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The Ethical Underpinnings of Man's Management of Nature

Introduction

Environmental problems have become a major pre-occupation of the second half of the twentieth century. The activities of pressure groups and the growth of political parties overtly concerned with such issues, and their success in rallying popular support and gaining media coverage, have made it impossible even for Right-Wing Governments to ignore such questions, as they would no doubt wish to in their pursuit of free competition and the unrestricted operation of market forces as the basic elements in their management of society.¹ Both parties tend to leave the ethical underpinnings of their positions unexamined, even though there is a recognition of the moral dilemmas posed by the management of nature by man for his own needs and ends.² The purpose of this paper is to attempt to

1. The emergence of the Ecology Party in Britain, and its counterparts in Europe, which have, perhaps as a result of a more representative electoral system, enjoyed considerable success, is a significant fact in this connection. The publicity achieved by Greenpeace, and by Friends of the earth, in particular campaigns and activities, is also important. See F. Sandbach, *Environment, Ideology and Policy*. (Blackwell: Oxford), 1980; and M. Redclift, *Development and the Environmental Crisis: Red or Green Alternatives?* (Methuen: London), 1984; *inter alia*.

2. The naïve assumptions of most work on environmental policy (indeed, one might say of every political alternative in the more general sense), relating to ethical issues is apparent. The virtually unexamined presupposition that the 'Judaeo-Christian' ethic is in some way to blame for all our ecological problems is part of environmental folklore. Drawn from Lynn White's well-known article (L. White, The historical roots of our ecological crisis. *Science*, 155(37), 1967, pp.1203-1207), the humanist environmental lobby has made this the basis for the search for a 'new' ecological morality. But a careful reading of White's article and a thoughtful consideration of its implications reveals that the common interpretation is not justified. Furthermore, if the Judaeo-Christian ethic is to be identified with the Biblical ethic, then it can be argued that it is essentially conservation-oriented (see R. P. Moss, *The Earth in our Hands*. (IVP: Leicester), 1982). For fairer examinations of the issues involved, see J. Black, *The Dominion of Man* (Edinburgh University Press: Edinburgh), 1970; J. Passmore, *Man's Responsibility for Nature* (Duckworth: London), 1974; E. Ashby, *Reconciling Man*

articulate and structure a number of alternative underpinnings by which management decisions are influenced ideologically, whether or not such decisions are overtly recognised as moral choices. Three preliminary observations are pertinent.

First, it is necessary to emphasise that man cannot avoid accepting the role of manager in relation to nature. The provision for his basic needs of food, water, and natural resources for his technology, however unsophisticated, must come ultimately from the natural world in which he is set. Even the choice to preserve natural species or ecosystems for their own sake, rather than for man, is a management decision in a fundamental sense. Furthermore, when such a decision becomes necessary it will almost always be a decision which is made at a cost to man in terms of his denying himself a 'good' (in the economic sense) in order to allow nature its own niche in his scheme of management. In fact it is precisely this choice which faces man in relation to tropical closed forests at the present time.³ The arguments for clearance are economic and social; those for preservation are for retention at the expense of the economic benefit which would accrue immediately from using the land in a different way.⁴ A similar argument could be developed in relation to other pressing environmental

with the Environment (O.U.P.: London), 1978, *inter alia*. An excellent recent review of the whole nexus of ethical questions is to be found in R. Attfield, *The Ethics of Environmental Concern* (Blackwell: Oxford), 1983. This also contains a very full bibliography relating to the whole area of concern.

3. The CO₂ question is a matter of considerable debate at both the scientific and the political level. Closer to home we have the current wrangles over acid rain in Europe, and in North America, which have yet to be resolved. The technical literature is considerable. But for recent readily available considerations of the importance of tropical forests and their ecology see, F. B. Golley (Ed.), *Tropical Rain Forest Ecosystems: Structure and Function*. (Ecosystems of the World, Vo.14A). (Elsevier: Amsterdam), 1983; and S. L. Sutton, T. C. Whitmore and A. C. Chadwick (Eds.), *Tropical Rain Forest: Ecology and Management*. (Special Publication No.2, British Ecological Society). (Blackwell: Oxford), 1983.

4. The point in the case of tropical forests is that an immediate profit can be obtained by radical clearance, for example by turning the land released into rangeland for the production of beef for export (e.g. in South America for the U.S.A. market), or for other quick returns on capital investment. Other, more conservative uses are less profitable in the short run, and may, as in the case of management for selective timber extraction, promise profit only in the long term. With quick return on capital the primary aim of the financial investment, the more conservative use stands no chance in economic terms, simply because ecological costs cannot (and also are not considered by those making the investment to be important anyway) be readily taken into account in the

questions.⁵ Then also 'preservation' is impossible in relation to untrammelled nature, since 'nature' is in a constant state of flux, involving both the dynamics of ecosystem function, and of adaptation and secular change. If man wishes to try to keep an area occupied by a contemporary ecosystem as it is now, then he will need to manage it in order to pre-empt the secular change at the very least.⁶

Second, the management choices inevitably made by man in his relation to nature have a moral dimension within them; there is always an implicit 'ought', which may or may not be recognised. In the example of tropical rain forest already cited, there is at the very least the implicit assumption that man 'ought' to be prepared to sacrifice his immediate economic gain for the sake

economic equation. Population pressure is also a factor in Asia and Africa, where growing populations demand increased food production, so that the conservative systems of natural fallowing, involving the development of forest regrowth when land is abandoned after cultivation, break down as the fallow period is shortened. Furthermore, the demands of modern agricultural machinery, the use of which some see as a way of increasing production, require more thorough and more extensive clearance, and the consequent breakdown of the ability of the forest to regenerate.

5. Acid rain presents a similar conflict between cost minimisation and the need to consider ecological consequences. Reduction of SO₂ and other releases into the atmosphere, involves the installation of expensive equipment into the exhaust systems of plants producing the pollutants. To do this for purely ecological reasons is not the way most financial investors would wish to see their money used. This presents another paradox in the case of coal-fired power stations. SO₂ emissions can be reduced by using coal with a low sulphur content; the coalfields in Britain which produce low-sulphur coal are mainly in South Wales and in Scotland. It is in these areas that the pits are, in the short-term analysis at least, uneconomic in terms of the cost of production in relation to the market price. The introduction of legal requirements restricting SO₂ emissions could significantly increase the market price of low sulphur coal, which would modify the whole question of economic balance; whether significantly enough to make unprofitable pits profitable is matter of doubt. But this does emphasize the somewhat complex inter-relations involved in introducing ecological costs into industrial and commercial economics. For a review of methods and concepts, with case studies, in reaching decisions of this kind see, Y. J. Ahmad, P. Dasgupta, K-G Maler (Eds.), *Environmental Decision-making, Vols.1 & 2*. (Hodder & Stoughton/U.N.E.P.: London), 1984.

6. Preservation can mean two things; first, simply allowing nature to go its own way, in which case change is inevitable, both through internal dynamics, and through the influx of new plants and animals in the normal processes of dispersal and migration (in this the actual area of the ecosystem may be crucial; see pp.377-386, pp.465-476 in Sutton, Whitmore and Chadwick (1983)); and second, the attempt to inhibit natural change by the processes indicated; this inevitably involves management. See also J. Miles, *Vegetation Dynamics*. (Chapman & Hall: London), 1979.

of the welfare of future generations, even if it is not implied that man 'ought' to be prepared to preserve complex ecosystems for their own sake.⁷ The rationality of such 'oughts' depends not upon scientific argument, however persuasive and well-founded, but upon ethical discourse; this in turn depends upon a set of ontological propositions concerning the relations of man to nature, and of both to God, which may or may not be articulated. It is to these that the present paper directs its attention.

Third, despite the radical disparity between the various frameworks of ontological propositions held by individuals and groups in society today, this does not imply that agreement at a purely pragmatic level, concerning what needs to be done, between differing groups is therefore impossible to achieve. Indeed, practice proves that this is not so, and the British response to the World Conservation Strategy in which it was possible for a very disparate group to assent to the response of the Working Party on *Ethics: Environmental Ethics and Conservation Action*, is a clear and convincing example.⁸ This study is not concerned with pragmatic issues, such as those covered by agreed 'codes of practice', which are common in applied science, and industrial and social groups and institutions; it is concerned with ethical justification rather than political or pragmatic necessity; more particularly it is concerned to expose the *weltanschauung* which underlies each different form of ethical justification in its assumptions concerning God-man-nature relationships.

These mind-sets will be dealt with in turn. At least eight may be clearly distinguished, conveniently grouped into three categories on the basis of their view of God:

- I. Frameworks based on a materialist metaphysics:
 - (i) evolutionary humanist;
 - (ii) technological pragmatist;
 - (iii) Marxist.

- II. Pantheistic or polytheistic metaphysics:
 - (i) mystical holistic and ecological mystical;
 - (ii) magical.

7. The problems of this view are thoroughly argued through by Passmore (1974), pp.173-195.

8. In *The Conservation & Development Programme for the U.K.; a Response to the World Conservation Strategy*. (Kogan Page: London), 1983. Part 6, pp.407-438.

- III. Theistic metaphysics:
- (i) orthodox Roman;
 - (ii) liberal Protestant (often implying deistic rather than theistic views);
 - (iii) orthodox Protestant.

Each will be considered separately, then the final one (III.iii) will be examined in more detail in order to show the broad themes of biblical thought on the relations of man to nature, of man to God, and of nature to God, under the headings of creation, redemption, and consummation. Finally, the discussion will be widened considerably to outline the broad elements in the management decisions which man of necessity makes in his life as an individual and in society, in order to show that though man cannot avoid the manipulation of nature he does have a satisfactory ethical base upon which to build responsible management. The ethical foundation is vital, since manipulation can have many effects over and above those desired from the course of action chosen; and responsible use depends not only upon developing understanding of the processes involved, but also upon the ethical framework which contributes the 'ought' to the act of decision.

The presuppositions underlying ethical frameworks

I. Materialist presuppositions

These sets deny either the existence or the relevance of any notion of God to a world-view which is of any practical use as a basis for moral action. They are therefore bi-polar in that they consider only the relationship of man to nature and of nature to man. Nevertheless each has to introduce a third pole in order to supply the 'ought', the prescription as well as the description. They are illustrated in *Figures 1a, 1b, and 1c*. Each effectively introduces an assumed doctrine relating to the development of man-in-society in relation to nature, and each doctrine is no less, and probably much more, open to objection than a thorough-going theism which makes a personal and active God the essential—indeed the only essential—third pole in the system of relationships. On the theistic view without the third pole—the persons of God—neither of the other two can even exist; man and nature are both contingent, only God is necessary.

Figure 1a: The conceptual structure of evolutionary humanism.

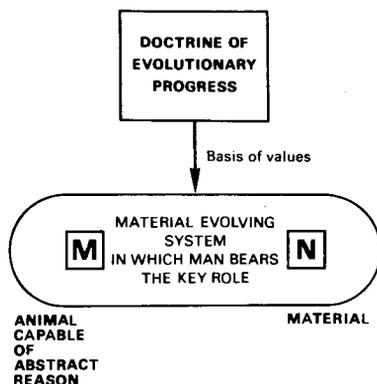


Figure 1b: The conceptual structure of technological pragmatism.

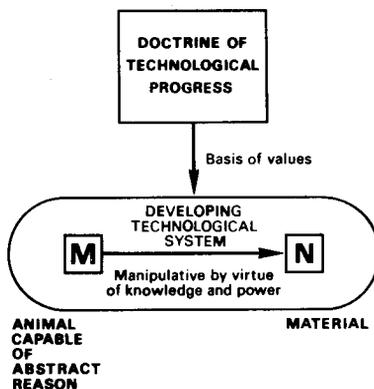
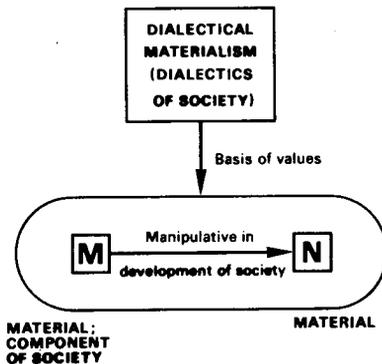


Figure 1c: The conceptual structure of Marxism.



I.i. Evolutionary humanism

On this view man is a part of nature, and is different from it only with respect to the capacity and development of his brain as compared to other vertebrates, and, by virtue of that material fact, therefore has powers of abstract thought, creativity and control denied to other organisms solely by their less developed or non-existent cerebral capacity. Thus man now has powers of choice and decision conferred on him, and he has a set of options open to him which will determine the future course of his own development, and also, inevitably, the fate of non-human nature as well. Furthermore, the use man has made of his much greater cerebral capability, particularly in the acquisition of 'scientific' knowledge, provides the sole secure basis for a rational choice between competing options.

It is recognised that in order to make such a choice man needs criteria of 'value', since knowledge, even 'scientific' knowledge, can provide only a forecast of the possible outcome of each course of action which is available at any one time; it provides no basis for choosing between outcomes. The necessary criteria are then sought through arguments developed from ontological premises concerning evolution. Not only are the necessary value judgments seen as the production of evolution, but their inherent validity is judged by reference to criteria derived from evolutionary concepts. For example, the notion of 'survival' is commonly used. It is argued that the important basic need of any species is that it should survive—that is not only exist, but reproduce itself. To this end it adapts to the constraints and possibilities of the environment in which it finds itself. In non-human nature this is a purely fortuitous process, since such species adapt non-teleologically through random genetic and behavioural changes, which may or may not contribute to survival in that environment; the survival value of such changes must always be a *post hoc* judgment. But man, with his greater knowledge and his capacity to forecast outcomes (which is purely the outcome of greater brain power) has the power for conscious adaptation, and can therefore adopt those courses of action which he considers will best contribute to his survival and indeed 'improvement' as a species. For example in relation to environmental problems it might be argued that other species should be preserved because they have genetic potential which might conceivably be important to the survival of man at some time in the future. Such arguments can become very

sophisticated.⁹ They do not, however, in themselves provide an unassailable ethical basis for choice and decision.¹⁰

There are at least two underlying assumptions which may be questioned in the context of the present discussion. First, there is the presupposition that accurate forecasting into the distant future is possible with the necessary precision and confidence to make choice possible, and that, even if such accurate and reliable information were available, that 'man' would act rationally and choose the 'right' course of action according to those predictions. The first element in this assumption is clearly not yet true, even in the physical and biological realms, let alone in the economic and social, both of which must be vital components of any realistic attempt by man to 'determine the course of his own evolution'. Furthermore, the longer the timescale the more components of change have to be taken into account, particularly those over which man can scarcely have any influence at all, like climatic change, and the course of human discovery and the growth of ideas. The second element in the assumption cannot with any confidence be assumed from the history of the human race hitherto. We may legitimately ask how many human decisions at any level—personal, family, national or international—which have resulted in disastrous consequences, have done so simply because the tools for prediction have produced wrong forecasts, or because those making decisions have rationalised in favour of the decision they favour for quite other reasons, or simply because of human arrogance and obstinacy. Unless we can settle securely for the first of these three as of over-riding importance in the past history of man, there is no reason why we should suppose that greater knowledge and improved forecasting techniques should make a very great difference to the success rate.

Second, and more fundamentally, there is the unarticulated, perhaps unconscious, assumption that evolutionary development is to be equated with progress in a sense deeper than increasing complexity of organisation, that the direction and pattern in time of evolutionary change is in some real, non-

9. See e.g. Royal Institute of Philosophy (Ed.), *Nature & Conduct* (Macmillan: London and Basingstoke), 1975; H. Skolimowski, *Eco-Philosophy* (Marion Boyars: London & Boston), 1981; D. C. Pirages, P. R. Ehrlich, *Ark II: Social Response to Environmental Imperatives* (Freeman: San Francisco), 1974; for a critique of evolutionary ethics see A. G. N. Flew, *Evolutionary Ethics* (St. Martin's Press: New York), 1968, *inter alia*.

10. See Passmore, 1974, *loc. cit.*, in Note 7.

emotional sense 'good'.¹¹ The rationale for this presupposition, however, does not rest on scientific inquiry or explanation. The 'naturalistic fallacy' is not in any way resolved.¹² Man, it must be admitted, is indeed the most complex organism yet to appear on the earth, both as an organism, and in his social organisation. But that does not make him, *ipso facto*, of more or less value than any other species. Throughout natural history species have appeared and become extinct; there is no reason to rate the survival of *Homo sapiens* as in some sense morally good, or indeed the survival of any species as morally good. Nor is there any reason to rate the survival of man as better, or even more desirable, than that of any other species, unless we are prepared to equate complexity with goodness. It is thus not surprising that evolutionary moralists and advocates rarely avoid invoking implicitly utilitarian arguments, such as self-evident principles, or even natural law, in their attempts to arrive at an ethical justification for what they consider to be acceptable moral principles in relation to environmental problems and the use and abuse of nature.¹³

It seems clear that there is a need for the third pole in order to build an adequate ethical framework; whether, in the event, its provision in the casuistry of evolutionary ethics is in any sense satisfactory is beyond the scope of this discussion. It is, however, perhaps not surprising that some evolutionary apologists find it difficult to avoid assigning ontological status to what is after all only a description of what is thought to have happened over a long period of time on this planet. This is

11. Waddington tried to argue this. See C. H. Waddington, *Science & Ethics* (Allen & Unwin: London), 1942. He followed Herbert Spencer, one of whose papers is included in the excellent collection of papers edited by A. C. Kaplan, *The Sociobiology Debate: Readings on the Ethical & Scientific Issues Concerning Sociobiology*. (Harper & Row: New York and London), 1978. There is a wide range of opinion represented, and there are contributions from both biologists and philosophers.

12. See part III of Kaplan, 1978. Also K. R. Popper, *The Poverty of Historicism* (Routledge & Kegan Paul: London), 1961; chapter 27, Is there a Law of Evolution Laws and Trends?, and especially n.1, p.108, n.2, p.119, and n.1, p.127. Not only does the problem of deriving an 'ought' from an 'is' (a prescription from a description) not squarely faced by most evolutionary biologists writing on ethics (let alone resolved satisfactorily), but also they generally fail to appreciate or counter the distinction so clearly and significantly made by Popper between producing a plausible explanation for the *origin* of morality in naturalistic terms (e.g. by suggesting an evolutionary origin for altruism), and providing criteria by which the validity of the moral value, once developed, may be judged.

13. See the papers by numerous biologists in Kaplan, 1978.

implied by the teleological language used to describe the activity of the process, and of its non-human participants; evolution—with a capital 'E'—is attributed the willed actions of a person.¹⁴

I.ii Technological pragmatism

This is, in essence, the conventional view of most Western countries. It is rarely, if ever, argued through to any profound level; if it were its patent inadequacy would be obvious. Human development is seen as being primarily a technological process, of man manipulating his environment for his own use, and of his solving the problems that arise, as and when they do, by devising techniques which eliminate the adverse consequences. It has been included as a materialist view, even though it is not infrequently masked by a thin garment of Christianity; we must, however, see through the *négligé* to the true form beneath, which is in fact thoroughly materialist and man-centred. Even the Christianity is thoroughly man-centred and technological as we shall see later in the consideration of the Orthodox Protestant view, which will be distinguished from it.

The central proposition of this view is that human history is to be seen, in relation to man and nature, as a developing technological system, in which man's facility in manipulating his environment becomes more sophisticated, and therefore more productive; thereby 'progress' in every area of life is achieved. Though the developing system poses problems, as side effects of the main development, they too are susceptible to technological solution. Thus environmental and ecological problems are seen as side effects of the main development, and will be solved by the devising of the appropriate techniques by man's ingenuity. The basic responsibility of man is seen as using

14. See Popper, 1961, n.2, p.119; or watch any programme on television which deals with natural history, where evolution as a possibly plausible explanation of development all too frequently becomes an active agent with foreknowledge, teleological content, and the capacity to plan and initiate purposive actions extending over long periods of time. How often do we hear, 'Evolution does (or has done) this or that'? David Attenborough's, *Life on Earth* was particularly full of such Freudian slips! And reputable biologists as scientists recognize this; in a valuable book on the ecology of tropical plants the author finds it necessary to emphasize what the use of his 'evolutionary shorthand' is intended to convey, and to exclude the teleological implications and the misconceptions which might arise from his use of anthropomorphic terms; see D. H. Janzen, *The Ecology of Plants in the Tropics*. Studies in Biology no.58. (Arnold/Institute of Biology: London), 1975. Introduction, p.v, last sentence in the final paragraph.

nature for his own material betterment; and the consequent improvement of his standard of living or quality of life in purely material terms. Not infrequently this view is seen as the natural outcome of the 'Protestant work ethic';¹⁵ whether or not that is so is outside the scope of the discussion in this paper. It is certainly not a biblical ethic, as will be seen later in the discussion. It is in fact this view of the relations between man and nature which may be accused of being, historically, the cause of the environmental deterioration which was so publicised in the 1960s and 1970s;¹⁶ it was not, as was so often asserted, with little justification, the Judaeo-Christian ethic which was to blame.¹⁷

Technology, in this context, is not narrowly defined. In its broad sense it connotes simply the devising and understanding of techniques of all kinds; they may be social, economic, medical, psychological, even aesthetic, as well as natural scientific. The inherent dangers of this faith in technological solutions was trenchantly criticised by Jacques Ellul over two decades

15. The so-called Weber-Tawney thesis concerning the industrial revolution and the rise of the capitalist system; see R. H. Tawney, *Religion and the Rise of Capitalism* (Penguin: London). Essentially, the thesis is that the work ethic supposedly advocated by the Calvinist doctrine of vocation encouraged the development of industrial activity and the accumulation of capital. Some environmentalists take this thesis and argue that it is the same attitude of mind which led to the rape of nature. Modern industry has, it is asserted, brought this about by the accumulation of wealth by turning the resources of the earth into money. The link is, I suggest, very tenuous, even if the Weber-Tawney thesis is accepted, which it need not be (see H. F. R. Catherwood, *the Christian in Industrial Society* (I. V. P.: London), 1972).

16. The argument I would wish to develop in another context would be that the Calvinist doctrine of vocation bears within it inherent moral constraints which allow the use and development of nature only in direct moral responsibility to a real personal God, who requires both a responsible and compassionate relationship between employer and employee, and also an equal responsibility and compassion towards the nature which he created and pronounced 'very good', and which itself is actively praising him (cf. Psalm 19). It is the loss of the dimension of real responsibility to a personal God, as a result of the deism of the 18th century, and the man-elevating individualism of the philosophy of the Enlightenment, which opened the way to the rape of the earth. Technological pragmatism in its fullest development is the result of these, and perhaps other, converging streams of thought which have little to do with Christian theism in its full and defensible form.

17. One wonders how often this completely untenable view has to be refuted by both Christian and non-Christian writers before it disappears from the thinking and writing of environmentalists. It persists even in the most recent textbooks. One can only speculate that the pretence is kept up because the alternative views are recognised as being deficient and inapplicable, but the consequences of accepting the biblical view involves too great a sacrifice of other sacred cows to be contemplated.

ago,¹⁸ but the viewpoint has increasingly insinuated itself into the thinking of most politicians in the Western bloc, and permeates most political platforms.¹⁹ The basic premise is that progress consists in technological advance, upon which human betterment depends, and that for every problem which arises there is a programme which will solve it, if only man can exercise his technological ingenuity successfully. Thus the solution to environmental problems is seen in purely technical terms, of legal and social manipulation as well as scientific understanding; any ethical input of an explicit kind is rejected as quite subsidiary, if not completely irrelevant.²⁰

The implicit assumption in the whole scheme is obvious—that technological solutions will always be possible, and, more important, that man will always be ingenious enough to devise them. This is a major leap of faith in man, and man alone. Furthermore it is a complete implicit rejection of what most men for most of history have recognised, and which even atheist and agnostic humanists overtly share, namely that there are moral principles upon which human conduct should be based, and to which individual and group interest must be sacrificed if the good of the greater whole demands it. Thus the implicit assumption in this view is a naive doctrine of technological progress. The key word in this discussion is of course *implicit*; it is not explicitly argued through, indeed it is difficult to see how it could be, since it is *amoral* rather than *immoral*. This is not to say that individuals espousing this view are necessarily *amoral*, indeed they are often in their attitudes to personal morality both dogmatic and outspoken. It is the system of thought that is amoral, and social morality is at a discount. Its weakness is obvious. The fact that man has managed generally to contain the problems created by

18. J. Ellul, *The Technological Society* (Knopf: New York), 1964.

19. The belief in inevitable technological progress and of the human condition by manipulation of the structures of society lies at the root of all major political programmes (even the Ecology Party, in the sense that it would wish to manipulate structures in order to produce a 'better quality of life'; it is different in the way it would wish to define and measure 'quality'). The evidence is the pre-eminence of the party manifesto—which is simply the prescription of a technique by which the party would achieve its aim (usually of a more materially comfortable and monetarily richer state for its supporters).—Technological pragmatism is the root philosophy of each major party in most countries of the Western world.

20. See e.g. the case studies in J. M. Edington and M. A. Edington, *Ecology & Environmental Planning* (Chapman & Hall: London & New York), 1977; or Ahmad, Dasgupta and Maler, *op. cit.*, 1984. (Note 5 above).

his technological advances in the pursuit of wealth in the past in no sense demonstrates his inevitable capacity to do so in the future. Indeed there are indications that with the rapidly increasing rate of technological mastery, it is becoming increasingly difficult so to do, not least in the area of nuclear energy.²¹

Ethically the implication is that, if man can develop and use a technology, then there is no reason why he should not do so, or why restrictions should be placed upon its use, either in mode or extent.²² In practice there are constraints reached by political agreement, that is by developments of codes of practice, international treaties, or business agreements. These are, however, not based on ethical judgments but on expediency and mutual advantage.²² Those espousing such a view of human development often pride themselves in being 'realists', which they contrast unfavourably with the 'starry-eyed idealists' who suggest that there may be over-riding reasons why the short-term gain may contribute to a long-term loss, not least in relation to ecological questions. Those who suggest that there may be over-riding or absolute moral principles which might conceivably relate to technological or economic development are generally seen to be even more out of touch with the 'real world'. There is thus, not infrequently, a tendency to be antagonistic to the introduction of ethical discourse into the consideration of technology, not simply a reluctance to examine ethical questions.

I.iii. Marxism

Any analysis of ecological problems in relation to human society

21. As in the disposal of nuclear waste. All the methods are essentially storage methods which attempt to contain the radiation safely until it is reduced to 'acceptable' levels by natural processes of degradation. The risks of the failure of storage systems, whether by breakdown of fail-safe mechanisms or by human error, in other fields have recently been epitomised in the Bhopal disaster, and earlier at Seveso and Flixborough.

22. In most fields it is possible to arrive at a code of practice which most practitioners are prepared to accept, even though their ethical positions may be very different in quite fundamental ways. These can if necessary be by legal or other sanctions. But this is an arrangement quite independent of an ethical base; it contains no *ought* which is binding. In practice, as in the case of the recent Warnock Report, it is an uneasy compromise between those who would see man as unique in that he has a direct moral responsibility to God, and those who see him as no more than a very highly developed product of evolution, an animal with superior powers which, in the interests of preserving the species he needs to be careful in the ways he uses them.

reveals their multi-faceted character.²³ It is therefore clear that solutions, if they exist, must themselves also be correspondingly multi-dimensional. This is the attraction of perspectives which purport to be holistic, or 'wholistic', to use the contemporary solecism. The attraction of Marxism as an all-embracing world-view is thus strong. Whether or not the emphasis on inter-relationships which some consider the essence of ecological thought, was in fact anticipated by Marx and Engels, as some argue,²³ it is clear that the view of societal structures and their ramifications which forms the basis of Marxist analyses has a conceptual affinity with much broad modern ecological 'wholism'. The distinction is, however, that while Marxist intellectuals have worked out their concepts with considerable rigour and thoroughness, ecological 'wholists' have been considerably less successful without recourse to mysticism (see II.i below). Marxism provides a fully materialist perspective, despite the not insignificant internal controversies and the multiplication of sects. Its strength in relation to the analysis of environmental problems is that it presents them as problems of the structure of society, rather than as scientific or technological dilemmas. In the Soviet Union, debates not unlike those characteristic of the West between conservationists, and technologists and industrialists in Western societies, do go on.²⁴ The social context is nevertheless different, in that a fully materialist evaluation of all costs and benefits, both short-term and long-term, is possible and in fact demanded by the need to further the underlying and inevitable social process towards the full communist ideal. Marxism is a world-view of future material hope; the needs and welfare of those not yet born must therefore be a significant element in decision-making, and the sacrifice of short-term gain to long-term benefits is frequently necessary. This is an argument ably deployed by Soviet conservationists.²⁵

That is not to say that the Soviet Union is without such environmental problems; the evidence is that acute problems exist in many places. This is in part due to the ignorance of ecological and environmental processes which is shared with the West,

23. See Passmore, *op. cit.*, 1974, pp.43-59.

24. H. L. Parsons, *Marx & Engels on Ecology* (Greenwood: Westport & London), 1977; see also F. Engels, *The Dialectics of Nature* (Progress: Moscow), 1934 (original papers and tracts written between 1873 and 1886).

25. See P. R. Pryde, *Conservation in the Soviet Union* (C.U.P.: Cambridge), 1972; this contains an excellent survey of the Soviet position.

and partly to the fact that there is no less a debate there than in the West, and that the immediate has often won in the influencing of decisions and actions. Nevertheless the basic world-view postulates an underlying process which can provide a basis and a sanction which is absent in the prevalent technological pragmatism of the West, and which is less easily developed from a biological evolutionary basis.

There is, however, an absence of an 'ought' at the personal level, and the notion of responsibility to an on-going socio-historical process is, to say the least, not easy to conceive, even to translate into practical action. The inevitability of state bureaucratic coercion is thus no less an essential part of the moral framework than it is in any of the systems already examined; and such coercion is founded on the insecure concept of ethical responsibility to an impersonal and ultimately inevitable process. It is also based upon the undemonstrable assumption that the process is in a quite fundamental sense a 'progressive' one. The notion of progress and its nature depends upon the criteria used to define it, and changing ideas, aspirations, and beliefs on the matter are a characteristic of Christendom in particular, and possibly human society in general.²⁶ Likewise, ideas on the possibility and mode of the improvement of man in a moral sense show striking contrasts throughout the history of western thought.²⁷

In practice therefore it would seem that Marxist states are faced with problems not dissimilar from the ecological and environmental deterioration typical of capitalist societies.²⁸ These are seen as part of the dialectical process of history, and it would be argued that a socialist state would necessarily adopt the wisest use of its resource base, once the real issues were appreciated. But the Marxist view, at least in relation to the present, shares with its capitalist counterparts an unquestioning acceptance of the necessity and desirability of economic growth as the primary, even unqualified, aim of society. This implies that ecological pressure groups have as vital a role in Marxist states as in capitalist ones.²⁹ The lack of an explicit ethical authority over and above the pragmatic concerns of

26. *ibid.*, chapter 9.

27. See J. M. Baillie, *The Belief in Progress* (O.U.P.: London), 1950, and M. Ginsberg, *The Idea of Progress: a Revaluation* (Greenwood: Westport & London), 1953; also R. Nisbet, *History of the Idea of Progress* (Heinemann: London), 1980.

28. See J. Passmore, *The Perfectibility of Man* (Duckworth: London), 1970.

29. Pryde, *op. cit.*, 1972.

economics and technology is therefore no less apparent and urgent than in the milieu of western technological pragmatism or evolutionary humanism.

II. Pantheistic or polytheistic presuppositions

The mind-sets included under this grouping see nature as more than a mechanism to be manipulated to meet man's needs, however circumspectly and prudently. Nature is accorded a value in and of itself, apart from any value it may have for man, and irrespective of any consequences that may result from man's deliberate or inadvertent interference with the complexities of natural systems, whether the results be beneficial or harmful to man. In materialist systems, if they are rigidly followed (which they rarely are by their practitioners), the ethical argument for criteria for human action must always ultimately return to the specification of a value for man, however tenuous the casuistic link; such arguments must ultimately be utilitarian in form and character. Notions such as 'complexity' or 'wonder' which are sometimes construed as instilling inherent value to nature are in the ultimate analysis no more than ascriptions of functional relation or psychological response. They provide no reason for the allocation of value, though of course they may well prompt the further psychological response in those so affected of a reluctance to damage or destroy that which has impressed or moved the individual in that particular way. It does not, however, provide any basis for moral prescription, other than that which can be argued through on utilitarian premises.³⁰

It is therefore not surprising that modern man has sought ways of implanting such value in nature itself; nor that man from the beginning has apparently divinised nature. This is illustrated in Figures 2a, and 2b, where the modern development in which ecology is invested with 'mysticism' is structured according to the three poles used in the present analysis, and the underlying attitude of mankind in many places and at many times is also set out. These two views embrace many particular variants, and are generally not available in a formally structured presentation.

II.i. Mystical holism

Reference has already been made to the fact that the actual or

30. *ibid.*

Figure 2a: The conceptual structure of mystical holism.

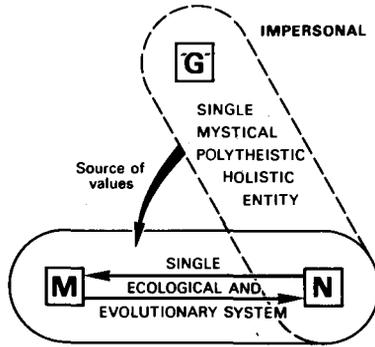
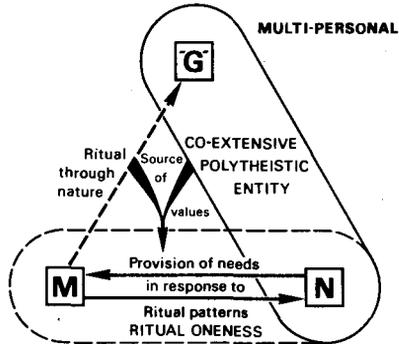


Figure 2b: The conceptual structure of magical animism.



implicit personification of 'evolution' is a characteristic of much popular, and even some quite rigorous, writing by evolutionary humanists. Some carry this much further and look to eastern mysticism quite openly and explicitly in order to provide the ethical underpinning for the respect for nature in itself which they wish to inculcate into the attitudes of contemporary society.³¹ In fact there was no need to look to the East, for some philosophical writing of the German idealists would have

31. See e.g. F. Fraser Darling, *Man's responsibility for the environment*. In F. J. Ebling (Ed.), *Biology & Ethics* (Symposium of the Institute of Biology No. 18), (Taylor & Francis: London), 1969. Many other examples can be cited. The notion is implicit in M. Nicholson, *The Environmental Revolution: a Guide for the New Masters of the World* (Penguin: London), 1972. This rather curious book seems to appeal to the same underlying principle, even though it is concerned to maintain mores instead of morals, perhaps simply social conventions rather than morally responsible behaviour; see B. Allsopp, *Ecological Morality* (Müller: London), 1972.

served just as well,³² but the ecological movement cannot be readily divorced from the counter-culture of the 1960s, and the gurus and ashrams of the orient were an essential component of that general movement; the gaze towards the rising sun was thus perhaps quite understandable. The essence of this viewpoint is to see man and the natural world as a single ecological and evolutionary mechanistic system, and to invest it with inherent value by emphasising the holistic, complex inter-related character of the whole and imparting to its holism a numinous sanctity and mystery which demands its preservation by virtue of its essential inscrutability. It is asserted that, even if analysis should produce a comprehensive understanding of the working and inter-relation of its parts, then the sum of the parts would not be validly equated with the whole. It is thus 'holistic' in the pure philosophical sense. Such thinking usually goes beyond that point, however, and the 'over-and-above' element is the mystery which gives the numinous aura, and instils the inherent value which is intended to produce the necessary reverence for nature which the ecological idealist seeks. It is a kind of crypto-pantheism. Thus the attraction of eastern mysticism, divorced of its cruder contaminations, is quite understandable, because it does provide a value for nature which gives it intrinsic criteria for respect.

Thus what has been termed mystical holism embraces a wide variety of viewpoints, ranging from an almost unconscious change of evolution (a solely scientific, and therefore limited and closely defined, concept) into *Evolution* as some kind of inherent controlling and teleological principle built into nature, to the overt espousal of at least the philosophical elements of eastern mysticism from a variety of quite distinct religious sources.³³ It is, of course, at this point that ecology, as a rigorous scientific pursuit, almost imperceptibly passes into a significant cultural movement with quite clear political overtones. Political movements, such as the Green Party, or the Ecology Party, of course include others whose base for ethical discourse and political action is quite different, and in their very existence as political parties are concerned with much wider issues than those concerned with the use and abuse of nature. But their inner inspiration is often some form of mystical holism, and they

32. So Passmore, *op. cit.*, 1974, p.173.

33. Thus Fraser Darling, who was a first-rank natural historian/ecologist, in the article referred to in Note 31.

clearly spring from the ecological movements of the 1960s which were closely related to the other cultural convulsions of that time.

While such a viewpoint might arguably provide mankind with reasons for respecting nature, it is by no means clear how an argument can be developed regarding the actual use of nature, without which man cannot exist. Furthermore, the problem of responsibility also arises. Who holds me responsible for the respect or reverence which I ought to have for nature? What sanctions govern my behaviour in this respect? Eastern philosophy concerning nature selectively received to engender appropriate reverence for nature, can only answer these questions by being set in its full religious context, for the responsibility and the sanction is obtained in effect by setting the ethical argument in the context of a soteriological one. The behaviour is required of me in order that I might attain that bliss for which I yearn and work—and different religions offer the prospect of different 'heavens'. So that ultimately, if the argument is to be followed through, it must lead to specific ontological questions, relating to soteriology.

II.ii. Magical animism

In most places at most times there has been an underlying consciousness on the part of man of an inherent relation between himself and nature which is beyond his understanding or control. Sometimes this has expressed itself in a fear of the capriciousness of the natural world, even its malice; at others it has simply been an admission that nature is not to be trifled with; at others it has simply been a recognition of the fact that, when man has done all he can to manage nature for his use, there is still an indefinable dimension which needs to be taken into account, if not actually placated. In many societies it attains overt religious expression, as in the *baalim* and *asherim* of Old Testament times; many religions which are today grouped as 'animistic' fall into this category, but this is both to cloak their diversity and simplify their complexity, especially when they are also categorised as 'primitive'. Furthermore, very many, if not all, which have been subjected to detailed scrutiny reveal an underlying monotheism in which the root of all belief is in an unapproachable, and therefore in practice irrelevant being, on whom those polytheistic entities which are served and placated are ultimately dependent. Practical religion is thus concerned

with the contingent rather than the ultimate.³⁴ It must be emphasised that the naive evolutionary view of the development of religion, depicted in *The Golden Bough* of Sir James Frazer for example, is scarcely tenable in the light of contemporary anthropological research. If it is to be held at all it clearly needs such drastic modification as to make it almost unrecognisable.³⁵

The viewpoint is not, however, confined to overt religious expression. It underlies much magical practice, which has been a constant undercurrent in rural communities even in Christendom from time immemorial. Furthermore, just as the Jewish people took pagan festivals and transformed them into celebrations of the glory of Yahweh, so the Christian Church has done the same with the pagan festivals which it has encountered in the societies to which it has come.³⁶ The resurgence of overt magical or proto-magical practice in the broad ecological movement of the second half of the 20th century is an indication that even the techno-scientific assault of the past 200 years has not extinguished its power.³⁷

The distinguishing character of this group of mind-sets is that their approach to nature incorporates as an essential feature the use of ritual. Sometimes this is overtly religious or cultic, in other cases it is shown by the performance of acts which have no

34. See e.g. the set of case studies in D. Forde, *African Worlds: Studies in the Cosmological Ideas and Social Values of African Peoples* (International African Institute/O.U.P.: London), 1964.

35. This, like the notion of the ecologically disastrous Judaeo-Christian ethics, is another untenable idea which persists despite continual accumulation of evidence to the contrary. If the naive evolutionary view is false, as the evidence suggests that it is, in that at root animistic religions are in fact theoretically but not practically monotheistic, then the evolutionary basis of the Graf-Wellhausen hypothesis in Old Testament studies collapses, and the position is considerably weakened. See also, on African religion, E. B. Idowu, *Olodumare: God in Yoruba Belief* (Longmans: London), 1962; and also E. B. Idowu, *African Traditional Religion: a Definition* (S.C.M.: London), 1973.

36. So with Christmas and Easter, etc. C. S. Lewis has suggested that in the actual events of the Christ, Jesus of Nazareth, the myths of other religions—of dying gods, and gods becoming men, of death and rebirth, find the substance of which they are but the imperfect and dimly perceived and inaccurately delineated dreams. See chapter 3—'Myth Become Fact'—in C. S. Lewis, *God in the Dock: Essays in Theology* (Collins: London), 1979. (First published in 1971 in *Undeceptions* (Bles: London)).

37. This is to be seen, not only in the resurgence of interest and participation in the occult, but also in such groups as the Findhorn Community on the Moray Firth in Scotland, and perhaps even in the idea that by talking to plants their health and growth is enhanced.

known scientific consequence, but which are pure ritual. Nature is in effect treated as personal or multi-personal, and as the provider of needs, nature and natural objects are treated as having personality of their own in that their inner essence is to be penetrated and communicated with. Even in the 20th century in sophisticated, urbanised, materialist, mammon-worshipping, modern western society the notion that man is 'nearer God's heart in a garden'—or in the country, or in the hills, or in the wilderness—'than anywhere else on earth' is still pervasively powerful. This surely betokens the fact that deep in the folk memory of modern man there is still the relic of the fact that he is closely bound to nature—a fact which Genesis 1, 2 and 3 make abundantly clear.

It is easy to dismiss such viewpoints on both scientific and theological grounds. To do so is rather facile, for the very fact of their persistence and resilience, and even their resurgence in western society today, despite the attacks to which they have been subjected, is itself a fact of some significance. While rationally indefensible within the framework of assumptions of modern western man, they reveal a deep psychological and emotional need which cannot be discounted. Such a need can however be brought into a rational framework if theistic assumptions form the basis of the world view within which they are to fit. If we assume that man was created a part of nature, yet a part of nature which forms the articulate and self-conscious focus of nature in relation to a personal God, the deep affinities which the magical-animist mind-set represents is a full part of actually being human as created by God. Relations with nature are not to be seen merely as scientifically specifiable ecological functions, but as deep ontological ties which are part of the created order as intended by God. In a non-fallen world they would lead beyond themselves to the Creator; in a fallen world man focusses on the ties themselves, and treats them ritually and magically. Such practices are in effect man recognising his responsibility to God in relation to nature.

III. Theistic pre-suppositions

Thus we are led to consider theistic frameworks. They start from the assumption of a real, personal God, who is creator, sustainer and purposeful worker, in relation to man, nature, and all that is. Full-blooded orthodoxy, whether Protestant, Roman or Orthodox, is prepared to accept such a proposition without

qualification, on the basis of revelation, apart from any human philosophical arguments which might be advanced for such a position. Nevertheless there are Christians who would with some justification claim to be theists, who would be disposed to lay greater weight on the philosophical dimension, and argue that the intellectual insights of modern evolutionary thought—in the '*Evolutionist*' rather than the 'evolution' sense—is a profound advance in human perception, and can be integrated into a single mind-set in relation to Christian thinking. Teilhard de Chardin was of course the prime example of such thinking, and his influence on much thought within the broad spectrum of professedly Christian philosophy can hardly be overestimated.³⁸

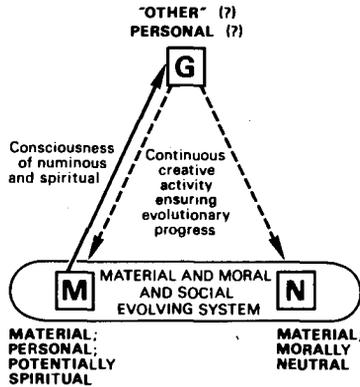
In this group therefore there are three main systems to be included—the liberal Christian, the orthodox Roman, and the framework of biblical orthodoxy, which will, in the context of this paper, be set out in fuller detail than the other views which have been considered.

III.i. Christian Evolutionism

It is important to emphasise that this viewpoint is predicated upon the assigning of equal—or almost so—authority to the broad Christian theological tradition and modern evolutionary philosophy. We are not concerned with what has been termed, perhaps mis-termed, theistic evolution. This is essentially an attempt to bring fully within the ambience of biblical theistic assumptions the essentially empirical and scientific elements of evolutionary thinking. Christian Evolutionism aims to reconcile two separate systems of philosophical thought. Man and nature are seen as a single evolving system, in the physical, biological, moral and social realms (*Figure 3a*). Mankind is evolving towards an increasingly developed spirituality by a process which is an expression of the continuous creative activity of God, which, despite all the apparent set-backs, will eventually produce that being for which the whole process, beginning with the initial emergence of matter from energy was designed. Jesus, if he is accorded importance or uniqueness at all, is seen as that being appearing before his evolutionary time. In its extreme form this mind-set is a kind of evolutionary

38. See, of course, P. Teilhard de Chardin, *The Phenomenon of Man* (Collins: London), 1959. See also the devastating review of the work, by an eminent biologist, in P. B. Medawar, *The Art of the Soluble* (Methuen: London), 1967, pp.71-81.

Figure 3a: The conceptual structure of Christian evolutionism.



eschatology. It embraces many disparate sub-systems, too numerous to be detailed here, from a pseudo-orthodox group of ideas rooted in the idea of evolutionary progress, which in other respects may approach beliefs recognisable as distinctively and uniquely Christian, to an heterodoxy scarcely distinguishable from a somewhat mystical evolutionary humanism. The complexities of Teilhardism, clothed as they are in obscure literary convolution, in fact represent the most consistent attempt to develop the essential linking theme of all these views, which is simply to accord philosophical Evolutionism the same normative status as that given to the revelation of God in Jesus of Nazareth, and to seek a unified system embracing both. Since this is, almost by definition, impossible, it is the latter set of norms which tends to suffer severe attenuation in the process.³⁹

The essential question is, however, whether such a viewpoint can provide a more satisfactory basis for ethical discourse than can a non-theistic evolutionary humanism. It is difficult to see how it does, for the moral imperative ultimately reduces to the same essentials, namely responsibility to a process, not a person; to a principle of development rather than to a God who requires a certain kind of behaviour.

III.ii. Orthodox Romanism

It is necessary to emphasise that the differences between the

39. So Sir Julian Huxley was prepared to write a sympathetic Foreword to *The Phenomenon of Man*, when it was translated into English (see Note 38). Medawar makes some perceptive comments on this fact (*loc. cit.*, p.81).

two fully theistic views now to be considered are much less than the gulf between them and every view hitherto considered. They both start from the assumption that a personal God is the source and sustainer of all that is, that He has revealed Himself by His acts in history, and supremely in the incarnation, life, death, resurrection and ascension of Jesus of Nazareth as Son of God, which are real events in history, not psychological responses of other human beings to a rather impressive, even unique, human person. This God is not only the final reason for all material existence, of which man is part, but also the ultimate source of all moral authority. The universe belongs to God as creator, not to man; as creator of man, God gives him unique power which carries with it direct responsibility for its exercise to the personal God who gave it. The locus of human responsibility for nature lies not in some inherent property or process of nature itself, but in God who created mankind and the nature over which he has been given power. The difference between the Roman and the biblical view is that in the latter case the responsibility to God by the individual and the group is exercised directly, whereas in the former its requirements and obligations are exercised through the mediation of an authoritative Church which itself has a divinely appointed function in the chain of responsibility, ultimately final and absolute, should it choose so to exercise it. The exercise of this authority in relation to an issue which has clear and direct ecological and environmental implications was of course the Papal Encyclical on birth control, the content of which has recently been given reiterated support by the present occupant of the Holy See. It would be wrong, however, to allow this element to loom too large in the evaluation, and *Figures 3b.* and *3c.* are clearly closely analogous in their structure, and thus in the relations of the mind-sets they represent. Thus the Roman position in effect includes an additional element incorporated into the system, and must be taken to embrace the major elements of biblical orthodoxy set out in the next section.

III.iii. Biblical orthodoxy

Figure 3c. sets out this viewpoint in the same framework as the other perspectives already considered. In relation to the main thrust of this paper, however, it is necessary to develop it more fully, and therefore it is also set out in a developing sequence in *Figures 4a.* to *4e.* Christian orthodoxy, unlike every other view

Figure 3b: The conceptual structure of Roman orthodoxy.

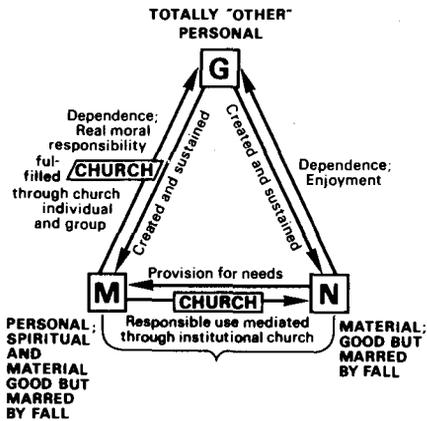
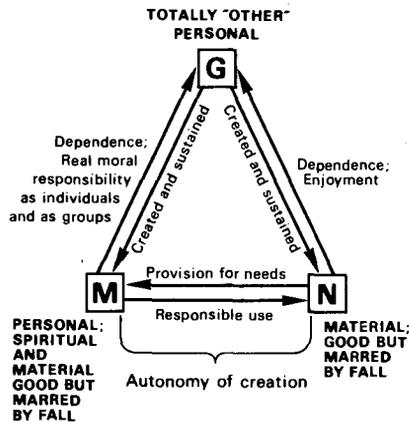


Figure 3c: The conceptual structure of Biblical orthodoxy.



so far examined (i.e. in Groups I and II, and certainly some examples of those Christian views embraced in III.i) takes an uncompromising theistic stance which asserts that God is the only ultimate reality; all other realities are contingent, depending upon him for their reality. These contingent realities, whether known to, or knowable by, man or not, including the reality within which man exists, of which he is a part, and which he seeks to understand and use, are absolutely dependent upon the will and word of God; they have no existence separate from his decision. God does not think and then speak and then do; his thought is his word is his act, for there is no sequence in God,

since sequence depends upon a concept of time, and that dimension itself is a part of the contingent, not the ultimate reality—as indeed are all dimensions perceived or inferred by man. In simple biblical language God speaks and it is, as in Genesis chapter 1. As a corollary when God ceases to speak, it is not. The world of human experience, however unimaginably vast, however inconceivably complex, however intricate in the inter-relations which are its essence, is there and continues to be there only because moment by moment in all its parts, aspects and dimensions, God wills it to be so. To use another anthropomorphic metaphor, the universe, which is the reality we know, seek to understand and use, is but one thought in the mind of God. As such, God is not only unknown, but unknowable, at least in the terms which men usually categorise 'knowing'. The 'existence' of such a God may be a reasonable inference from what we observe and understand of our world of experience, but even the use of the word 'existence' itself begs questions.⁴⁰

The assertion of the Christian faith is that this God has revealed himself, both generally in the reality we know, as a whole, and particularly in specified events and words to men living within that reality, and pre-eminently by becoming part of that reality in the person of the man Jesus of Nazareth. This revelation is normative in him, and proceeds from him to the normative interpretation of the other aspects of revelation. From the perspective of a thorough-going Christian theism to proceed in any other way is to commit a methodological mistake of very serious dimensions. The contrast with the other approaches so far considered is thus complete. Again it seems necessary to point out that there are only secondary differences between the Roman view (III.ii) and that of biblical orthodoxy on this fundamental issue, but the contrast with other views is sharp and stark.

From this basis then it is possible to build a biblical theology of man and nature. The scheme is illustrated in *Figures 4a. to 4e.* God 'speaks' (4a), that is, all that is depends on him absolutely for its existence, including the dimensional framework within which it exists, which for the universe we know is a space-time

40. Existence in itself, in any sense which man can comprehend, is contingent, dependent upon God. The danger is that we reduce God to part of our experienced environment by speaking of his 'existence'; the trouble is we have no other word which serves any better.

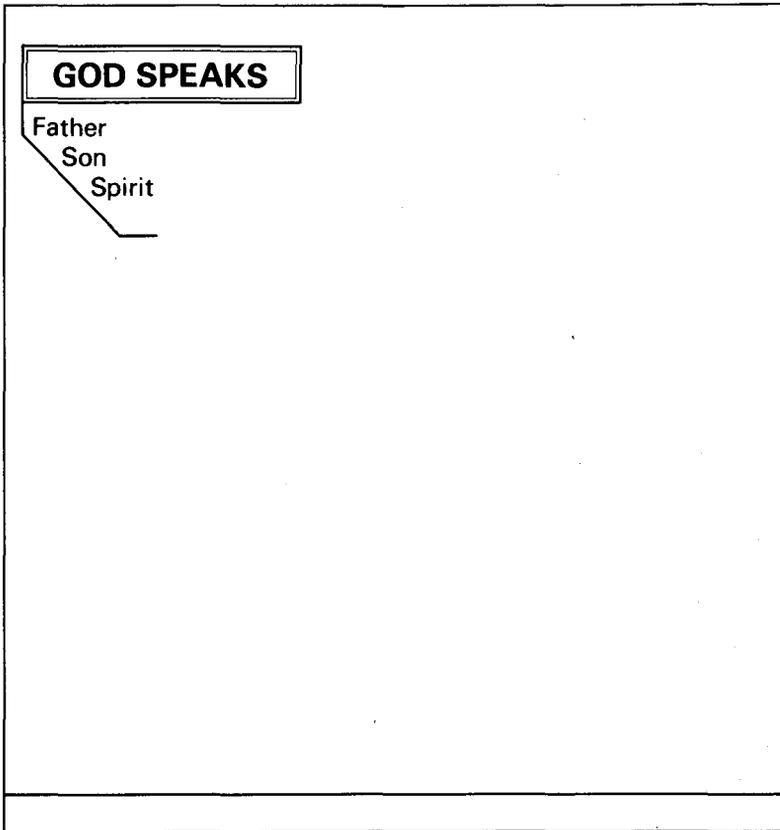


Figure 4a: The absolute foundation—the creative, sustaining Word of God.

continuum, though should other dimensions be discovered they would not be outwith the creative act and process which depends upon God alone. Our universe in general, our planetary system more particularly, and pre-eminently the earth on which we live, thus exists, and, as part of it, man is given by God a special responsibility with respect to it (4b). Thus in creation man's moral responsibility is both implicit in the nature of things, and explicit in the direct command of God. The implicit relation is the recognition of his creaturehood and dependence; the explicit is the one direct restriction on man's actual use of nature imposed quite specifically by God—of *that* tree you shall not eat. Man's disobedience is thus not simply the breaking of a

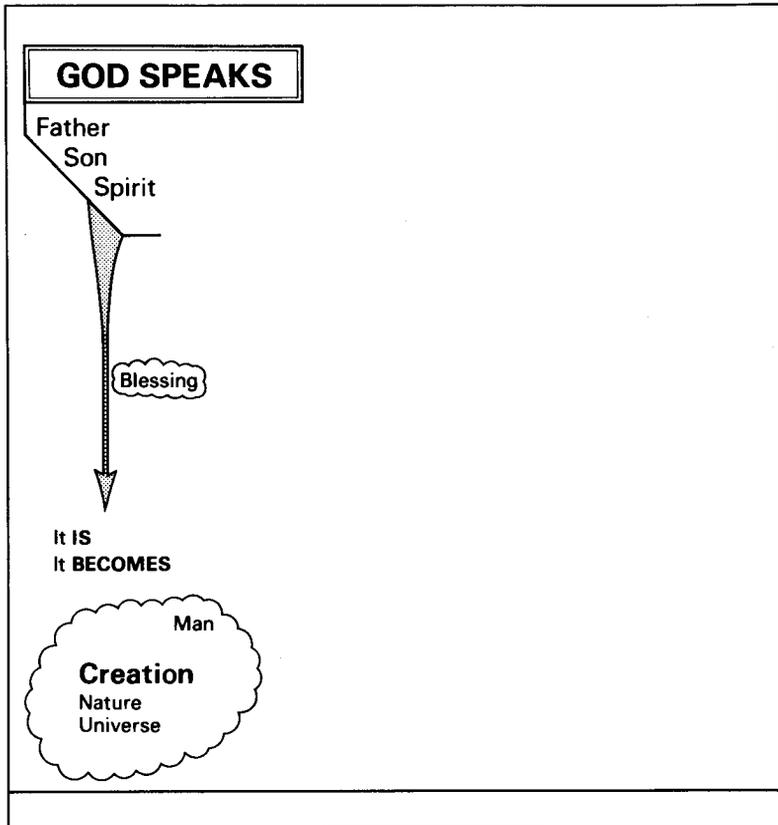


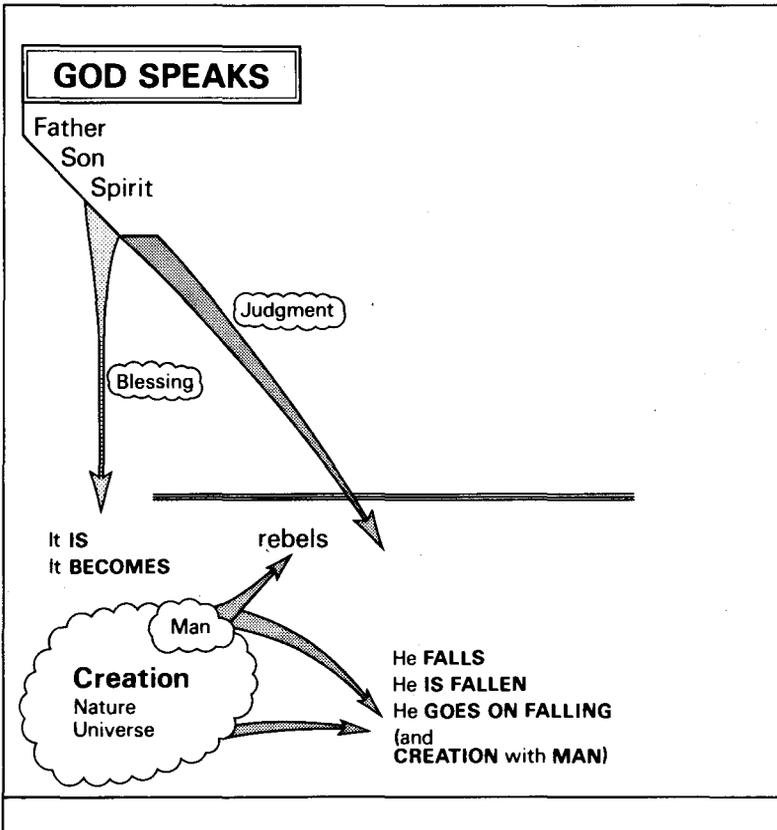
Figure 4b: The Word of blessing and responsibility in creation.

divinely-given rule—a forensic act—but even more fundamentally a denial of his true creaturely nature, a contradiction of the very essence of the created order. It is disobedience, it is rebellion, but it is also a refusal to accept the true constituted nature of the universe of which man is a part. Judgment is therefore inevitably also threefold: legal retribution, spiritual alienation, and insoluble disruption of the natural order (4c.). Man's sin thus not only affects him; it also irrevocably disturbs that natural system of which he is a part. Environmental and ecological problems can therefore only be ameliorated, never eliminated, because there is an alienation *within* the natural system itself, as well as an alienation *between* man and nature, consequent upon

his alienation from God and God's alienation from him. Nature fell, is fallen, and continues to fall, with man.

God, however, does not leave man and nature to move towards inevitable disaster. He begins a work of redemption within man and nature, which centres on the incarnation of God himself as a man. He chooses a people and on the basis of that free choice seeks a response from them in terms of a code of social, technological and ritual behaviour. Their enjoyment of his favour and blessing is conditional upon their taking this total demand seriously, and nowhere is that more apparent than in their use of nature in order to provide for their needs, and in their public recognition of their complete dependence upon

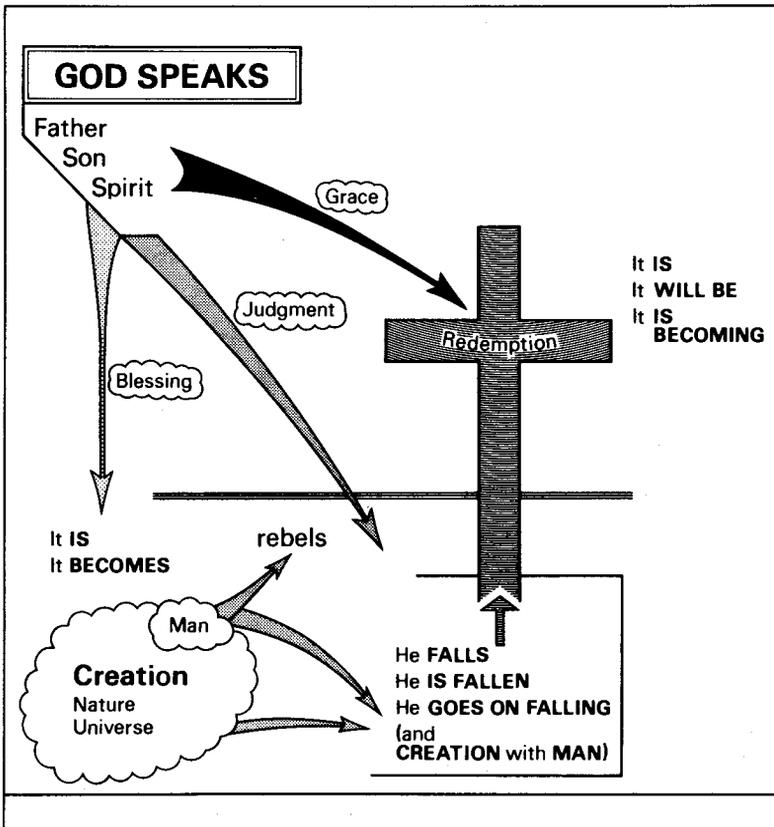
Figure 4c: The Word of judgment on man's rebellion against God, and his declaration of his independence, his denial of his contingent status by virtue of creation.



him for all that nature provides. This is part of the full meaning of the sabbath laws, and pre-eminently of the year of Jubilee (Leviticus 25 and 26). The intimate connection between the fruitfulness of the land and the social and personal morality of the people is a recurring theme in the prophets, especially those of the eighth century B.C. As the Messianic hope grew, and in the inter-Testamental period became increasingly a political vision, it was not dissociated from the hope of the restoration of nature which was a dimension of the original prophetic vision (see Isaiah 11 and 65).

The coming of the Messiah produced no instant solutions. His humiliation and execution, also part of the prophetic vision,

Figure 4d: The Word of redemption in God's covenant love, focussed and concentrated in the cross of Christ and its total achievement.



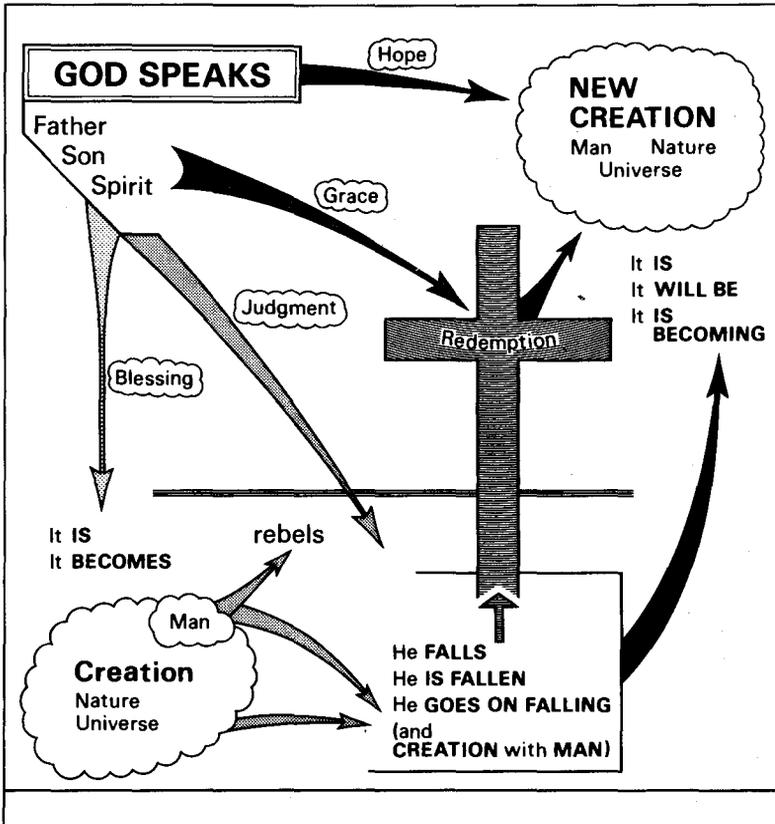


Figure 4e: The Word of sure hope as the redemption achieved by Christ works towards and is consummated in the new creation.

were not defeats, but redemptive acts towards which the prior events were pointing and working, and from which all subsequent redemptive events follow and derive. The resurrection and ascension were God's public vindication of those acts of redemption, not in any sense a rectification of unfortunate and sad mistakes. The redemption of man and nature thus centres on the Cross and what was accomplished there by God in Christ—reconciling the *world* (*kosmos*, of which the *ktisis*, of Romans 8:22-23 is a part). It, like creation and the fall, is a past fact, a present process, and a future succession of that process (*4d.*). But it also contains a future hope, that of new creation, of which the resurrected, re-created body of Christ Jesus is the firstfruit.

The new creation of the sons of God is the precursor of the total new creation of them and the whole universe—new men on a new earth in a new universe—at the second coming of Christ at the consummation of all things (4e.). Such a new creation is not an intangible 'spiritual' entity, nebulous and ghostly. It is more real than that which it replaces, in the same way as the resurrected body of Christ Jesus was more real than the one from which it came—the one which was laid in the tomb, but which on Sunday morning had been transmuted into its new reality. So with the sons of God for whose full redemption the whole creation groans and waits so that its redemption may be complete in new creation. Furthermore, just as it was necessary for God in Christ to pass through this present fallen creation in order to effect the new creation, and it is necessary for the redeemed of the Lord to pass through sinful flesh in order to attain their new creation, so also it is necessary for the whole of the natural creation to pass through its state of frustration and futility in order to become the new heavens and the new earth.

This theistic perspective rooted in historic Christian faith provides a number of vital underpinnings for the Christian in his approach to environmental and ecological problems. In the first place he will see his efforts to improve situations and to change attitudes, not simply as attempts to solve problems or to meet needs, but as a positive contribution to one dimension of God's ongoing purpose of cosmic redemption, and as an outworking of the special redemptive grace of God to him. Then, as a corollary, he will see the work of non-Christians in the same area of concern as an operation of the common grace of God working to a related end, in preventing the downward trend inevitably consequent upon the threefold alienation outlined earlier in this paper. Furthermore, he will not be a man without hope, for he looks for a new heaven and a new earth as well as a new humanity, towards which he is working, even though he knows that the final consummation of the purpose is to be sought only in the second coming of his Lord. Third, he will see all nature as created by God for *his* praise and pleasure and not for man's use or exploitation; he will be caring for *God's* earth. And the Christian will see his environmental responsibility in personal terms, for man is accountable to a real personal God (who has revealed himself as a true man in Jesus Christ) for his behaviour in relation to the earth and to nature, for on this view acts towards nature have a real moral content no less than that of acts towards other men. Finally, the Christian environmentalist or ecologist

will have no illusions about the limits of what can be achieved in a fallen world, and in a society of fallen men who by and large refuse to recognise their fallen-ness and moral and spiritual deprivation and therefore do not look to the only true source of redemption, not only for man, but for nature as well. But he will not be discouraged, for he will not judge his own decisions and actions in terms of their intrinsic effectiveness, or their actual consequences for environmental improvement or degradation. He will believe that, insofar as the decisions are taken and the actions performed in responsibility to God in the light of the principles he has revealed, and the facts of situation as far as he can ascertain them, God will ultimately make himself responsible for the consequences as he works out his own full purpose. Thus the full Christian theistic underpinnings have a profound and extensive implication for environmental action, as well as providing a set of ethical principles for human use of the earth and its resources.⁴¹

Conclusion

A number of sets of underpinnings for the examination and attempted solution of environmental problems have been briefly examined. Particular attention has been paid to the orthodox framework provided by biblical theism, principally because it is the one most usually treated with insufficient understanding and sympathy. Its implications are not only directly ethical, but provide a world view which impinges on a whole range of subconscious attitudes and approaches which relate to decisions and actions on environmental problems at both the individual and the corporate level. At the corporate level man

41. See for orthodox biblical treatments of the domain of discussion: Moss, *op. cit.*, 1982; also R. Elsdon, *Bent World: Science, the Bible & the Environment* (I.V.P.: Leicester), 1981. For a more liberal viewpoint see H. Montefiore (Ed.), *Man & Nature* (Collins: London), 1975. For a Roman Catholic view see C. Derrick, *The Delicate Creation* (Stacey: London), 1972. And, also from the Roman perspective, a delightful book by a Jesuit Father, R. Faricy, *Wind & Sea Obey Him: Approaches to a Theology of Nature* (S.C.M.: London), 1982. Other relevant studies are: I. G. Barbour, *Earth Might be Fair* (Prentice-Hall: Englewood Cliffs, N.J.), 1972; A. R. Peacocke, *Creation & the World of Science* (O.U.P.: Oxford), 1979, (especially chapters VII and VIII).

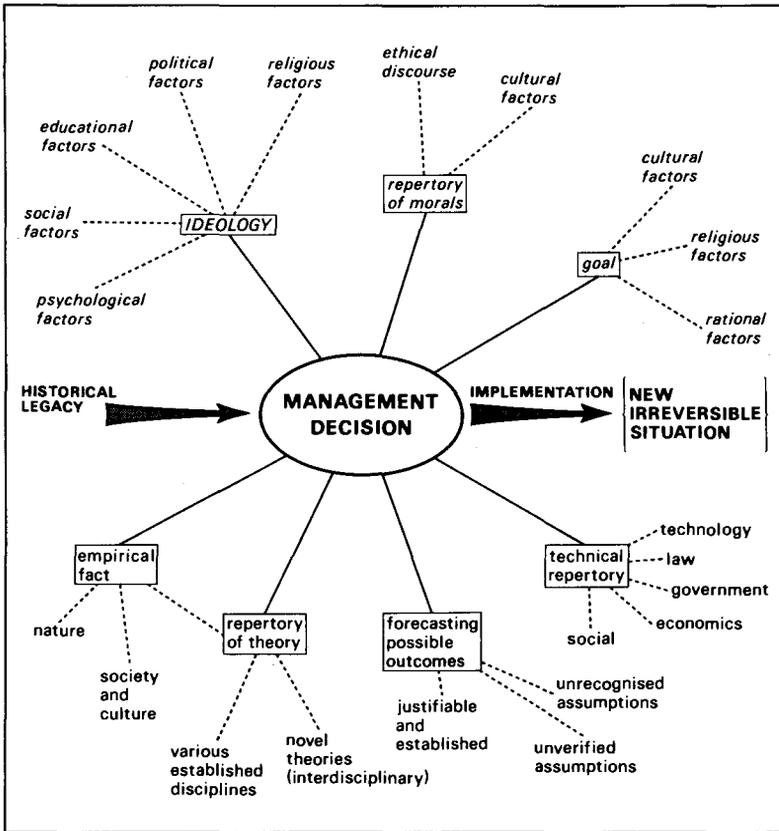


Figure 5: The elements in an environmental management decision.

cannot avoid management decisions, and *Figure 5* illustrates the ramifications of such decisions. The disparate elements in the Figure are nowhere completely independent of the mind-set of the decision-makers. The decision made is always irreversible. It is therefore perhaps not only appropriate, but also of some importance, that such an examination of underpinnings as has been briefly attempted in this paper should be undertaken and made a matter of open discussion. In the past too-facile conclusions have been reached, and then assimilated into the environmental folk memory without adequate critical examination. If this paper has succeeded in making a contribution towards a more balanced and critical evaluation, then it will have achieved something worthwhile.