from two contrasting schools of thought, the one nature-orientated, the other centred on technique and mode of organisation. But it is also due to the takeover of much of environmentalist philosophy by groups, both well-meaning and selfish, who either fail to recognise their own hypocrisies or simply shield narrow political aims with the armour of environmental morality. The potential for conflict is therefore great as new patterns of political and economic power emerge but cannot be accommodated by an existing order that finds compromise difficult.

“The dispassionate observer of the present ecology movement cannot help but be struck by the ironies and contradictions coexisting under one banner. Compassion and callousness, altruism and greed, world vision and nationalistic hubris, all join in what some presume to call the ultimate revolution” (Neuhaus, 1971, page 188).

In this fairly typical passage from his devastating critique of the modern environmental movement, Neuhaus pinpoints the greatest weakness of environmentalism, namely, its inherent ideological contradictions, which are mirrored by ambivalent policy prescriptions. But this ‘uneasy compromise’ that plagues present-day environmental philosophies should not be particularly surprising, since it appears to be part of the human condition that normative beliefs conflict with preferred actions. “The leading characteristic that dominates our society today”, wrote John Robinson (1964, page 28), “is its extreme confusion. To understand it means only to reveal its contradictions.” The fact that some of these contradictions are not even recognised, let alone understood and resolved, makes the issue all the more frustrating.

The aim of this introductory essay is to trace the intellectual antecedents of the current duality in environmentalist thought, so as to demonstrate the enormous difficulties that confront those who search for tidy solutions to the current global dilemma—which, in short, is the unacceptable maldistribution of resources, wealth, power, and environmental well-being among the peoples of the world who can no longer be sustained by the politics of the ‘status quo’. In the second part of the essay I try to show how and why this duality is in fact more apparent than real, and that the modern environmental movement faces a far more serious challenge from within than from without.

1 Intellectual antecedents to modern environmentalism

Ideology is found in the systematic and logical structure of thinking that is so embedded in a person’s mind as to be self-evident. “A society cannot exist”, observed Robinson (1964, page 9), “unless its members have common feelings about what is the proper way of conducting its affairs, and these common feelings are expressed in ideology.” Because ideology enables people to understand their social worlds, it invariably reflects their views about social order and social justice. And it is the theme of social justice which is central to the environmentalist debate.

The divergent notions that characterise modern environmentalism stem from two quite distinct philosophies that emerged during the first American conservation period around the turn of the century. At the risk of adding to the vocabulary of jargon, let me characterise the two viewpoints as *ecocentrism* and *technocentrism*, though I should emphasise that the proponents of both sets of ideas were eager to call themselves 'conservationists'. Figure 1 portrays the major features of these two themes.

1.1 The ecocentric philosophy

The ecocentric philosophy in turn is composed of two major themes—that of *bioethics* and that of the *self-reliant community*—both of which were developed from the transcendentalist philosophy that was prevalent in mid-nineteenth-century America. The ecocentrist believes that nature is not only essential to man's livelihood, but is the fundamental medium through which people understand their own personalities, their social functions, and the pattern of human relationships. "Thousands of tired, nerve-shaken, over-civilized people", observed John Muir (1971, page 32), probably the most revered of the American ecocentrists, "are beginning to find out that going to the mountains is going home." Contact with open spaces and natural experiences is regarded as an essential part of existence, without which the individual will never achieve full human potential.

An American psychiatrist, Neil Scott (1974, page 235), a self-declared wilderness freak, believes that direct contact with wild nature is necessary to develop mental stability and balanced judgement. Communion with nature produces a new transcendence, he declares, where "dichotomies, polarities, and conflicts are fused, transcended or resolved leading to new and creative insights, awareness and alignments." At the extreme, the participant loses his earthbound ego in his ecstatic fusion with his surroundings. Ralph Waldo Emerson, one of the most respected of the transcendentalists, claimed to have reached this state when he wrote that when he entered the woods near his home he became "a transparent eyeball: I am nothing: I see all; the currents of the Universal Being circulate through me; I am part and parcel of God" (Emerson, 1971, page 5).

To the ecocentrist, then, the denial of the natural settings (whether by an urban-bound existence or because of, say, a proposed recreational or mining development) is the denial of the meaning of existence, hence is utterly unacceptable regardless of political (or, indeed, social) consequences. The wilderness protection advocates in North

America are noted for their tenacity of purpose and their amazing legal and political strength. The consequence, as Wandersforde-Smith (1971, page 481) remarks, is that "to them [the wilderness] is an all or nothing proposition because wilderness values are irreplaceable and priceless; not the kind of values that can be traded off under the rubric of multiple use or according to the principles of professional forestry". David Eversley (1974) reminds us that the same 'all or nothing' philosophy pervades the historic-building preservation movement in Britain: in this case it seems that architectural links to a noble past compensate for fears of a chaotic present. Again there is a powerful almost existential urge to safeguard objects of social and environmental meaning regardless of the distributive implications.

Another version of the bioethic idea was promoted by the American conservationist writer, Aldo Leopold (1949), who called for a new 'land ethic' to add to the existing codes of reciprocal obligations and moral responsibilities that characterise relationships between owners of private property and among individuals in society. Although his plea was widely quoted, it was little heeded by a society that frankly was not interested in the notion until a few years ago, when a number of American environmentalists and lawyers called for a widening of the principle of legal 'standing' (the right to receive judicial review when a legitimate interest is endangered) to enhance the right of natural objects (both animate and inanimate) to exist unmolested by man. No less an eminent jurist than former US Supreme Court Justice William Douglas supported this notion when he commented, in a dissenting opinion that followed a decision by the court to confine the scope of standing to people who had a 'direct interest' in natural areas, that the "contemporary public concern for protecting nature's ecological equilibrium should lead to a conferral of standing upon environmental objects to sue for their own protection" (Environmental Reporter Cases, 1972, page 2044).

The idea here is to widen the scope of citizen intervention in resources decisionmaking to enable public-spirited advocates to sue on behalf of other interested parties and posterity, in order to preserve certain unique habitats, scenic areas, and endangered species. Should this legal breakthrough ever come to pass (and a number of recent North American court rulings have made this proposition more likely), it would undoubtedly have a considerable bearing upon environmental politics, some of the implications of which will be discussed below.

A third aspect of the bioethic principle is the resort to a kind of 'natural morality' when proposing solutions to current population-resource-environment problems. Many ecocentrists believe that nature circumscribes human choice, because human activities are really, or should be, guided by nature's activities and nature's norms. They visualise *Homo sapiens* as part of a 'seamless web of life' from which he cannot extricate himself, so any attempt to stand apart from (and hence dominate) nature is a senseless act of arrogance that is doomed to failure. This is the talk of limits which is central to the growth-nongrowth debate, but is also manifested in the emerging field of ecological planning, first propounded by Ian McHarg (1969), but developed in a far more sophisticated manner by Howard Odum (1971) and his student Larry Peterson (1974). The latter two have prepared sophisticated computer models of the ecological 'carrying capacities' of cities and regions which they claim should serve as a basic guide to future policies toward immigration, transport planning, settlement form, and recreational choice. Again the ramifications of this line of reasoning will be analysed below.

The self-reliant community theme, in environmentalist terms at least, also owes its modern interpretation to transcendentalist philosophy, though origins are deep in classical antiquity. Observing the intricate symbolic relationship between animals and plants in tiny ecological niches, the transcendentalists concluded that here was the model for man: the 'human-scale' self-reliant community connected to, but not

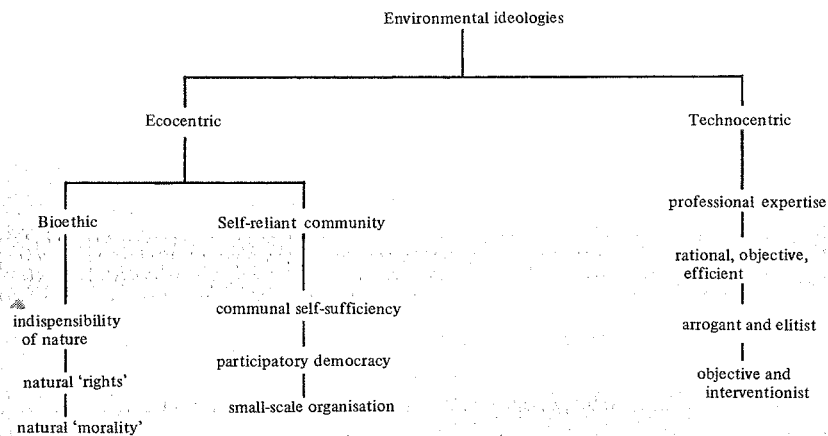


Figure 1. The major features of the two major environmental ideologies.

dependent on, thousands like it scattered across the face of the land. Utopian notions about man as a cooperative being, living in harmony with his natural surroundings in a classless society, prompted this euphoric image, one that led Henry Thoreau to coin the anarchist slogan: "the government is best which governs not at all" (quoted in Woodcock, 1963, page 429). This basic idea was quickly seized upon by Peter Kropotkin, who despaired of the social distress which accompanied rapid urbanisation and the machine-minding that accompanied the industrial revolution. Kropotkin believed that both economic security and human happiness could be assured through a regional pattern of decentralised communities where agriculture (partly in the form of private and communal allotments) flourished beside small industrial enterprises, and where the inhabitants enjoyed a breadth of education and a mix of occupations that combined manual labour with creative intellectual activity. Only in the small community, he believed (Ward, 1974, page 187), could the full human potential be attained, for:

"... such a community would not know misery amidst wealth. It would not know the duality of conscience which permeates our life and stifles our every noble effort. It would freely take its flight toward the highest regions of progress compatible with human nature".

These ideas combined a distaste of bigness and the alienating social rigidity of metropolitan life, with a faith in the liberation of man through collective enterprise and mutual aid. This kind of ideology is very fashionable in modern environmental literature, starting with the *Blueprint for Survival* (Goldsmith et al., 1972), continuing with Schumacher's (1973) *Small is Beautiful*, and further developed by Illich's (1974) notion of the 'convivial community', and Roszak's (1973) version of the 'visionary commonwealth'. All of these writers (and their intellectual colleagues) see no other future for the world of decaying capitalism, senseless giantism, and meaningless affluence, for only in these utopian societies would people be free from stress and associated psychosomatic ailments and rid of poverty. "Poverty", declared Goldsmith (1972, page 57), the father of *Blueprint*, "is something that occurs when the population expands to a level that can no longer be supported by the land.... The only way to combat poverty", he concluded, "is to decentralise society—to create smaller, more viable social units, to give people once more a feeling of belonging somewhere, to give them new loyalties and a new goal in life."

Ecocentrism claims to be a humble doctrine. It contends that mankind is not totally in control of its own destiny or its own morality. Faced with the end of material progress as they know it, people must turn inward toward themselves and toward a community of affectionate relationships where class barriers are lowered or eliminated, collective self-sufficiency is the order of the day, and participatory democracy both in work and in community life the guiding principle. Until recently, the ecocentrist has not played a noteworthy practical role, preferring to opt out of society rather than to fight it. But in the past few years, as public faith in traditional Western institutions of government and economic growth begins to erode, ecocentric views are receiving more attention—with potentially serious political consequences.

1.2 The technocentrist philosophy

The technocentric mode emerged with the new wave of scientific rationalism that characterised the first American conservation era. Technocentrism is associated with professional and managerial elitism, scientific rationality, and optimism. It is utilitarian to the core: the Benthamite triad of 'the greatest good to the greatest number for the longest time' dominated the early conservation ethos despite its senseless logic. The initial advocates were pragmatic, expansionist, and quite conceited about their own

abilities: they honestly believed that they were competent to allocate resources without political interference. They felt that politics confused matters, created inefficiencies, and thus frustrated rational and efficient decisions. The idea that the 'lay' public should in any way be involved in conservationist principles was an anathema to them: the management of resources was a matter for experts.

But there was a significant political outcome of this technocentrism. As Weisberg (1971, page 84) comments, "the conservation movement in fact was built around the difficulties of management, rather than [the principles of] ecological diversity and stability". Despite the conservationist rhetoric of 'people versus big business', American corporate resource exploiters quickly realised that this technocentrist philosophy would protect their interests by regulating resource use (through public intervention) to suit the most efficient (that is, most productive and profitable) producers. "The conservation movement did not involve a reaction against large scale corporate business", observed Hays (1959, page 266), "but, in fact, shared its views in a mutual revulsion against unrestrained competition and undirected economic development. Both groups placed a premium on large scale capital organisation, technology and industry wide co-operation and planning to abolish the uncertainties and waste of competitive resource use." Perhaps paradoxically, the emergence of conservation helped powerful economic institutions (including governments) to control the nature of economic development, to establish the bureaucratic, expensive, and unpopular regulatory agencies, and to introduce to the world a new breed of 'environmentalist', the professional specialist. These are all consequences that are profoundly disliked by ecocentrists, and certainly believed by many to be part of the root cause of our present day environmental ills.

2 The challenge to modern environmentalism

On the face of things technocentrism and ecocentrism appear to be diametrically opposed philosophies. The technocentrist is seen to be arrogant, interventionist, blindly euphoric about mankind's power of reason, intelligence, and organisational discipline to solve any problem, concerned with means rather than ends, eschewing most moral principles, and uneasy about direct citizen participation in environmental policymaking. The ecocentrist sees man as part of a natural scheme of things, who believes that man should minimise his interference with natural processes, who is imbued with a deep emotional attachment to the land, and who seeks the ultimate in participatory democracy. But on closer inspection the two ideologies are not really so different, for similar charges can be levelled at both groups, namely the separation of intellectual ideals from political reality to the point where their actions may worsen the circumstances they seek to improve. Let me analyse this challenge in more detail.

2.1 Irrelevance

As I mentioned earlier, the present 'environmental crisis' is not a matter of pollution or resource scarcity or even economic chaos, it is quite simply injustice, the unfair distribution of wealth and resource use in relation to the ownership of resource value. The charge confronting the rich nations and their wealthy inhabitants is their moral right to be *so* wealthy, *so* powerful, *so* profligate in their consumption of resources in a world which palpably cannot treat everybody so well and indeed may not tolerate this imbalance much longer. In their frustrated search for a relevant response, comfortable environmentalists attempt to reduce their marginal purchases, but may unwittingly deny the less powerful the right to a decent life. "The affluent ecoenthusiast", notes Neuhaus (1971, page 91), "who sees a connection between his giving up an electric can opener and poor people giving up their revolutionary

aspirations for prosperity is the victim of very sick thinking." The philosophy of 'enough is enough' [propounded most powerfully by the Bishop of Winchester (Taylor, 1975)] is of little purpose unless the wealth that would have been consumed is fairly redistributed. To stop producing wealth in the ecstasy of environmental preservation is to freeze global society into a pattern of misery.

Equally irrelevant are the technocentrists who propose 'limits shattering' technologies such as nuclear fission breeder reactors or fusion power. Leaving aside the much quoted 'Faustian bargain' (the commitment to stable government in perpetuity to safeguard the disposal of long-lived highly toxic wastes) and ignoring the thermodynamic implications of raising global temperatures to a significant and dangerous extent, this kind of proposal basically reinforces the politics of the 'status quo', perpetuates the illusion of resource abundance and technical mastery, and eschews any serious attempts at political and social reform. "Economic growth", notes Du Boff (1974, pages 214-215), "appears to strengthen those institutions that are the causes of our social contradictions in the first place." The promise of growth serves to soothe anxieties, subdue political dissent, and maintain existing power bases, so the real lesson is not properly learnt. The challenge to the technocentrist is to devise a *relevant* technology and a *relevant* scale and mode of organisation that can withstand the incoming tide of social and political change without destroying totally the ways of life on the environmentally privileged. Here is where the wits of human ingenuity will be tested to the full.

2.2 Arrogance and elitism

Much of the ecocentrists' talk of limits is in fact the talk of arrogance and elitism. There is always the temptation to turn prophecy into prediction and thus to support actions that are morally unjustifiable. Such is the case with the famous 'lifeboat ethics' of Garrett Hardin (1974). Hardin has extended his well-known 'tragedy of the commons' theme to the issue of food aid, immigration policy, and settlement planning. In the metaphor he dismisses the notion of a spaceship earth (on the grounds that it is unrealistically egalitarian) in favour of a metaphor of a number of lifeboats containing the population of the rich industrialised nations plying a sea filled with struggling swimmers representing the peoples of the developing world. His 'ethics' pertain to how the rich behave. They cannot allow everyone aboard because each boat has a limited capacity (Hardin's definition). If they permit some of the swimmers to clamber aboard, they have the problem of selection and in any case they remove the lifeboats' safety margins. Hardin concludes that the only 'ethical' solution is to ignore the pleas for aid in order to retain this precious spare capacity. "We cannot safely divide the wealth equitably among all present peoples", he declares (1974, page 18), "as long as people reproduce at different rates, because to do so would only guarantee that our grandchildren—everyone's grandchildren—would only have a ruined world to inhabit." This, of course, is the prescription of Malthus carried to new extremes, because the poor who are accused of breeding indefinitely are the poor of the world, not of the developed nations, and the affluence of the wealthy which Hardin so earnestly desires to protect has been gained largely as a result of the underpricing of resources and labour, owned in large measure by the very people who are left to suffer.

Nevertheless, lifeboat ethics are becoming fashionable, because in a world of growing scarcity and perplexing anxieties they seem to make sense. They echo the famous 'triage' thesis of the Paddocks (Paddock and Paddock, 1967), and the Ehrlichs (Ehrlich and Ehrlich, 1972, page 424), who both appealed to the same morality of limits. This thesis divides the developing countries and, eventually, the resource-poor rich countries (such as Britain and Italy?) into three categories—those who can help

themselves, those who might be saved given assistance, and those which cannot survive regardless of the amount of aid provided. There is little doubt that American food-aid policy is already geared more to political than to humanitarian considerations, but there are signs that this could become even more a powerful manipulative device in the future to protect certain American interests. Here is another example of how the ideology of environmentalism could be used to safeguard the very conditions it seems to destroy.

The 'limits' idea is also becoming popular as a mechanism to protect the environmental amenity of the fortunate at the expense of the less environmentally favoured. The ecological carrying capacity studies mentioned earlier, can, in the wrong hands, become the 'apolitical' justification for halting immigration, restricting population increase, and curtailing urban growth. Already the states of Florida and Oregon have embarked upon this kind of investigation with a view to imposing a ceiling on population in the not too distant future. And a number of wealthy suburban communities have successfully adopted low-growth plans to protect cherished amenities. Of course, so long as economic growth and environmental disamenity continue elsewhere (and nearby), the protectionist residents not only safeguard their lifestyles but enjoy inflated property values with low taxes. Thus, despite constitutional guarantees to free movement, the right to make reasonable use of private property, and safeguards against discrimination, US courts have actually accepted that certain 'guided growth' plans for states and communities are constitutional, even though some undoubtedly contravene these cherished principles (see Franklin, 1973).

It is little wonder that William Alonso (1973, page 197) was moved to remark that such proposals "bring about strange alliances between, for instance, business groups and minority people, or ecologists and tax leagues. These same conflicts and contradictions are mirrored within many people, who, traditional liberals, find themselves unable to reconcile their environmental interests with their concern for social equity." If these plans for ecologically guided growth were to be integrated into schemes to provide minimal levels of environmental well-being for the less wealthy (in the form of housing, social services, recreation, etc), then they would be so much more laudable. This is precisely where ecocentrists must face up to the social realities they have analysed for themselves. If only the ecocentrist fury can be turned to accommodate the legitimate demands of social fairness, there might be a real hope of resolving the global dilemma.

To accommodate the *reformist* wing of environmental ideology with the *elitist* camp is one of the great challenges facing the modern environmental movement. For these are two quite fundamentally different philosophies that have yet to be reconciled. The myriad of consumer protection groups and associations aimed at improving the political and economic rights of the underprivileged have not really been able to talk to the more 'popular' environmentalist organisations, such as the Environmental Defense Fund or Friends of the Earth, to produce a unified and consistent strategy. Yet the opportunities exist. The 'guided growth' community and regional plans cry out to be designed to meet the demands of both ecological and social fairness, while efforts to guarantee the safety of product manufacture could be combined with attempts to ensure the ecological and social suitability of the production, consumption, recycling, and disposal of such goods. Certainly in the area of guided growth and global resource reallocation there is some evidence of the marriage between the liberal and conservative elements of environmentalism: the US Supreme Court's recent ruling in favour of a more equitable housing policy, and efforts by international organisations such as UNCTAD to produce fairer means of pricing commodities are steps in this direction, albeit small ones.

Yet it is difficult not to reach the conclusion that the noble sentiments both of ecocentrists and of technocentrists, no matter how well-intentioned, still result in further repression for the environmentally impoverished and a consequent denial of true democracy and the freedom of civil rights. In the real world of limits and inequalities both modes of the environmentalist debate are trapped by the size of the necessary preliminary reforms that require attention before their utopias can become realised. The protection of amenity and the support of the principle of bioethics, whether by the countryside movement or the antimotorway/antitransmission-line people in the UK, or by the antigrowth or wilderness groups in the US, are all laudable aims. But their actions are undeniably exploitative because they inevitably seek to improve the environmental well-being of those who already enjoy a high 'environmental dividend'. They also dash the hopes of those who have no or inadequate housing, who live by the old trunk roads that were never designed to take modern traffic flows, or who have never experienced the open countryside. Even the use of the law in order to safeguard citizens' amenity rights must inevitably lead to unfair advantage in an unfair system. In the US, powerful and wealthy environmentalist organisations have used their newfound political and legal powers resulting from legislation such as the National Environmental Policy Act (1969) to suit their own ends: recreational developments have been stopped, nuclear generation schemes delayed, and polluting industries closed.

But does *everyone* gain by such actions? Whether we like it or not, the society in which we live inflames unrealistic expectations and consequently produces unrealistic demands that cannot be politically, economically, or environmentally sustained. But these demands undoubtedly exist, and the longer people are denied them but perceive that others can still achieve them, the more they will struggle to realise these expectations. People who have managed to save enough to embark on their first package tour to the Mediterranean, only to see their dreams dashed as the oil surcharge and the falling pound place the cost finally beyond their reach, will not be grateful that at last some redistribution of the world's wealth is occurring and that Western nations are finally receiving their just deserts. Those who have been persuaded to purchase a new 'all electric home' only to see the price of power triple in the past two years will not relish the fact that more 'responsible' pricing for scarce resources has finally arrived. In the kind of social and political culture in which we live, it is difficult to see how environmentalism as it is presently peddled will win through. The recent failure of the Ford Administration to raise domestic oil prices so as to encourage new energy supply technologies and to reduce OPEC oil dependence is a testament to the politics of 'business as usual'. The affluent but frightened majority of industrial cultures will continue to struggle for the wealth they sincerely believe is still due to them, no matter how apocryphal this turns out to be, nor how menacing its consequences.

3 The future of environmentalism

The Marxist critique of environmentalism as promulgated by Enzensberger (1974) and Du Boff (1974), amongst others, is never likely to become widely popular because it is directed at the wrong target. Some of the worst features of capitalism, namely the exploitation of labour, the alienation of man from his neighbours, the rape of nature, and the accumulation of profits by an avaricious minority are no longer the ogres in 1976 that they were a century ago. The rise of newfound trade union power and the growth of a trade union meritocracy has reduced (but not eliminated) the force of the labour theory of value, while imaginative strides in the area of worker participation in industrial management (particularly on the continent) have begun to diffuse the charge of alienation. It is no longer fashionable to be the owner of a large corporate

enterprise (certainly in the UK), nor indeed to be a shareholder, and long-term profit taking certainly cannot be guaranteed as inflation maintains its stranglehold. The one feature of technocentrism (common to both capitalistic and communistic cultures) that flourishes is the exploitation of the environment, so it might well be true that modern economic development is based more upon an 'ecological theory of value' than a 'labour theory of value'. If we are to continue some kind of economic growth to meet the new arrangement of political power that has arrived since the owners of other exploited resources (oil and other commodities, cheap labour in essential but 'unsocial' occupations) have begun to flex their political muscles, then probably the only remaining exploitable arenas are the natural environment, the amenities enjoyed by the environmentally privileged, and certain basic human liberties, all of which are connected.

It is quite impossible to gaze into the crystal ball of the future of environmentalism and see a clear picture. Though futurism is very much in vogue nowadays, it has not yet gained (and probably will never receive) the credibility recently lost from general disciplines of science, technology, and organisational management. And, despite the heroic efforts of some environmental futurists to chart pathways leading either to doom or to Elysium, the course of environmental ideology is much more likely to swing—sometimes violently, sometimes imperceptibly—between each of four ideological positions depicted in table 1. The technocentrist-ecocentrist division will probably continue to divide the movement, but it will be further split between liberal and conservative camps. The reader may wish to change some of the terms, but the general groupings are fairly self-evident. Conservative technocentrists believe in the power of human intellect and its drive for self-preservation to overcome all obstacles limiting the perpetuation of economic growth and the achievement of widespread human happiness. The politico-corporate establishment and their scientific advisers clearly fall into this class, as do those conservative futurists such as Heilbroner, who believe (reluctantly) that centralised authoritarian control of the world's political systems will necessarily see us through the otherwise inevitable crisis. Equally conservative, but on the ecocentric end of the spectrum, are those coalitions who, for a variety of motives, some purportedly altruistic, some utterly selfish, seek to protect their environmental status quo.

The liberals are distinguished by a different perspective on the forces of social change. The technocentrist camp is divided into social democratic reformers who see salvation in the state control of all productive enterprise and the administration of fundamental social needs, and the 'spaceship earth' economists and educators who seek a return to the price mechanism coupled with corrective taxes in depletion, throughput, and

Table 1. The ideological cross-currents of environmentalism.

	Technocentrist	Ecocentrist
Conservative	The morality of growth technological optimists managerial optimists political optimists	The morality of limits lifeboat ethics the no-growth school the ecological planners amenity protectionists
Liberal	The cautious reformers social democrats the 'materials balance' economic school the 'spaceship earth' ideologues	Radical ecological activists environmental educators research arms of environmentalist lobbies environmental citizens

(Source: based partly on Burger, 1974, page 244).

residuals generation as the fairest means for allocating environmental resources. Much of the rhetoric at the UN Conferences on the Environment and Human Settlements fits generally into this category of cautious reformism. On the ecocentrist wing come the ecological activists, described in a little more detail in section 3.3 below. Generally they seek fundamental changes in the values, attitudes, and behaviour of individuals and social institutions through example and enlightenment, not by revolution or chaos.

Given these various ideological positions, what then are the actual futures for environmentalism? Unfortunately there appears again to be no clear answer, but one can postulate four possible outcomes, parts of each of which will probably come to pass.

3.1 Conflict

The euphoria of consensus that characterised the environmental movement of the early seventies will give way to increasing conflict among internally warring factions—especially between those who seek broad social reform on the one hand and those who simply wish to protect their 'environmental dividend' on the other. This is nothing new in environmental politics, but the scale of the conflict will inevitably widen as the two sides realise the utter incompatibility of their objectives despite the superficial similarity of their aims. Thus efforts by hard-line environmental economists to use the price mechanism to allocate environmental goods and bads will be resisted by liberals who recognise that such measures would discriminate against the poor, the very people who are already subsidising the wealthy by suffering an undue proportion of environmental evils. Similarly the growing success of the antinuclear lobby may meet more critical resistance as prices rise, jobs are jeopardised, and newly acquired, electrically supplied, comforts are threatened. Talk of thermodynamic limits under such circumstances, no matter how true, may not be heeded. If the environmental challenge is to be overcome, somehow we must tackle the central question of sharing properly the remaining environmental dividend, which means that in order that the weaker are made a little better-off, the traditional environmental lobbies will have to become a little worse-off. If this is not recognised, then an even less tolerable future may be in store.

3.2 Authoritarianism

If we take the 'ecological theory of value' route as the path of least resistance (for it will make everyone materially better-off while accommodating the new pattern of power), then we may well be confronted by a serious erosion of many cherished liberties. The 'business as usual' choice will inevitably mean more centralisation of economic and governmental institutions, greater public ownership over the economy (but not necessarily public control), and increasing commitment of scarce resources to enormous capital-intensive energy generating schemes that would be strategically very vulnerable. The right to determine the quality of the occupational, communal, and domestic environments could be even further denied than it is at present, leading inevitably to enormous social conflict and widespread alienation. The political consequence of all this is normally authoritarian control, via the intervention of the state (Heilbroner, 1974; 1976).

3.3 Radical ecological activism

If we wish to protect our liberties and encourage the creative and entrepreneurial ingenuity of the human spirit, we must somehow transcend the threatening ideological conflict of section 3.1 and the dangerous simplemindedness of section 3.2 to encourage people to experiment with new forms of social order, economic activity, and communal existence. This will mean sacrifice and effort on the part of many who have the courage and the determination to proselytise, by teaching and by example, the variety of ecologically compatible social and political futures that are

possible. Burger (1974, pages 243–245) calls these people "radical ecological activists", who, by "continuous confrontation will produce an increasing awareness about how society operates, not only among the population at large but also among people in leading and executive positions". Theirs is a most precarious task, for they must provide positive counterparts to existing negative tendencies, and prepare proposals that must appear credible to policymakers as well as to a frightened and sceptical public. They must also avoid the dogma, the fanciful rhetoric, and the tactics of 'ecoscare', for these will only enflame anxieties and encourage protectionism. They must politicise the educational process to make it relevant but not doctrinaire for the forthcoming period of the new political order, though the scope of 'education' here would extend from the classroom, to the workplace and the domestic hearth. Above all they must prepare to accept small failures for more distant gains: it seems inevitable that a certain degree of environmental deprivation will be necessary if fundamental social rights and moral obligations are not to be sacrificed.

3.4 Social and political accommodation to the economic steady state

In the resource-poor but affluent nations, such as Britain and Italy, it appears that, in the future, real increases in total national wealth will be the exception rather than the rule. Already in Britain there has been a systematic transfer of income wealth from the higher-wage earners to society as a whole, though it would be dangerous to conclude that the real living standards of the wealthy have seriously declined. Nevertheless, one can postulate that there is a new class of *nouveau pauvre* (in particular middle-income professionals and retirees), who may already have started to lower their expectations for a continually improving material standard of living in favour, possibly, of maintaining certain amenities, including the 'liberal' satisfaction of witnessing a greater degree of social fairness. How far this self-sacrifice will be tolerated or, indeed, transferred to other income groups is anybody's guess. But despite the warnings of the Oxford economic school (Bacon and Eltis, 1976) and the protestations of the politicians, Britain is lurching very clumsily toward the kind of society depicted by Daly (1973) and others (such as Pirages and Ehrlich, 1974) as appropriate to the economic steady state—high employment in services, especially the social services, policies to provide everyone with a minimum standard of living, income redistribution, and an almost static population.

But it should be emphasised that there are many features of the economic steady state that are not prevalent in Britain, either now or in the foreseeable future—such as reduction in residuals production or the rate of materials throughput—and it really is very difficult to determine whether all the 'acceptable' characteristics of the steady state will ever appear, given the present political rhetoric in favour of industrial growth and the likelihood of far more stringent fiscal restraint on public spending. Nevertheless human societies have always been characterised by remarkable powers of adaptation, and so long as there remains a faith that a livable future is possible, there is always the hope that we shall possess the will and the ability to achieve it.

References

- Alonso W, 1973 "Urban zero population growth" *Daedalus* 102 191–206
 Bacon R, Eltis W, 1976 *Britain's Economic Problem: Too Few Producers* (Macmillan, London)
 Burger W, 1974 "Ecological viability: political obstacles and options" in *Man and Environment Ltd*. Eds H G T Van Raay, A E Lugo (Rotterdam University Press, Rotterdam) pp 235–256
 Daly H E, 1973 "Introduction" in *Towards a Steady State Economy* Ed. H E Daly (Freeman, San Francisco) pp 1–36
 Du Boff R B, 1974 "Ecological ideology and the environment" in *Man and Environment Ltd*. Eds H G T Van Raay, A E Lugo (Rotterdam University Press, Rotterdam) pp 201–220
 Ehrlich P R, Ehrlich A H, 1972 *Population, Resources, Environment* (Freeman, San Francisco)

- Emerson R W, 1971 "The romantic philosophy of nature" in *Americans and Environment* Ed. J Opie (DC Heath, Lexington, Mass) pp 3-10
- Environmental Reporter Cases, 1972 *An Annual Compilation of Environmental Cases* (Bureau of National Affairs, Washington, DC)
- Enzensberger H M, 1974 "A critique of political ecology" *New Left Review* 84 3-32
- Eversley D E C, 1974 "Conservation for the minority" *Built Environment* 4 14-15
- Franklin H M, 1973 "Controlling urban growth—but for whom" (Potomac Institute, Washington)
- Goldsmith E, 1972 "After the Blueprint... where" in *Teach In for Survival* Ed. M Schwab (Robinson and Watkins Books, London) pp 55-63
- Goldsmith E, Allen R, Allaby M, Davoll J, Lawrence S, 1972 "Blueprint for survival" *The Ecologist* 2 50
- Hardin G, 1974 "The ethics of a lifeboat" *Bioscience* 23 October
- Hays S P, 1959 *Conservation and the Gospel of Efficiency* (Harvard University Press, Cambridge, Mass)
- Heilbroner R L, 1974 *An Inquiry into the Human Prospect* (Norton, New York)
- Heilbroner R L, 1976 *Business Civilisation in Decline* (Marion Boyars, London)
- Ilich I, 1974 *Tools for Conviviality* (Harper and Row, New York)
- Leopold A, 1949 *A Sand County Almanac* (Oxford University Press, New York)
- McHarg I, 1969 *Design With Nature* (Garden History Press, New York)
- Muir J, 1971 "In wildness is the preservation of the world" in *Americans and Environment* Ed. J Opie (DC Heath, Lexington, Mass) pp 32-40
- Neuhaus R, 1971 *In Defense of People: Ecology and the Destruction of Radicalism* (Macmillan, New York)
- Odum H, 1971 *Environment Power and Society* (John Wiley, New York)
- Paddock W, Paddock E, 1967 *Famine, 1975* (Little, Brown, Boston)
- Peterson L, 1974 "Toward a general theory of planning design" Department of Architecture, University of Florida, Gainesville
- Pirages D C, Ehrlich P R, 1974 *Ark II: Social Response to Environmental Imperatives* (Freeman, San Francisco)
- Robinson J, 1964 *Economic Philosophy* (Penguin Books, Harmondsworth, Middx)
- Roszak T, 1973 *Where the Wasteland Ends* (Anchor Books, New York)
- Schumacher E F, 1973 *Small is Beautiful: Economics as if People Really Mattered* (Harper and Row, New York)
- Scott N D, 1974 "Towards a psychology of wilderness experience" *Natural Resources Journal* 14 231-238
- Taylor J, 1975 *Enough is Enough* (SCM Press, London)
- Wandesforde-Smith G, 1971 "The bureaucratic approach to environmental politics" *Natural Resources Journal* 11 479-488
- Ward C (Ed.), 1974 *Peter Kropotkin: Farms, Fields, and Factories Tomorrow* (Faber and Faber, London)
- Weisberg B, 1971 *Beyond Repair: The Ecology of Capitalism* (Beacon Press, Boston)
- Woodcock G, 1963 *Anarchism* (Penguin Books, Harmondsworth, Middx)

Equitable use of the resource base

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Abstract. This paper discusses the issue of intertemporal equity in terms of conservation of the resource base. Maximisation of present value is seen as a 'dictatorship of the present' leading to intertemporal inconsistency. The alternative perspective, that of a Rawlsian original position, suggests replication of the resource base over time as a social goal, and the need for mechanisms more active than resource reservation to work toward this objective.

1 Introduction

For the past two centuries the United States has had a proextractive policy toward the use of the resource base. This policy is by no means uniform, consistent, or intentional, but its general direction is pronounced. The motivating idea has been that by extraction and use today the economy will be 'energised'; not only will the present be made better-off but so too will the future as more capital stock is created. To implement this idea the extractive sector has been relatively favoured in its tax treatment and access to public lands. In the last several decades the wisdom of this policy has been questioned on the grounds that, because the presumed external benefits of the extractive sector have not been shown to exist, our materials policy should be neutral and uniform with other sectors. The economists' criticism of the depletion allowance, capital gains for timber removal, and other provisions favouring extractive industries, has been mainly on the grounds that these provisions are inefficient (Vickery, 1967, pages 315, 324; Agria, 1969, page 114). In recent years the further question has arisen as to whether we should go beyond neutrality to a materials policy which is more conservationist in the use of the resource base than would obtain from eliminating the special provisions favouring the extractive sector.

There are several reasons why we might want to go beyond this kind of neutrality, such as concern over future scarcity and the destabilisation of a new mercantilism, as an increasing number of consuming nations scramble over markets for raw materials; import vulnerability and balance of payments difficulties; and pollution problems associated with the processing and disposal of materials which are not being handled by a direct internalisation of costs. These considerations are, or at least can be looked upon as, basically ones of market failure, externality, and efficiency. In this paper I take another approach and consider intertemporal equity as a basis for going beyond neutrality in policies governing the use of the resource base.

2 Intertemporal equity

The problem of intertemporal equity arises if we believe that the resource base belongs to all generations. Under this assumption the problem of intertemporal equity arises because the resource base is controlled and managed by one generation at a time, namely the present generation. Thus by the happenstance arrangement of time a future generation can be hurt by the present generation. With the resource base being managed approximately by market allocation, the matter can be put slightly differently. Although the resource base is a collective good for all generations, it is controlled and managed by just one generation. The distribution of market power is