

## WAYS OF THINKING ABOUT THE ENVIRONMENT

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This paper develops three main themes:

1. We should think of our current environmental problems in terms of general frameworks of ideas within which diagnoses of the problems are to be found and solutions formulated. The importance of the frameworks lies in the fact that they colour our views on the description of the problems and our attitudes to proposed solutions. (1)
2. We are currently in need of a general account of what is of value in life and in the rest of nature.
3. If hope for the future lies in part in the field of environmental education, then we have to be sure to go about such education carefully.

It will be taken for granted in what follows that we do have an environmental crisis on our hands. This paper is not an attempt to convince sceptics of such a fact. I assume general concern about destruction of rain forest, loss of species diversity, increasing population pressures on diminishing resources, the accumulation of toxic material in food webs, the erosion and degradation of soil, the long term effects of widely dispersed pollutants and so on. Also, I assume - without citing evidence for it here - the truth of the claim that national governments, international banks and transnational corporations are largely confined to economic valuations and considerations of market forces that seem to do scant justice to the real worth of many things that we value highly - large mammals, for example, or forests, clean water and the richness, diversity and beauty of many natural systems.

### FRAMEWORK OF THOUGHT

Philosophy, as I understand the subject, provides training to its students in two different skills. First, it equips them with critical, analytic abilities, which enable them to cast an expert eye over the reasonings, and theories, of themselves and others. As kinds of intellectual quality controllers, philosophers might, at a gathering like this, more suitably have the last, rather than the first, word. For they are likely to be better at criticising the innovations of others than at suggesting any by themselves.

However, there is a level of theorising at which they also have a certain ability, and this is the second skill I have in mind. There is a murky area that lies beyond the confines of our present scientific knowings but is rich in questions that matter to us. These include questions about the nature of human life, the prospects of surviving death, the structure of value, the nature of thought and ideas, the structure of human society, the nature of personhood, and many others.

Philosophy is not alone in concerning itself with this latter area, for some of these topics fall within the scope of religion, the social and biological sciences, and are also the concern of literature, medicine and the arts. But I think philosophy has a special role to play in this area, where it engages in theorising which is both prior to and posterior to the sciences. It is posterior to the sciences in that it takes the best available scientific knowledge and uses it critically in attempts to understand some of the problems; but since these problems cannot as yet - and some may never - be brought under empirical scrutiny, laboratory control and statistical management, the philosophers can spend some time clearing a path, and roughly mapping out terrain, in advance of their scientific colleagues. If there is any point in giving the philosophers the first word at a meeting like this it will be because of their skills at this kind of work.

To illustrate the kind of thinking that involves frameworks of ideas recall that our environmental crisis is just one of many predicaments that have been identified by thinkers throughout history. In some cases, the way that the thinker in question has understood the world makes a difference to whether there is a predicament at all as well as to how the predicament is to be described and how the problem it poses has to be resolved. Both the description and the resolution thus depend on a more general theory about the world, or about some aspects of it, and about the place or role of human beings within it.

Thus, for example, the philosophy of Nietzsche is concerned with coming to terms with a de-deified world, a world in which the platonic-christian conceptions of human beings and their lives are abandoned. Having diagnosed our predicament as being one in which humans have to come to terms with the fact that God is dead, and that the image of a static, eternally ordered universe has to be surrendered, Nietzsche is able to suggest a way out of the problem. Instead of allowing that everything is permitted, he hypothesises the existence of a will to power in human beings which can be channeled in ways that overcome the inhibition and repression that he thought was a feature of traditional Christianity and that can lead to the development of the noble Dionysian personality, who can face the terrors of the world without resentment. I am not here commending Nietzsche's ideas, or suggested that we try to become 'Obermenschen', but showing how the rejection of one

framework and the adoption of another is a common strategy in discussing problems of human life and its fulfilment.

On a more limited scale, the American pragmatist philosopher, John Dewey, claimed that American education at the turn of the century suffered from the following defect: children were supposedly being prepared for life in a free, democratic society by being brought up in conditions of minimum freedom. His solution to the predicament involved recognising the active and social nature of humans, the participatory and inquiring nature of a properly democratic society, and built also on his own instrumentalist philosophy. The results of applying prescriptions formulated within Dewey's framework have meant a revolution in education in the twentieth century in Britain and the United States itself. Primary education became project oriented, with a genuine attempt being made to give learners first hand knowledge of subjects, rather than filling them up with remote, bookish learning. The issue of education will recur later in the paper, when I consider the appropriate form for environmental education to take. There is no shortage of material on what might be the cause of our environmental predicament, and no shortage of prescriptions for dealing with it. But prescriptions on their own are of limited use: individual people, governments, financial organisations, and international agencies will not be moved to action simply by being given prescriptions. The prescriptions, I think, which are likeliest to be acted upon are those given within a larger framework of ideas that inspires action. Any such framework that provides ways of thinking about the environment will also provide other things besides - ways, perhaps of thinking about human nature, human society and the relations between human goals and the needs or interest of things other than humans.

Even within one framework of ideas there may be sources for different kinds of environmental action and attitude. For example, in Christianity, there are a number of accounts of nature that seem to stand in some tension with each other. God, according to the book of Genesis, gave us dominion over nature, and this remark has often been interpreted to mean that nature is ours to do with as we please. A quite different attitude to nature is motivated, within the same tradition, by the thought that God gave humans stewardship over His creation. Stewardship implies responsible care, and the notion that everything shows some aspect of divine handiwork is a further motive for caring for, rather than despoiling our natural surroundings.

These tensions within this particular tradition have already been explored, and I do not want to add to this work here.(2) Religion, after all, is but one of many influences of our moral and social thinking, and only one factor among many in explaining our attitudes to the environment.(3) There is more than a little truth, I think, in the claim that in modern western industrial societies, the decline in religion has left a moral vacuum. In many of these countries, there is still a morality that can be thought of as Christian; but in its secularisation, it seems to have lost some of its authority. Moral philosophers will assure us that what is right to do is not made right because a God or gods tell us so: rather the gods tell us what is right because it is right, and a good God will be bound to act rightly.(4) Yet moral philosophy has signally failed to provide so far the kind of moral authority which religion once seemed to provide.

The decline in traditional religion in the countries already mentioned has prompted some environmentalists to suggest that the wisdom of Hinduism or Taoism has much to teach the industrial nations.(5) Certainly, in both these cases, there is a clearer relation between religious teaching and respect for the environment than in Christianity. The non-intervention of Hindus in nature amounts to action on the principle of live and let live - even though no such principle, I understand, has the force of a moral maxim to them. More clearly, perhaps, the harmony and balance sought by the Taoist, suggests an image of a satisfying natural life, in contrast to the dissatisfaction associated with a life that is too artificial. Yet, although it may be pleasantly mystical to appeal to the wisdom of the east, it is hard to see how to graft either Taoist or Hindu notions onto the kind of attitudes that prevail in the rich, industrialised nations.

Even if these notions could find a place in such societies, there are two reasons for suspicion about whether they would make a great deal of difference to our global environmental problems. The first is that there are many issues that require detailed valuations which these religions cannot deliver.(6) What makes decisions in such cases difficult is not knowing just how much value to apportion to, say, the last surviving members of a rare plant species. Where the collision is between a wild species and human interests, we still look in vain for a metric drawn from any religion that will help to decide the best course of action in specific cases.

A second reason for suspicion is harder to articulate. The very nature of industrial societies and of international trade makes it inevitable that a distance occurs between acts and those things that are consequences of these acts or preconditions of such acts.

For example, most of those who live in rich countries and eat meat have little conception of how animals are intensively reared, or slaughtered. In Cardinal Newman's terms, their understanding or grasp of these matters is 'notional' rather than 'real'.(7) Unless we are very good at imaginative projection we find it hard to be inspired to action by a vague or notional understanding of a situation, even where we consider that situation to be undesirable. I am sure that people in Japan have a notional understanding of destruction of tropical rainforest. But what they enjoy and understand in a real sense are the forests in their own country. Despite their love of trees, the Japanese will no doubt continue to import vast amounts of timber from rainforests until they start to acquire a real apprehension of what the destruction of rainforests means. Likewise, there is no guarantee that a significant shift to Taoist attitudes within a country like Britain would lead to anything more than local environmental improvements.

So far, I have suggested that acceptance of a framework of ideas can inspire people to follow the associated prescriptions, to try to transform the world in accordance with them. Dewey managed to inspire a large following by diagnosing and suggesting a cure for the disparity between joyless, authoritarian schools which encouraged passivity on the part of pupils, and the ideal of democracy, participation and self-improving

activity to which his society was notionally committed. Some religious frameworks, like Taoism and perhaps certain versions of Christianity, can provide a framework within which conservationist attitudes and actions may be encouraged. The distancing of causes and their effects in complex industrial societies, and in international trade, adds a further layer of complexity to the problem.<sup>(8)</sup> This distancing of producer and consumer may be responsible for some of the unintentional damage that we do to the global environment. But a deeper account of our environmental predicament would no doubt itself identify one or more frameworks of ideas within which prescriptions that encourage the abuse of nature, its appropriation for human needs and a general lack of concern for our fellow creatures can be explained as coloured by underlying general beliefs about ourselves and the world around us.

## SCIENTIFIC FRAMEWORKS

It is usual for commentators on environmental issues to blame at least some of our current problems on widespread acceptance of one or more scientific frameworks. These frameworks have supposedly supplanted religious ones, with scientists as the new high priests.<sup>(9)</sup> Such comments require, for their very intelligibility, that we take only the most general, perhaps superficial, view of the sciences. They also embody mistakes, I think, about the contents of the various sciences. Such mistakes operate in two directions. On the one side, some sciences are accused of giving us narrow, deterministic accounts of human nature, while, on the other, sciences like ecology are supposed to provide new models of explanation and give evidence of certain deep truths about interconnections. I have attacked the latter understanding of ecological findings elsewhere, and so will not pursue that issue here.<sup>10</sup> But let me say something now about the first sort of mistake.

It is ironic to observe that those studies which deal with specifically human consciousness, organisation and nature, have the least claim to scientific status. It is not obvious that studying psychology or sociology gives more insight into human motives, needs, desires and character than reading novels. At the same time, the attempt to understand the world in terms of the physical sciences threatens to ignore what is of most interest to the human observer. Gibson, for example, observes that what, for a human observer, is an extinction or destruction of an object is, for physics simply a change of state in matter.<sup>(11)</sup> The attempt to redescribe familiar phenomena in more strictly physical terms can seem absurd.<sup>(12)</sup> Such observations do not suggest that the sciences have nothing to tell us about our own situation and about the world; rather, they remind us that we still have a long way to go in our understanding of various things, and that we need to choose with care among the great variety offered by the sciences.

Biology and medicine (for example, psychiatry and neurology) promise to yield some insights into human nature and consciousness. Genetics and evolutionary theory suggest much of interest about our innate wiring, our instincts and our styles of response to problematic situations. However, a general problem for all these sciences is the extent of what might be called human autonomy, or human freedom. According to some philosophers, like Sartre, authentic human life involves making deliberate choices about our projects. But the increasing success of the sciences in unravelling the nature of our thinking, our emotions and our values might seem to threaten the prospects for taking such autonomy seriously.

This issue takes us to the heart of the problem of determinism in science. If human behaviour, once explained scientifically, becomes no more than a deterministic, causal phenomenon, what becomes of our autonomy, our freedom to choose, our ability to make decisions? Luckily, the history of philosophy supplies the beginnings of an answer to this puzzle. Two extreme positions must be distinguished. On the one hand, there is the idea that human beings are different from all the rest of nature by virtue of their ability to make free, undetermined choices. If the idea of freedom is pursued too far, however, it seems to amount simply to randomness, and indeed, some sociologists have tried to explain the impact of humans on larger systems containing them as no more than randomising factors. Such a position does not, however, preserve the notion of human freedom or autonomy. For freedom is not the ability to behave randomly, or whimsically. When I face a practical decision of some significance, it makes a mockery of my deliberations to say that my decision is, in the end, random.

According to Hume, who gave a celebrated solution to the very problem we are now considering, there is no incompatibility between causality and freedom.<sup>(13)</sup> All our behaviour, he thought, is caused; most of it is, indeed, predictable and rightly so - otherwise we could not trust goalers to guard prisoners, teachers to mark essays, or our friends to keep their promises. But some of our behaviour is also free, that is, not carried out under restraint, compulsion or other force. Hume's view is known as compatibilism, or soft determinism, and it provides a satisfying solution to the problem we face. If I differ from my dog in my capacities, it is not because he is a creature determined by inexorable laws of causality while I have the power to break free from such constraints. Rather, there are causal accounts of his nature, disposition, and actions just as there are causal stories to be told about mine. Where we differ is in the degree of complexity we each manifest; he is of limited intelligence, with only the most modest powers of memory and foresight. I am a causal being, but of enormously greater powers of memory and foresight, and hence of enormously greater deliberative powers. The continuity of nature here is reflected by the continuity of the causal story; but it is compatible with a discontinuity in the degree of our respective powers.

Such considerations give the lie to simple determinist accounts of human nature and human choices. We are neither capricious nor powerless; neither completely free to act as we will, nor completely determined by genetic or social forces beyond our control. We do have, in Dennet's phrase, a certain amount of 'elbow room', room within which to manoeuvre in the way that we mean to characterise when we speak about 'free' action. Whatever the merits and demerits in the framework of ideas supplied by the sciences, it is not fair to associate either hard deterministic or indeterministic accounts of human nature with their frameworks. Notice that this is not to deny that some studies can shed light on the compulsions, obsessions and other forces that might threaten human freedom - for this is precisely what various of the sciences

might will show us. But the general explanation of normal human behaviour can be causal while leaving us our freedom.(14)

If follows from this that we cannot cite biological or social studies of human behaviour as excusing our own shortsighted behaviour in respect of the environment (or, as we might more properly say, in disrespect of the environment). The extent to which those who make decisions about the environment, and those who act directly on it, are free in their actions is an open and interesting one. What I am denying is that any systematic, scientific study of the factors that are significant in explaining such decisions and action will show them to be inevitable. It is very likely that our biological constitution, our modes of social organisation and certain prevalent aspects of human psychology all play some part in the explanation of our environmental problems. But however detailed and plausible such descriptions and explanations become, they provide only a part - though an important part - of the information we require in formulating prescriptions for our future. It will be wise not to formulate prescriptions that our innate dispositions, or social structures, make it hard for us to follow. The sciences, thus, can provide important information on what is realistic, or practical, for us to expect of the behaviour of people and organisations.

There is, of course, a further way in which the sciences can contribute to the attack on our current problems. They can provide the ingenuity to help overcome them, in the form of technology or response that is appropriate to the situation. But whether we use that technology or make that response is not something that is decided by scientist alone; nor do the sciences seem of themselves to furnish principles that inspire conservationist or preservationist prescriptions.

## ECONOMIC FRAMEWORKS

Even if we count economics among the sciences, it is perhaps worthy of treatment on its own. It is commonplace these days to take environmental impacts as measurable by means of cost benefit analysis. These reflect a wide acceptance in society of economic measures of benefit and harm as well as of growth, performance and productivity, measures which - because of their numerical precision - hide the valuations on which they are based. I am not wanting here to suggest that economic models and predictions have no value. Rather, they have a very great worth, but only within a limited scope. The trouble is that there is no universal measure of value. What is economically valuable may not be scientifically, medically, aesthetically, ecologically, ethically or educationally valuable. Nor can benefit, or utility be easily measured, especially when we consider the so-called 'intangible' values associated with things like ancient buildings, natural systems, and human life. It is ironic, in fact that those goods which are standardly referred to as intangible are precisely those that are most significant to the value and worthwhileness of life. Health and happiness, after all, however intangible they may appear to the economist, are almost universally valued above wealth. However obvious this truth is, the point is worth making simply because it seems so often to be ignored.

Thus consider the use of discount rates in application to problems like the disposal of nuclear wastes or the valuation of human life. Such accounting procedures can rapidly reduce costs for storage over a long period of time to negligible amounts. Looked at the other way round, the procedures can count the value of a human life now as being equivalent to the value of millions or even billions of human lives at some time in the future.(15)

Even without the problems posed by accounting techniques, the attempt to impose precise monetary values on items often appears completely misguided. In the inquiry into the siting of the third London airport, insurance values for various properties were used in the cost benefit studies. But, as was pointed out by protesters, whatever the value of a fine old Norman church is, this is something that can be represented simply by the insurance value. Similarly, a scheme for a dam on the River Delaware was supported on cost benefit grounds, although in essence what the scheme involved was changing the leisure use of a section of river by large numbers of canoeists to use of the dam by relatively small numbers of motor boating and waterski enthusiasts. For a final example, think of the fact that agricultural productivity is seldom measured in terms that take account of the fertility of the soil or the sustainability of the method of agriculture in the environment under study. It is all too easy to come up with a measure of productivity that is thus blind to the efficiency and sustainability of traditional methods of cultivation.(16)

The fundamental problem is not with the cost-benefit approach itself. Rather, the problem lies with claims to spurious objectivity or neutrality made by those who use such analyses to support the results they would like to see. If there is a problem about giving value to fresh air, clean water, sustainable practices and complex natural systems, it is not solved simply by allocating cash values to such things for the purposes of an economic model.

Conventional economics, however, is not the only economic framework within which we can approach the problems posed by the environmental crisis. On the contrary, more or less radical economic analysis of the world may suggest that part of the problem arises from the nature of capitalist, industrial societies committed to economic growth. On a Marxist understanding of our economic situation, such societies essentially involve the exploitation and oppression of the workforce, and the alienation of workers from each other and from the product of their work. It is hardly surprising that the system as a whole then shows features of alienation from nature, culminating in the threat to its long term sustainability.(17)

Although Marx gestures towards an ecology of society, he does not, in my view, provide us with enough information for placing the blame for social evils on the mode of production itself. This can be said while admitting that domination, oppression and exploitation are evils, and evils that exist both within and among modern nation states. Notice that in criticising Marxism in this way I am not denying that one major

cause of environmental destruction is short term economic gain for the few at the ultimate expense of impoverishment for the many.

Both in the rich industrial countries and in the poorer ones, there is a regular pattern to environmental exploitation which involves pursuing a resource to scarcity or extinction while profits are to be made; the end result is loss of the resource for all whose livelihoods were involved with it. Those individuals or corporations who have made profits from the exploitation of the resource have the wealth, and thus the choice, to turn to new sources of profit. Those employed as the immediate agents of the destruction are left in the position of surviving as best they can, the source of their livelihood gone, and little freedom of their own to choose what to do next.(18) My hope is that we can all agree that such modes of behaviour are no way to manage the affairs of the planet. If to say these things makes me an advocate of Marxism, then this will be because I support the moral critique that Marxist theorists make of present society, and not because I accept the economic framework within which this critique is normally posed.

## **PUBLIC AND MORAL FRAMEWORKS**

We have a tendency to simplify problems - a not unnatural one, after all, since without simplifying strategies many issues would be too complex for us ever to tackle. A popular simplifying notion, for instance, in current moral and political theory is that of the social contract. Imagine that society arises from a state of nature within which human potential is unable to flourish. The original contract is supposed to put constraints on the behaviour of those who group freely into society so that the worst excesses of the state of nature - cruelty, injustice and violence - are avoided. Within the society bound by the contract, there will be differences among individuals. Indeed, Libertarian contract theorists think of the contract as putting only minimal constraints on those who bond into society, allowing maximum individual freedom to each so long as this does not interfere with the basic or minimum rights of all. This fiction of the original contract is so non-specific that we are supposed to be able to formulate by reference to it - so it is hoped - an account of the most general features of justice in society.(19) A society living under such an imagined contract could still show extreme differences in the wealth and poverty, satisfaction and unhappiness, of individuals within it.

Nonetheless, suppose I have to choose, behind a veil of ignorance, whether to live in one society or another. Not knowing what particular role or station I am to occupy in the society, I would choose one which guaranteed certain basic social justice to all rather than one which denies rights to some in order to give extra fulfilment to a privileged group. Any actual democratic society with liberal ideas can be compared with the ideal society of the fable and by such comparison, we can decide how well it measures up to the ideal.

Where do natural things other than human beings figure in such contracts? The trouble is that we can hardly imagine other animals, let alone plants, communities and ecological systems as parties to the original contract. This fact is recognised by those contract theorists (like Rawls) who suggest that we need a broader framework than that provided by contract theory in order to do justice to our attitude to non-human beings. The challenge of providing just such a framework is not easily met.

Also Leopold, one of the influential figures in recent American conservation awareness, claimed that there was value in things natural, wild and free, and went on to define the good as that which preserved the beauty, integrity and stability of the biotic community. Leopold's land ethic arose from his own awareness of soil erosion, his first hand experience in forestry and game management and a lifetime's experience as hunter, trekker and wilderness explorer. He would have found the problems of contemporary agriculture fascinating, for features like waterlogging, salinization and alkalinization are just as much headaches for modern irrigation schemes as they were in antiquity.(20) For Leopold, this would be evidence for his view that we have not yet learned to cherish the land: 'that land is a community', he wrote in 1948, 'is the basic concept of ecology, but that land is to be loved and respected in an extension of ethics'.(21) Sometimes he writes almost mystically about the land. On other occasions, he simply points out the obvious fact that the land, the ecosystem, the biotic community is not some commodity which we can use and abuse at will but an item of which we are a part. The community Leopold has in mind would clearly embrace more than those bound by the social contract. But the sceptic can ask difficult questions here. In what sense could we form a community with non-human things at all? Would this kind of community be one within which the members have duties towards other members? Does it make sense even to think of there being duties towards trees and forests, mountains, rivers and even ecosystems?(22) Scepticism is a very significant trend throughout much of contemporary philosophy. A growing body of opinion suggests that scepticism is simply one of these things with which we have to come to terms.(23) However plausible this may be in the case of the theory of knowledge, the advance of scepticism in ethics threatens - like the death of God - to allow everything to be permitted.

One modern exponent of Leopold's land ethic has recently suggested that if we value life at all, then we cannot consistently deny value to the natural systems which, over time, have been productive of so much life, from which our own, complex form has emerged. If complex, centred, conscious life of the sort enjoyed by humans is the fruit of the ecological and evolutionary tree, we cannot value it while neglecting the tree.(24)

With a suitably sceptical response, we can deny the appropriateness of the metaphor employed here. Of, if we accept the analogy, we can still make the claim that the tree is of merely instrumental value, of no value in its own right and thus deserving no respect from us in its own right. Although I do not want to suggest that moral and political philosophies loom large in our everyday thinking, a framework which allocated value to natural things for their own sake would play a part in colouring our work day environmental attitudes and choices.

## ENVIRONMENTAL EDUCATION

Human beings have an enormous capacity to be inspired by ideas and ideals, but those currently prominent in the environmental movement are regarded by many as too quirky to take seriously. We cannot be expected to observe any form of biotic egalitarianism, as suggested by the deep ecologists, if this involves some serious respect for the rights of smallpox organisms and the AIDS virus. (25) Yet many people have become moved to action by concern about the rainforests, the depreciation of resources, global pollution and the loss of genetic diversity. The moral sceptic may interpret all of this behaviour as some kind of selfishness, perhaps a concern merely for their own or their children's future. I cannot believe the sceptic is right on this point. Where the sceptic is on firmer ground is in pointing to the existence of a puzzle. Although we care about natural things, we seem to lack the ability to characterise the frameworks within which such cares make sense.

The puzzle here is one that we can live with, at least in the short term. And its existence does not discredit the efforts to mount action programmes, education programmes and bring pressure of various sorts to bear in international agencies and national governments. Others will know more than I do about the techniques of persuading corporations, banks and governments that it is in their own interest, as well as the planetary interest, to adopt conservationist and preservationist goals. International affairs can be thought of as being in a kind of state of nature, where governments and corporations live in a state of mutual suspicion, and no agent wishes to act unless that action is clearly in its own interest. Our attempts at international co-operation may be thought of as attempts to get a kind of international social contract established under which there will be possibilities of flourishing denied to nations and corporations at the moment. Hobbes described the state of nature as one of war "of every man against every man", and makes it clear, moreover, that war consists not so much in actual fighting as in a disposition to fight with no assurance to the contrary. (26) Such a situation is environmentally crazy: for we must all share the one earth and in a situation of mutual distrust we are in a poor position for taking joint action to save our common heritage. "Wars" in the fishing industry are a good example of how common resources can be lost in such a situation.

I want, however, to conclude by looking at some of the issues that arise when thinking about environmental education. Consider, for a moment, those people who are the immediate agents of rainforest destruction. Even if we are puzzled about the overall frameworks within which we should think of values in nature, and even if we believe that the international banking system may ultimately be responsible for most of the rainforest destruction currently taking place, it is largely poor people, desperate for a fresh start, anxious to improve their own and their families' situation who are slashing and burning their way through this special plant resource. Although political action by governments and international agencies may lead to short-term embargoes on the worst destruction, a long-term problem faces us in trying to reach out to, communicate with, and raise the consciousness of, the agents of environmental destruction.

Like the pioneer in so many other areas, such people will in many instances regard themselves as doing something good: they are taming the wilderness, subduing the untidy, making use of the hitherto useless. Their way of thinking about the environment will not be easy to change, for, at a local level, they may lack a conception of the scale of the destruction to which their own contributions is so slight. As in all cases of destruction of a common resource, they will also be motivated by the thought that there is no point in their refraining from exploiting the resource which others are simultaneously exploiting. (27) If they are to be reached by educational programmes, then it will be essential that such programmes take account of their own position in their society and try to identify their ways of thinking about what they are doing. There are right ways, in my view, and wrong ways, to go about meeting this sort of educational challenge. My observations on this are largely negative. We face here a problem of consciousness raising, where we are dealing with people who already possess, as suggested, a perspective on their actions. It is wrong, both practically and philosophically, to approach the educational challenge here by taking formulated solutions to the situations. However clear it seems to us that something needs to be done about loss of rainforest, we will not evoke a suitable response from the pioneers themselves or those who support them by tackling the issues head on. Moreover, on general philosophical grounds, education should be approached, I think, in ways that respect the learner. The educator has to be something more than just another force that impinges on the person: education, properly so called, leads to development, maturity and growth of the personality, so that the thinking and vision of the person educated is transformed and exchanged.

United Nations education programmes launched in the wake of the 1972 Stockholm conference lived up to some of these ideals. The 1975 Belgrade Charter emphasised that environmental education should among other things - "be a continuous, lifelong process, both in school and out of school, be interdisciplinary in its approach, emphasise active participation in preventing and growth from an environmental perspective". These sentiments would be happily endorsed by followers of Dewey's educational recommendations. They would also agree with the 1977 Tblisi Declaration which included the following Dewey-like remarks:

Environmental education must look outward to the community. It should involve the individual in an active, problem-solving process within the context of specific realities, and it should encourage initiative, a sense of responsibility and commitment to build a better tomorrow. By its very nature, environmental education can make a powerful contribution to the renovation of the education process. (28)

It is fascinating to observe that Dewey was extremely insistent on the importance of geography in the school syllabus - a subject which, in his view, encouraged useful project work which in turn led to appreciation of the values of co-operation as well as to the development of individual initiative. When we consider the range of topics and interrelations that Dewey meant to comprehend under the label of "geography", it is clear that he had in mind something very like environmental education.

The implications of taking environmental education seriously are important for all kinds of communities. Provided we take what Paulo Freire described as a "humble, trusting, loving" attitude to the educational challenge, then the introduction of environmental education programmes will be exciting for both the educators and those they are trying to reach in tropical countries. (29) But we need also to think seriously about the way education has gone, and is going, in the rich, industrial countries. Educators make a useful distinction between the "hidden" and the overt curriculum. In many industrial countries, environmental studies and the overt curriculum. In many industrial countries, environmental studies may figure on the overt curriculum, while the hidden curriculum subverts it at the very same time. In a similar manner, the overt curriculum can play lip service to democratic values while the hidden curriculum encourages learners to prepare for a society in which the successful are the strong, the selfish and those prepared to exploit others for their own ends.

Earlier, I mentioned Newman's distinction between real and notional assent. Dewey's principle of education through inquiry and project work means that the learner is exposed to real problematic situations and learns about their solution by action. This grappling with materials as well as with merely intellectual problems is meant to give the learner a real understanding of at least some things. If those who are the immediate agents of environmental destruction had a real understanding of what they were doing, there would be a chance - I suspect - for protest from them that would be in concert with protest organised at the international level. Those governments and international agencies that are operating in fundamentally anti-environmental ways would thus come to be exposed to attack from multiple directions.

The world economic system has not served humanity well, and it is a familiar observation that the problem of international debt hangs over that system like the sword of Damocles. Education cannot, on its own, make much of a difference to that problem in a short time. But with environmentally and socially educated people increasing in numbers, there is the prospect of more and more coming to have a real, as opposed to a notional, grasp of the problems that confront us. We have a long way to go in all countries: oddly enough, the educational problem may be more severe in the so-called "developed" countries than in the others. We will know when progress has been made; for this will be shown by the fact that environmental education, in its broadest sense, has come to have as high a priority as literacy and numeracy.

I have not solved many problems in this paper, though I have explored, in a superficial way, the themes mentioned at the outset. I still do not know how to articulate what is of value in life and in the rest of nature, although I do value human life, I do value other natural things, and I do value natural systems. Further, it does not seem to me that I value these things in a purely instrumental way - rather, I value them for what they are in themselves. Some "deep ecologist" thinkers have suggested that we are required to identify with nature in order to live fulfilling lives, that is, lives in which our own potential is maximised. (30)

The idea is an interesting one, but not one that I am able, so far, to fit into a more general framework. If hope for the future lies in part with education, then that education should, I contend, be of a specific nature. It should approach problems recognising, in Freire's words, that solutions are to be found "with, not for, the people", and letting its methodology be along the lines suggested by Dewey.

The biological sciences make clear to us that we, human beings, are natural objects who have evolved, like other living things, against a complex natural background. I would argue that these sciences may yet provide one key to the understanding of what a satisfying, worthwhile human life involves. Such a life needs, I suspect, to be lived against a background of natural systems within which we play significant roles. The natural systems provide the setting within which complex life has evolved and will continue to evolve - if we permit it to do so. There can hardly be any disagreement among sensible persons that this permission needs to be secured and upheld at the present time. But in securing and upholding it we should stay true to our own best political and moral principles, the respect for and understanding of which distinguish us from the rest of the living world.

## References

1. See chapter 1 of Leslie Stevensons's book, "Seven Theories of Human Nature" (Oxford: Clarendon Press 1974)
2. John Passmore originally discussed Christian attitudes to nature in his book, "Man's Responsibility for Nature" (London: Duckworth 1974), a revised, second edition of which appeared in 1980. See also Robin Attfield, "The Ethics of Environmental Concern" (Oxford, Blackwell 1983)
3. Moralists, scientists, aesthetes, poets and others, all play a part in generating feelings about nature. See Keith Thomas, "Man and the Natural World" (London, Allen Lane 1983). For reflections on the nineteenth century influence on twentieth century moral and political thinking see Fritz Schumacher, "Small Beautiful" (London: Abacus 1974)
4. The question of weather piety is to be defined as what the gods love, of whether the gods themselves live piety for its own sake is discussed in Plato's dialogue "Euthyphro".
5. Holmes Roston III discussed the problem of using Taoist and Hindu insights in his paper "Can the East Help the West to Value Nature?" *Philosophy East and West* 37 (1987)
6. The problem in dealing with specific decisions is well put in Rolston's paper (see preceding note). The wild goat population on San Clemente Island, California, threatens three endangered species of plant on that island. Should the goats be shot, moved to a different habitat, or the plants left to go extinct? To make a rational decision about intervening in such a situation required more than general prescriptions, or mystical insight, about values in nature. As Rolston puts it: "if a metaphysics cannot orient action in some meaningful way, then it is of no help where the West needs help" (op. cit. p. 186).
7. The distinction between assenting to the truth of a statement (notional assent) and assenting to the reality signified by that statement (real

assent) is made in John Newman's "Essay in Aid of a Grammar of Assent: (Harold, ed., New York 1947). It is easy to develop the distinction to apply to understanding, concern, anxiety and other attitudes we have.

8. The distancing of humans from the indirect consequences of their behaviour may be something to which we are just adapted. The direction of adaptation, in its biological sense, is always to the past. As Lorenz wrote, more than twenty years ago, "Small wonder indeed, if the evolution of social instincts and, what is even more important, social inhibitions, could not keep pace with the rapid development forced on human society by the growth of traditional culture..." (Konrad Lorenz, "On Aggression", trns Lutzke (London: Methuen 1966) p. 205). I am grateful to Bill Foster for drawing my attention to his remark.
9. It is helpful to distinguish those strands of nature philosophy and "deep ecology" that are anti-science from those that are simply suspicious of what we could call "technological optimism". Such optimism involves a belief in the "technological fix", the ability of technology to solve all our food, health, pollution, and energy problems; it is thus turns its face determinedly away from the history of the nineteenth and twentieth century a history that has shown an accumulation of problems caused by inappropriate uses of technology. Schumacher's "Small is Beautiful" stands as a useful counter to such facile optimism. But there is no reason why the rejection of technological optimism should lead to a general rejection of the interest, benefits and excitement of the physical and biological sciences.
10. See Andrew Brennan, "Ecological Theory and Value in Nature", *Philosophical Inquiry* 8 (1986).
11. See J.J. Gibson, "the Ecological Approach to Visual Perception" (Boston: Houghton Mifflin 1979) Chapter 1.
12. Here is an example that seems to me to verge on the silly. Paul Churchland tries to describe a culture whose ordinary conception of reality is the conception embodied in contemporary physical science. He writes: "These people do not sit on the beach and listen to the steady roar of the pounding surf. They sit on the beach and listen to aperiodic atmospheric compression waves produced as the as the coherent energy of the ocean waves is audibly redistributed in the chaotic turbulence of the shallows... They do not observe the western sky redden as the sun sets. They observe the wavelength distribution of incoming solar radiation shift towards the longer wavelengths (about  $0.7 \times 10^{-6}$ m) as the shorter are increasingly scattered away from the lengthening atmospheric path they must take as terrestrial rotation turns us slowly away from their source". "Scientific Realism and the Plasticity of Mind" (Cambridge: Cambridge University Press, 1979) p. 29.
13. In diagnosing the debate on free will and determinism as merely verbal, David Hume wrote: "I hope ... to make it appear that all men have ever agreed in the doctrine both of necessity and of liberty, according to any reasonable sense which can be put on these terms, and that the whole controversy has hitherto turned merely upon words" (*Inquiry Concerning Human Understanding*, Selby Bigge, ed., Oxford 1955).
14. For a recent defence of soft determinism, see Daniel Dennett, "Elbow Room" (Oxford: Clarendon Press 1984). From a systems perspective, human beings can be thought of as randomising elements within large systems of energy use and exchange and material cycling, as suggested, for example, by R. Moss "On Geography as Science", *Geoforum* 10 (1979). However helpful this kind of model proves to be, it certainly does not follow from it that human behaviour is typically whimsical or random.
15. Discount rates in cost benefit analyses are required on the sensible grounds that the monetary worth of an item can be expressed in current terms with allowance for investment rates. Thus a benefit valued at 1,000 Engl. Pounds in a year's time can be valued at approximately 910 Engl. Pounds now given a 10% discount rate. For 910 Engl. Pounds invested today at 10% per annum will yield 1,000 Engl. Pounds by this time next year. As well as allowing lots of room for fudging, such discounting procedures lead quickly to seemingly absurd results, for example that at a 5% discount rate on human life today is equivalent in value to sixteen human lives fifty-eight years from now. See Peter Wenz, "Environmental Justice" (Albany: SUNY Press 1988, forthcoming) chapter 11.
16. References to the Delaware case are given in chapter 11 of Wenz, *op.cit.*
17. Alienation from nature goes hand in hand, according to some contemporary Marxists, with oppression. Consider these remarks by Paolo Freire: "For the oppressors", "human beings" refers only to themselves; other people are "things"... The oppressor consciousness tends to transform everything surrounding it into an object of its domination. The earth, property, production, the creations of men, men themselves, time - everything is reduced to the status of objects at its disposal". "The Pedagogy of the Oppressed" (Harmondsworth: Penguin 1972) p. 344.
18. The problem here is the one sometimes described as "the tragedy of the commons" (see below note 27). The North Sea herring fisheries are a good recent example of how a series of individually profitable actions led to the destruction of a common resource. The fishing communities on the north east coast of Scotland were effectively destroyed with the destruction of the herring shoals.
19. Starting from the "original position" of his model, Rawls is able to argue that two principles of justice would be chosen in that position. In their first, approximate form, the principles are: "First: each person is to have an equal right to the most extensive basic liberty compatible with a similar liberty for others. Second: social and economic inequalities are to be arranged so that they are both (a) reasonably expected to be to everyone's advantage, and (b) attached to positions and offices open to all". John Rawls, "A Theory of Justice" (Oxford: Oxford University Press 1972) chapter 11.
20. For information on the scale of problems of soil alkalinisation, waterlogging and salinisation see chapter 7 of Holdgate, Kassas and White (eds) "The World Environment 1972-1982" (United Nations Environment Programme, 1982).
21. See the Foreword to Aldo Leopold, "A Sand County Almanac" (Oxford: Oxford University Press 1949).
22. Maybe legal and ethical systems can make more sense of showing respect for trees, forests and mountains than they can of the idea that we have duties to such things. See Andrew Brennan "The Moral Standing of Natural Objects", *Environmental Ethics* 6 (1984) and references there into the C.D. Stone, "Should Trees Have Standing? Revisited", *Southern California Law Review* 59 (1985).



23. For a recommendation to the effect that scepticism should be accepted as a fact of life see chapter 5 of Thomas Nagel's "The View From Nowhere" (Oxford: Oxford University Press 1986).
24. "From the ecological point of view the problem with this position viz. that we have duties only to human subjects is that it takes a part for the whole. It has a subjective bias. It values a late product of the system, psychological life, and subordinates everything else to this. It mistakes a fruit for the whole plant. It mistakes the last chapter for the whole story". Holmes Rolston III, "Duties to Ecosystems" in J. Barid Callicott (ed) "Companion to A Sand Country Almanac" (Madison: University of Wisconsin Press, 1987).
25. In a recent account of "deep ecological" principles, Arne Naess gives a modified set of "egalitarian" principles, for example - "Richness and diversity of life forms contribute to the realisation of these values and are also values in themselves... Humans have no right to reduce this richness and diversity except to satisfy vital needs... The flourishing of human life and cultures is compatible with a substantial decrease of the human population. The flourishing of non-human life requires such a decrease". "The Deep Ecological Movement: Some Philosophical Aspects", *Philosophical Inquiry* 8 (1986) p. 14. This version considerably dilutes the original biotic egalitarianism in Naess's earlier paper, "The Shallow and the Deep, Long Range Ecology Movement", *Inquiry* 16 (1973). Compare Richard Sylvan, "A Critique of Deep Ecology", *Radical Philosophy* 40 (1985) 2-12 and 42 (1985) 10-22.
26. Thomas Hobbes, *Leviathan*, ed Oakeshott (Oxford: Blackwell 1960) Chapter 13.
27. The notion of carrying capacity is a theoretical one in ecology: it is the population size which can be sustained by a certain set of resources without any tendency for increase or decrease in that population. In real natural systems, populations seldom maintain themselves at such theoretically stable densities. Hardin's fable about the loss of common resources imagines a common used by a number of herders, with the cattle population close to the theoretical carrying capacity. Individual herders can increase their own profits by adding an extra cow - for the reduction in yield that occurs after the carrying capacity is exceeded is a loss shared by all. Any rational herder will thus tend to add further cattle in order to increase their own short term benefits, but the overall consequence is a loss of the entire resource, as the common loses fertility and erodes under the impact of overgrazing. See Garrett Hardin, "The Tragedy of the Commons", *Science* 162 (1968). Hardin has sometimes been posed by the exploitation of common resources. For more detail on some of his ideas see his book "Exploring New Ethics for Survival" (New York: Viking Press 1972).
28. See chapter 15 of "The World Environment 1972-1982".
29. Freire's complete characterisation of dialogue in education is that it is "loving, humble, hopeful, trusting, critical", Paulo Freire, "Education: The Practice of Freedom" (London: Writers and Readers 1974) p. 45.
30. Identification and self-realisation are discussed in Arne Naess, "Identification as a Source of Deep Ecological Attitudes" in Michael Tobias (ed), "Deep Ecology" (San Diego: Avant Books 1984).

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