

Science Will Not Save The Biosphere But Politics Might*

In 1841, Cardinal John Henry Newman argued that worldly knowledge was not a principle of action. His reasoning, set out in a public letter to *The Times* of London, concerned the influence of science upon religious beliefs; but now, nearly 150 years later, it addresses also the question of whether humans can be deterred by scientific knowledge from destroying their own life-support base in The Biosphere. 'Science', wrote Newman, 'gives us grounds of premises from which religious truths are inferred, but it does not set about inferring them, much less does it reach the inference;—that is not its province.'

The truth about The Biosphere resembles religious belief in that it provides life-guiding principles of conduct to those who accept its view of reality. Yet, conduct is not guided directly by scientific knowledge—a transitional process from inference, through interpretation to prescription, is needed if human behaviour is to be changed. The process leads to ethical conclusions regarding relationships between human society and The Biosphere, which become operational through public conduct. Too often, for due protection of The Biosphere and Mankind's future, this process falls short of completion.

Some scientists and environmentally concerned groups, do draw political and moral inferences from scientific findings. Scientific premises underlie the statement and action agenda of The Global Possible Conference which was sponsored in 1984 by the World Resources Institute; they are implicit in the 1982 UN World Charter for Nature and in the IUCN–UNEP World Conservation Strategy, and they are explicit in numerous reports by committees of the International Council of Scientific Unions and some UN Specialized Agencies. It is not for want of scientific information, or of inference drawn from scientific findings, that The Biosphere by the year 2100 will probably have lost most of its variety, diversity, mystery, and colour. The loss will be caused by want of moral perspective; by a failure to translate the findings of science into positive political morality.

Power of Scientific Conclusions

Conventional wisdom among the environmentally concerned has been that education, notably scientific knowledge propagated among the peoples of the world, will change their behaviour and that of their governments. Faith in the power of scientific conclusions is widely held, and the informed and far-sighted have joined together and espoused new causes to save the world from itself. History provides judgement of the extent of their successes, best described as 'mixed'. Their efforts, as with campaigns against poverty and hunger, are more often directed towards alleviation of symptoms than towards removal of causes. Their successes may even prolong and extend suffering that generosity alone cannot prevent. Declarations and proclamations on Earth Day, and by high authorities and celebrated personalities, have a symbolic value; but they may also be mistaken for actions that would be protective of The Biosphere. The effectiveness of yet unimplemented knowledge is difficult to assess; at best it is incremental and cumulative—at a rate much slower than the present pace of destruction of the natural world.

Students of public opinion see a value-shift among North Americans and West Europeans that could in time, if continued, reorient social and political premises in Western society; but this alone would represent a minority viewpoint among Mankind. Time is an uncertain dimension, and social learning and social attitudes move slowly. The salience of particular values, such as those affecting the quality of our environment and of The Biosphere, fluctuate among people's priorities in accordance with circumstances. Economic interests, for example, may for a time become top priority for many people who are committed in principle to environmental quality—short of sacrificing their perceived economic necessities. Unfortunately, the structuring of economic and institutional relationships may force people into environmentally destructive behaviour.

Knowledge and education, unaided, may do little to overcome the social and economic conditions that work against environmentally conserving conduct. Political remedies may be required. I have seen no evidence that the good and wise proponents of biospheric concern are converting the mass of people around the world to their premises and values, although beginnings have been made. Further, I doubt that they are in communication with the greater part of the literate population, which nonetheless may, through experience and the news media, become vaguely aware that all is not well with their environment. Yet their behaviours will not change if structured by circumstances towards environmentally destructive consequences.

This negative assessment is not intended as unfriendly criticism of environmentally concerned scientists and environmental organizations and educators. It is equally a criticism of my own published work. There is much preaching to the converted. Yet communication requires receivers as well as transmitters, and the preachers cannot reach those who do not hear, do not listen, or do not believe what they hear. Some very highly-placed, influential people are still to be found in the latter category of disbelief. Among people who do receive the message of environmental conservation, many cannot act upon their understanding of what environmental relationships ought to be.

Knowledge may affect, and often has affected, belief and practice—but the progression from knowledge to action is not automatic. For example there has been available, in many traditional cultures, knowledge regarding the physical world that might have been applied in agriculture, medicine, and a variety of technologies, but was never put to practical use. A significant number of people still accept sectarian accounts of the creation of the Earth in preference to the findings of the sciences. Knowledge alone is clearly unable to change long-established perceptions and behaviours. The critical phase in the progression from knowledge to action lies in the interpretive integration of factual knowledge into a vision of the possible, to be realized through a programme of action that enlists belief. As Newman wrote: 'First comes knowledge, then a view, then reasoning, and then belief.' Action may then follow.

Scientists and environmentalists have presented the wider public with demonstrable facts, and have interpreted their significance. But their projections and forecasts are mostly partial, and provide no comprehensive view of the future—or a

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route-map to reach it—that most people find plausible and persuasive. The ecological principle that everything in The Biosphere eventually interrelates, is widely regarded as axiomatic; the principle is cautionary, and provides no criteria for evaluating choices. Additional principles must be invoked to provide a basis for choosing a wise course of action. But in practice scientists and environmentalists seem reluctant, perhaps unable, to build their precepts into an integrated programme of action. Yet as Newman said of science—that is not their province.

If The Biosphere can be saved in a state comparable with its present diversity and sustainability, who can save it if science and the environmental organizations cannot? The precepts set forth by the Charter for Nature, the World Conservation Strategy, and the Global Possible, are directed to governments, to business, to organized citizens, and to society in general. But precepts do not in themselves offer a route towards the possible future—merely conjectures regarding possible details. On some of these details, governments and corporate enterprise may be persuaded to act, but these incremental actions characteristically occur within a policy orientation that includes other and often incompatible assumptions. Improvements in one aspect of the environment may worsen conditions in another, unless the total relevant situation is considered and reconciling strategies are developed.

Knowledge for Action

What is needed, but is not present, is a popular movement, fundamentally political, to translate the 'oughts' and 'shoulds' of environmental findings and declarations into workable and widely-acceptable programmes of action. Information and education alone will not move people or their governments. Means must be found for translating our growing knowledge of requirements for a sustainable future, into widespread popular belief in the desirability and possibility of such a future. Conceptual obstacles to such belief must be identified and, so far as possible, neutralized or removed. Unless the root causes of environmental decay are effectively overcome, The Biosphere will not be saved. Conversion of fellow-humans to belief in ecological realities, and the mobilization of public opinion into action, are not the forte of science. Rather do they belong to the province of politics, in its broader meanings, which leads from knowledge through belief to policies and programmes of action.

Until the leaders of modern society, and the people themselves, sort out their values and premises, and attain a general world-view that is both coherent and consistent with realities revealed through science, prospects for saving The Biosphere are poor. Formulation of a view from scientific findings, and reasoning from them to a comprehensive strategy for action, is a political function—and it may also be an ethical or religious function. The product of this reasoning might be called a paradigm or ideology; but, however named, it would reorient popular attitudes towards the relationship of humans to the natural world, and revise their perceptions of the many aspects of growth. It would also imply changes in the attitude of humans towards humans. An environmentally-oriented political movement cannot advance with only a single-issue agenda. It must encompass related issues—economic, social, ethical, and legal.

Need of a Popular Movement

A popular movement towards this reorientation would require doctrine, leadership, and a plan-of-action. To be effective, such a movement must have a political character—inspired by a vision of the possible that possesses a quasi-religious quality. The emergence of the Green parties in Western Europe exemplifies, however imperfectly, the direction to be taken and the difficulties encountered in direct political action.

No present political party is a good example, because in none of them have ecological and social realities been reconciled. Social issues pose a major obstacle to the formation of an ecologically-oriented political movement. Attempts to graft an ecological orientation onto the right or left polarities of modern politics are unlikely to succeed. Indeed these conventional polarities seem irrelevant to basic concerns for The Biosphere. Critics from the right see environmentalism as radical leftist and subversively utopian, whereas critics from the left associate environmentalism with upper middle-class elitist self-serving interests and misplaced priorities!

Environmental parties have appeared in Western Europe—notably the Greens and self-styled 'Ecologists'. They edge towards assuming an international character, but tend to be fractured internally and to be preoccupied with nuclear and military politics. They have not yet assumed the character of a global political movement on the basis of scientifically informed policies to which large numbers of people everywhere could agree.

Three problems must be solved if a biospheric environmental protection movement is to succeed. (1) Such a movement must find ways to reconcile science-derived environmental principles, with other issues of public concern. (2) It must avoid a single-issue focus or being widely regarded as a special interest, as 'environmentalism' is seen by some critics in the United States today. And (3) it must find ways to acquire international relevance if it is to have a biospheric effect. For example, if deforestation, desertification, draining of wetlands, and disruption of marine food-chains, are to be stopped, the causes of these destructive practices must be confronted wherever they occur. The scale of these environmentally impoverishing trends is now global. Warnings and moralizing alone will be ineffective against the often inadvertent agents of destruction that act merely in pursuit of their perceived interests or necessities. But to arrest the causes of environmental destruction may present herculean tasks.

Forces Behind Environmental Destruction

In much of the Third World, rural poverty, social disorganization, and anti-ecological economic development, are major forces behind environmental destruction. The problem has been widely recognized by environmentalists and governments; but where remedies have been attempted, recourse has often been to rural land-reform schemes handed down from 19th-century social theorists, or to collectivist innovations—some of which have engendered deleterious social and economic side-effects. Population growth is another widely-recognized factor which governments are only now beginning to address. To cope with these and other factors in environmental deterioration, mobilized and focused forces within each country are required. External influence may help, but cannot bring about social and political change without the involvement of local people.

But how are they to be involved, particularly when the prevailing politico-economic power-structure is unfavourable for local initiative or for environmental protection? A number of environmental organizations, notably Friends of the Earth and Greenpeace, are organized internationally, and major environmental organizations based in North America have members in both Canada and the United States and also in Western Europe. In Europe, the recently-adopted direct

election of representatives to the European Parliament opens the way to transnational collaboration among European political parties—especially for the Green or ecological parties whose concerns transcend national boundaries and whose prospects for winning seats might be increased by combining votes from several countries.

Need for a Global Environmental Political Involvement

The idea of an international environmental political movement is neither impractical nor even novel, while its initial difficulties are more conceptual than organizational. As with historical religious movements, it is the power of an idea supporting an ideal that impels an organization towards realization of its objectives. To change effectively the basic assumptions of societies and their governments, the environmental movement must manifestly enlarge its dimensions to include those issues that have to be addressed if lastingly sustainable ways of life and the integrity of The Biosphere are to be attained. Yet in so doing, it must not lose its focus or complicate its basic agenda to a point of ineffectuality.

Because the environmental movement is in part a protest against certain aspects of our technological, growth-driven societies, it is susceptible to manipulation or cooptation by political parties of dissent—chiefly of the left. Biospheric integrity is not a basic concern of these parties, but some have opportunistically used less sophisticated environmentalists to advance their own agendas, as in leftist exploitation of environmentalist discontent among European Green parties. Goal displacement has been possible, in part, because too few environmentally concerned persons have thought through the causes of our environmental predicament and have instead accepted easy, ready-made explanations designed to serve other purposes.

The dichotomies of left–right, socialist–capitalist, or liberal–conservative are, in principle, irrelevant to the task of biospheric protection. The socialists' record of environmental protection is no better, and in some places worse, than that of private-ownership market economies. Right–left polarities share a common set of assumptions regarding growth, technology, population, and the natural world, that motivate policies which in practice are environmentally destructive. An environmental political movement ought not to profess to have answers to all of the problems created by modern society; but it should know the problems and propose ways of finding broadly acceptable and effective answers to those that are unavoidably linked to environmental issues.

World Imperatives Must be Perceived and Activated

In the present configuration of bipolar politics, an environmentally-oriented party should become a third force—alternative to right or left. It should initiate a new phase in political evolution, moving towards a less adversarial, more consensus-seeking, style of politics. Its role in public affairs would be to translate the 'shoulds' of scientific and environmentalist findings and declarations into workable solutions that should be capable of wide popular acceptance. To do this the movement would simultaneously offer a view of a road to a sustainable future, not neglecting the steps that must be taken to reach the road. Most of the elements needed for such a global movement are present today, although some national doors are closed to it for the present. But a critical element which is continually lacking, appears to be the charismatic leadership that is needed to catalyse action.

There are risks in charismatic leadership—a solid sense of purpose and proportion on the part of large numbers of people is preferable to dependence upon singular personalities. Nevertheless, popular movements do require leaders. But leaders are not likely to emerge or to mobilize a following until a sufficient receptivity develops in society. If the transition in values, that some students of public attitudes have reported, continues and strengthens, an identifiable leadership may be expected to emerge.

In summary, four elements must converge to initiate a major and continuing popular movement. There must be a cause dramatized by events, a concept or doctrine that explains the cause and its implications, true leadership to interpret the doctrine and thereby offer a vision of the future, and, finally, a real strategy for action. Should such convergence occur in a major nation or group of nations, the event could be of epochal proportions—that is, a new epoch in the political history of the world would have begun, with a better prospect than we have today that The Biosphere may be saved.

The history of all institutions has been characterized by some continuity and yet change. Political institutions and behaviours are not exceptions. The circumstances and prospects of the world today are exposing the inadequacy of traditional politics to protect the integrity of human society. If conditions of life on Earth are to avoid continuing decline towards impending disaster, a major advance in the quality of politics will be required. The survival of human civilization as part of The Biosphere may depend upon such an advance in the nearer rather than farther future. The Biosphere in some form would survive the self-destruction of humanity; but humanity could not survive the destruction of The Biosphere. If a politics of biospheric protection is idealistic, it is also *pragmatically realistic*. Without the implementation of a science-informed morality through enlightened political action, those forces that have made the modern world by discounting the future, may well bring its history to a close. This outcome was implied in the celebrated D.H. Meadows *et al.* M.I.T. Report to the Club of Rome, *The Limits to Growth*, published in 1972, and was subsequently forecast by other major conjectures on the future.

Conclusion for Survival

Efforts to develop a new form of political expression and an environmentally-oriented agenda have already begun—but only begun. Numerous efforts may be necessary before a globally effective format is achieved. Meanwhile the cause may be advanced through meetings by relatively small groups of well-informed and committed individuals. Major political and religious movements have begun in this way. Interaction among paralleling groups would be helpful, so that in time a coherent, persuasive, and carefully considered, programme of action would emerge. There is an urgency that this effort proceed whenever the opportunity for action is present; in the contest for a sustainable future, time does not run to the advantage of humanity.

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