

ETHICS, ATTITUDES AND ENVIRONMENTAL UNDERSTANDING FOR ALL

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ABSTRACT

The fifty years since the formation of the Field Studies Council have been a period not only of enormous growth in our knowledge of the environment, but also of revolution in our attitudes to it. When the Council was established, in 1943, the concern was for local protection and management; by 1993 a series of faraway events (Bhopal, Chernobyl, *Exxon Valdez*, never mind a burgeoning human population) had transformed local into wider, even global concern. This has been nurtured and encouraged by the Countryside in 1970 conferences, the *Blueprint for Survival* (1972), World Conservation Strategies (1980, 1991), the Brundtland Report (1987), the Brussels Code of Environmental Practice (1990), and the “Earth Summit” (1992). Attitudes and motives within the FSC have evolved in a parallel fashion. The challenge now is to maintain and continually review the implications and understanding of the FSC’s mission of “Environmental Understanding For All”.

INTRODUCTION

The Field Studies Council did not hatch fully formed with Centres, Wardens and other Staff, procedures, finance, teaching schedules, etc. come down from the sky, devised by an all-seeing “higher authority”. It emerged slowly and hesitatingly, and has evolved, often painfully, over its five decades of formal existence.

In one sense, a Field Studies Council was probably inevitable. David Allen (1976) and John Sheail (1976) have chronicled the growth of the natural history movement (in its wider sense; I have in mind awareness and knowledge about the natural world as a whole, not merely the size and shape of natural history organisations *sensu stricto*). The idealism which produced the Beveridge Report and the 1944 Education Act in the mid-war years also produced far-reaching plans for natural history. Allen (1976: 266) writes of the frustrated enthusiasm for field-work spilling over into “audacious plans ... for the years of peace ahead”.

He lists three of these: “an entirely novel type of institution, a major departure in publishing, and the start of far greater involvement with government”. The first of these was the concept of the residential field centre, the second was the New Naturalist series, “an unprecedented attempt at combining popularised scholarship, enticing production and the propagation of a distinctive outlook—while also, in the process, proving the existence of a worthwhile market at this level to an exasperatingly unadventurous book trade”. And the third was the succession of high-level pronouncements which led to the formation of the Nature Conservancy and Countryside Commissions, and a national system of nature reserves.

The historical process which led to the formation, in 1943, of the Council for the Promotion of Field Studies and the setting up of the first centres has been described by John Barrett (1987). “It was a major innovation in the practice of environmental

education and it heralded an upsurge of educational activity related to the countryside” (Wheeler, 1981).

Barrett (1987: 36-7) has recalled the excitement of working in the pioneer Centres: “The trickle of interest in the living world was beginning to run around us. More and more, not only in universities and then in schools, but also amongst increasing numbers of citizens from every corner came the understanding that the world was full of marvels which they could not see and would not recognise if they were before their eyes. Somebody had to show the way. We hoped we might be able to help in doing so ... All of us already knew that the whole was greater than the sum of its parts. What we would show was how different parts of the natural world hung together—plants, animals, rocks, geography, the climate ... We understood exactly why G. M. Trevelyan had said that a historian needed a pair of stout boots as much as a library...”

DEFINING THE FSC'S ROLE

Those at the inaugural meeting of the CPFS in the Natural History Meeting on 10 December 1943 represented a significant proportion of the British environmental establishment. They included Roy Clapham, Paul Richards, C. T. Ingold, David Bannerman, Maurice Yonge, Rogers Brambell, Eric Smith, Alec Watt, S. W. Wooldridge, E. J. Salisbury, Norman Riley and Malcolm Smith. The first publication of the infant Council was a pamphlet called *What is Ecology?* by the grand old man of British ecology, Sir Arthur Tansley. When the booklet was published, Tansley was Chairman of both the Nature Conservancy and the CPFS; more than four decades earlier in 1904, he had been instrumental in forming a “Committee for the Survey and Study of British Vegetation”, which became, in 1913, the British Ecological Society, the first ecological society in the world. (Tansley's booklet is reprinted in Berry & Crothers, 1987, pp 5-16).

In *What is Ecology?*, Tansley ranges from basic ecological studies to dangers faced by the human race “at least as threatening and certainly more inevitable than those of atom bombs, because they are inherent in the activities of many hundreds of millions of people, unless necessary counter measures are taken in good time.” He was, of course, referring to Malthus's nightmare of numbers exceeding food supply. Tansley believed that “an ecological approach to these problems is a necessity because they all ultimately depend on ecology, whatever specialised technical training may be required in addition”. He saw the work of the CPFS as highly significant in developing this approach since “not only does it provide training in an attractive subject of vital importance for the future, but by taking students into the open air and into unspoiled nature as the primary field of work it has a unique effect on their minds and bodies.”

Tansley's philosophy permeated the development of the CPFS. The aim of the organisation was summarised in its literature as “towards a better understanding of our environment.” This was expounded by Charles Sinker in 1980. Sinker was Director of the Field Studies Council (as the CPFS became in 1955) from 1973 to 1983 and was a major force in changing the necessarily pragmatic approach of the earlier years into the professional effectiveness of the mature Council. In an early international link-up of the FSC (with the French CPIE), Sinker (1980) described the work of the Council as “Six ways to the truth?” which he set out as three complementary pairs:

- 1 *Scientific*, involving *descriptive* (or traditional natural history) and *experimental* approaches.

- 2 *Sensory*, incorporating the *physical* perception of the environment with an *aesthetic* one which (in Sinker's words) "is potentially one of the most rewarding approaches, but in practice one of the most misused; it is often vague, weak in its factual content and sentimental".
- 3 *Dogmatic*, i.e. starting from a received body of wisdom whose truth cannot be questioned. This includes *ideology* and *pedagogy*, the way of the professional teacher ("Today's subject is the tree", "The oak tree ecosystem provides an excellent example of a food web", "We only do field-work in the second year").

None of these approaches is complete in itself. "Truth" involves taking account of them all, albeit with different emphases in different situations. It cannot be fully apprehended merely by a complete factual description, or by a sensory appreciation however detailed, or even by meticulous indoctrination, into a balanced corpus of knowledge or instruction.

Sinker's insistence on a holistic approach to the environment is wholly in the tradition of the great British naturalists—John Ray, Gilbert White, Charles Darwin, and people like Arthur Tansley who were midwives to the FSC (Berry 1987, 1988). It was part of the context for a careful and searching review of the Council's affairs in 1983.

ENVIRONMENTAL UNDERSTANDING FOR ALL

In some ways, the 1970s were an easy time for the FSC. Centres were filled with A-level biologists and geographers, providing an assured income. But, towards the end of the decade, changes in teacher training and of Local Authority support produced a major fall in student numbers and hence of finance. In 1983, the Council's Executive Committee had to face its future and way of operating. This is not the place to describe the details of the discussions; the point here is that the ethos of the organisation, as laid out by Tansley and Sinker, was reaffirmed but refined. The mission statement of the FSC was broadened and deepened, and became "Environmental Understanding for All" (Stanbury, 1987).

I began this essay by asserting that the birth of the FSC was an outcome of a movement outside, and greater than, the motives of the founders themselves. So, I believe, was the 1983 re-commitment. Because of my involvement in preparing an ethical response to the World Conservation Strategy (see below, p.245), Charles Sinker asked me to give the address at the 1983 AGM of the FSC on the subject of "Environmental ethics". In retrospect, this was an indication of the stage of evolution of the FSC at that time. (It seems odd to view oneself as part of an historical process, even with the benefit of hindsight!) How does "Environmental Understanding for All" fit into the wider scene?

The processes, which built up during the 1930s and 1940s and which led to the Nature Conservancy, the FSC and a growing awareness of the environment, reached a peak in the early 1970s. They were epitomised by the "Countryside in 1970" Conferences, under the leadership of the Duke of Edinburgh, which brought together farmers, business men, land-owners, conservationists and politicians in a coalition of commitment to proper environmental care. A major theme was that, with the industrialisation of agriculture and the increasing use of the countryside, measures to conserve wildlife populations could no longer be confined to nature reserves (Jellis, 1966).

The conferences raised consciousness of environmental problems to a new level. In 1962, the American Rachel Carson's book *Silent Spring* had drawn attention to the

insidious dangers of persistent pesticides (although British research was at least as advanced as North American at the time, as Norman Moore has elegantly expounded in his book, *Bird of Time* (1987); Monks Wood Experimental Station, with a remit to investigate the ecological effects of pesticides, was opened in 1961), and in 1967, the wreck of the Liberian oil tanker *Torrey Canyon* off Land's End alerted the public to the ever-present risks of oil pollution.

Associated with the Countryside in 1970 programme, Sir Frank Fraser Darling gave a significant series of Reith Lectures on BBC radio entitled 'Wilderness and Plenty'. In 1970, the Government set up a Royal Commission on Environmental Pollution, which remains the only standing Royal Commission on science. It has published influential Reports on (among other topics) Estuarine Pollution (1972), Nuclear Power (1976), Agriculture and Pollution (1979), Lead in the Environment (1983), Managing Waste (1985), and the Release of Genetically Engineered Organisms into the Environment (1989).

In 1972, a computer simulation carried out at Massachusetts Institute of Technology was published under the title *The Limits to Growth* (Meadows *et al.*, 1972). Its message was that the economic and industrial systems of affluent countries would collapse about the year 2100 unless two actions were taken: birth rate must fall to equal death rate, and capital investment must equal capital depreciation. If these conditions were met, a 'stabilised world model' could result.

The MIT model was taken as the basis for a 'Blueprint for Survival', issued in the magazine *Ecologist* in 1972, and endorsed by a group of leading ecologists. Its argument was that the non-renewable resources which provide the raw materials and the energy generation for much of industry are threatened with drastic depletion within a time-span that ordinarily commands political attention, as a result of exponential increase in use and population growth; and the waste which accompanies this exploitation threatens the processes which sustain human life. The authors of the manifesto proposed a radical reordering of priorities, with industrial societies converting themselves into stable societies characterised by minimum disruption of ecological processes, maximum conservation of materials and energy, and static populations. The *Times* titled its first leader on 14 January 1972, 'The Prophets May Be Right'.

But the calculations of *Limits to Growth* and the *Blueprint* were rendered void within a few years by the Arab-Israeli wars and a massive increase in the price of fossil fuels. Lord Ashby (who had been the first Chairman of the Royal Commission on Environmental Pollution) took 'A Second Look at Doom' (1975), drawing attention to the ominous instability of man-made ecosystems. He pointed out that "if we experience a shift in the balance of economic power between nations which own resources and nations which need those resources to keep their economies going, one sure consequence would be an increase in tension in the social systems on both sides... The tempting way to resolve these tensions is by autocracy and force". In other words, the period of good-mannered agreement over the use of resources probably would not hold. Conservation was on the international agenda, but it required a change of attitudes as well as an intellectual assent to impending problems.

Environmental problems did not go away with the destruction of the pre-1970 consensus. A human population with increasing expectations growing by 180 people a minute, had to face uncomfortable choices about its future. In 1980, the United Nations Environmental Programme, the International Union for the Conservation of Nature, and the World Wildlife Fund (now the Worldwide Fund for Nature) issued a 'World

Conservation Strategy' (WCS), linking successful development with sound conservation. Implicit in it was the concept of 'sustainable development', a theme taken up and expanded in *Our Common Future*, the Report of the World Commission on Environment and Development (1987), the 'Brundtland Report'.

The aim of the WCS was spelt out in three explicit objectives:

- To maintain essential ecological processes and life-support systems;
- To preserve genetic diversity;
- To ensure the sustainable utilisation of species and ecosystems.

The achievement of this aim was assumed to be inevitable, once the problem and its possible solutions were defined. This was a major fallacy; correct decisions do not automatically spring from accurate knowledge. This is well-illustrated by the protracted history of clean air legislation. The association between air pollution and death rates was established by John Graunt as early as the mid-seventeenth century. During the nineteenth century there were repeated attempts in the UK Parliament to pass clean air laws, but it was not until the London smog of 1952 led to the abandonment of *La Traviata* at Sadlers Wells and the collapse of prize cattle at the Smithfield Show that our legislators accepted and passed comprehensive smoke control legislation.

It is not true that ethics are not mentioned in the WCS, but the only reference is without elaboration or justification: 'A new ethic, embracing plants and animals as well as people, is required for human societies to live in harmony with the natural world on which they depend for survival and well-being'. This indifference was criticised at a conference held in Ottawa in 1986 to review progress in implementing the Strategy, and it was resolved to include ethics in any revisions of the Strategy (Jacobs and Munro, 1987).

The flaw in the WCS was quickly recognised in Britain. The Strategy, being in part a UN document, required responses from member nations of UNEP. The UK response was composed of reports from seven groups, dealing with industry, city, countryside, marine and coastal issues, international policy, education, and ethics (*The Conservation and Development Programme for the UK*, 1983). The originality in this exercise was the setting up of a group on ethics, whose task was to put forward practical proposals about the shaping of sensible attitudes towards the environment in the multidisciplinary no-man's-land where philosophy, psychology, politics, biology and economics meet. The group dealing with education called its report 'Education for Commitment', but something more was needed. I was commissioned to produce the Ethics Report, guided by a Review Group chaired by Lord Ashby and appointed by a national co-ordinating committee.

The Review Group met only once. It was split, apparently irrevocably, between managers and those who regarded our environmental plight as wholly the fault of human crassness. At the time it seemed pointless to pursue this debate. I developed an aphorism that 'we are both a part of nature and apart from nature'. This formed part of our Report which was written by me with considerable help from Lord Ashby and individual discussion with other members of the group. It would be good to think that this aphorism (or rather, the truth on which it is based) helped to defuse the polarisation in environmental attitudes, at least in the UK where environmental debates have been much more rational and non-confrontational than in some countries.

The section on ethics in the UK Response began with the need to determine the factors that determine attitudes, which is where the need for ethics comes in; not as a branch of

academic philosophy, but in the fundamental sense as an expression of moral understanding 'usually in the form of guidelines or rules of conduct, involving evaluations of value or worth'.

Value is a key concept, but determining value in the environmental sense is complex as at least four different criteria can be applied:

- Cost in the market-place, quantified as money;
- Usefulness for individuals or society;
- Intrinsic worth, which depends on the objective quality of the object valued, in contrast to the market-place cost (which is quantifiable only in relation to the price of other things that can be acquired in its place);
- Symbolic or conceptual, such as a national flag or liberty.

These four meanings can change independently for the same object. For example, water in a river in highland Scotland or lowland England will be valued differently by an economist, since its scarcity will differ and its usefulness will depend on whether (1) it is to be drunk, fished, or treated as an amenity, (2) it is an object of beauty or a stinking sewer, (3) it acts as a boundary between counties or countries, (4) it forms a barrier to pest spread; and so on.

Now, our interest in, and therefore valuation of, the environment includes self, community and future generations, but nature itself also has an interest in its own survival and health. The first three of these interests are clearly anthropocentric; they are the basis of the 1980 World Conservation Strategy. Although they may conflict with each other, in principle some accommodation is usually possible. Considerable advance has been made in recent years by many economists recognising that proper accounting involves taking into their equations both non-material and trans-generational values.

Nature's intrinsic worth is more difficult to justify from a human point of view. The commonest rationalisation is explicitly utilitarian: that we should preserve as many species as possible in case they are useful to us humans (e.g. as a source of anti-cancer drugs, or the elusive elixir of eternal youth). Ashby has argued that we should learn to value a landscape or a biological mechanism in the same way that we are prepared to protect and pay for human artefacts like buildings or paintings (Ashby, 1978). Bryan Norton, an American philosopher, has developed a 'weakly anthropocentric' approach, based on the proposition that we are continually being transformed by our contact with the world around us, which is therefore an integral part of our human condition (Norton, 1987).

The alternative argument, that nature has 'rights' indistinguishable from those of humans, has adherents from hard philosophers to green mystics. However, it stretches credibility (although this is not necessarily a bad thing) and is alien (and ironically, antagonistic) to the notion of stewardship. Stewardship is the traditional approach to the environment, in western nations at least, although it is often defined too narrowly. A common error is to equate it with preservation rather than management for particular ends.

A revised WCS was published in 1991 under the title *Caring for the Earth*. The second WCS is an expansion of the themes set out in the Brundtland Report, *Our Common Future*, whose emphasis in turn was foreshadowed by the Environment Ministers of the Economic Summit Nations, who declared in 1984:

We stress the importance of sustainable development, prevention rather than cure; environmental impact assessment; setting environmental standards on the basis of

best technology; and development of less polluting and most cost effective technologies... environmental policy should be integrated fully into other policies.

But the problem remains: how can intellectual commitment be translated into effective action? In 1984, the Economic Summit Nations established, at the instigation of Japan, a series of annual bioethics conferences, reporting directly to the Heads of State meetings. The first five of these conferences were concerned with different aspects of medical ethics; the sixth conference, hosted by the European Commission in Brussels in May 1989, was on 'Environmental ethics: man's relationship with nature, interactions with science'. This Conference discussed a range of specifically scientific questions that could improve the quality of environmental decision-making (such as access to data collected for defence purposes, improvement of environmental monitoring, ecological consequences of large-scale deforestation), and (as the final communiqué said) 'benefited from a high degree of convergence between people of different cultures, East and West, and a wide variety of disciplines'. A recurring theme was the need for an Environmental Code of Practice. Jacques Delors, President of the European Commission, called for such a code in his opening address. He argued that both Christian and Oriental religions have failed to prevent 'environmental appropriation' and that:

The values which have been accepted up to now by all industrial societies, whereby our natural habitat has become no more than a commodity, must be replaced by different values and a different approach to the environment.

The Brussels Conference set up a Working Party to devise a Code (q.v. Berry, 1993a: 253–262). It was based on a simple ethic: "*Stewardship of the living and non-living systems of the earth to maintain their sustainability for present and future, allowing development with equity. Health and quality of life are ultimately dependent on this*". This statement depends on several axioms involving a range of moral responses, and leads to a series of obligations (Table 1), which is where acceptance of the, apparently innocuous, ethic bites.

The value of a code of practice, as opposed to Statutory Regulation or a Charter of Rights, is that issues can be considered on their own merits, rather than subsumed under a set of general prohibitions. It also removes the danger that achievement (or worse, promulgation without implementation) of particular environmental 'standards' is equated with solving the problem in question. This is well illustrated by debates about permissible emissions of radionuclides or discharges into the North Sea. On the other hand, law is necessary to protect responsible stewards from greedy entrepreneurs, and may provide a stimulus to developing environmentally-friendly technology (e.g. non-persistent pesticides or chlorofluorocarbon (CFC) replacements in refrigerators) by banning (or rigorously controlling) undesirable practices.

There are signs that an environmental ethic would be welcomed by many. In her testimony of environmental conversion to the Royal Society, Mrs Thatcher (1989) claimed that "sustainable economic development can be achieved throughout the world provided the environment is *nurtured and safeguarded*" (my italics). The International Chamber of Commerce (1974) has issued *Environmental Guidelines for World Industry* stating *inter alia* that "industry should, in addition to the usual elements, take into account the impact on the human environment, the vulnerability of natural ecological systems, and the challenge created by the finite character of the Earth's non-renewable resources". These guidelines have been adopted by many firms and industries as a base to company (or industry) philosophy or practice, usually developed in more detailed

Table 1. *Obligations Following the Acceptance of a Simple Environmental Ethic*

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1. All environmental impacts should be fully assessed, in advance, for their probable effect on the community, posterity, and nature itself, as well as on individual interests.
 2. Regular monitoring of the state of the environment should be undertaken and the data made available without restrictions.
 3. The provision of adequate support for basic environmental research as well as for conservation, resource and pollution studies, to ensure and improve knowledge of environmental processes.
 4. The assessment of activities involving environmental impact should incorporate social, cultural and environmental costs, as well as commercial considerations.
 5. The facilitation of technological transfer, with justice to those who develop new technologies and equitable compassion towards those who need them.
 6. Regulatory and mandatory restrictions should be effected wherever possible by co-operation rather than confrontation; minimum environmental standards must be effectively monitored and enforced.
 7. Regular review of environmental standards and practices should be undertaken by expert independent bodies.
 8. Costs of environmental damage (fully assessed as in (4) above) should be fully borne by their instigator, including newly- discovered damages for an agreed period retrospectively.
 9. Existing and future international conventions dealing with transfrontier pollution or the management of shared natural resources should include:
 - (a) The responsibility of every state not to harm the health and environment of other nations.
 - (b) Liability and compensation for any damage caused by third parties.
 - (c) Equal right of access to remedial measures by all parties concerned.
 10. Industrial domestic waste should be reduced as much as possible, if appropriate by taxation and penalties on refuse dumping. Waste transport should be minimised by adequate provision of recycling and treatment plants.
 11. Appropriate sanctions should be imposed on the selling or export of technology or equipment that fails to meet the best practicable environmental option for any situation.
 12. International agreement should be sought on the management of extra-national resources (atmosphere, deep-sea) and continued for the regions covered by the Antarctic Treaty system.
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ways. (For example, the European Chemical Industry Federation produced *Guidelines for the Protection of the Environment* in 1987, and a code of practice for industrial waste management in 1988). This process stimulated the formation in 1986 of an Institute of Business Ethics, which has produced a model code urging the publication by all companies of a statement about their responsibility to the environment by both employees and the general public.

The Code produced after the Brussels Conference is a secular document, produced by a secular group for a secular organisation. It was one of the documents submitted as a source paper for the 'Earth Charter' which was intended to preface the work of the UN Conference on Environment and Development in Rio (but which succumbed to political expediency, and was replaced by an anodyne 'Rio Declaration'). However, it was taken almost in its entirety by a Working Party of the General Synod of the Church of England charged with preparing 'a statement of Christian Stewardship in relation to the whole of creation to challenge government, Church and people' (*Christians and the Environment*, 1991) The General Synod paper began with a statement of Christian understanding:

"We all share and depend on the same world, with its finite and often non-renewable resources. Christians believe that this world belongs to God by creation, redemption and sustenance, and that he has entrusted it to humankind, made in his image and responsible to him; we are in the position of stewards, tenants, curators, trustees or guardians, whether or not we acknowledge this responsibility."

"Stewardship implies caring management, not selfish exploitation; it involves a concern for both present and future as well as self, and a recognition that the world

we manage has an interest in its own survival and well-being, independent of its value to us.”

It then drew out the implications of such stewardship in the same way (and in almost the same language) as the Brussels Code. Christian doctrine provides an additional theoretical underpinning for the secular conclusions, but the practical outworking in this context of both sacred and secular is identical—as indeed a Christian ought to expect, since he (and she) believes God created, ordained and sustains the world for righteous and unrighteous alike.

FSC AND ENVIRONMENTAL ETHICS

Where does the FSC fit into this picture of international working parties and theological statement? Certainly it would be the kiss of death for any teacher to begin a course by reciting international agreements or describing bureaucratic arguments. The role of the FSC is to recognise and then lead in providing “environmental understanding for all”, not to submerge itself in interminable committees and negotiations. Its success has come from responding to a national mood 50 years ago, and then to a changed situation 40 years later. The challenge for the coming decades is to continue this leadership. It is not enough merely to produce beds and expertise for avid (or apathetic) students. There are plenty of organisations willing and able to do this. What is needed is an ability to perceive and provide an increasing sensitivity towards environmental problems, over and above the methods to deal with them.

Fifty years after the group of visionaries met in London and set up the CPFS, the public awareness of the environment has improved greatly (Ashby, 1978, 1993). There is a widespread commitment to recycling, countryside protection, and ecoconsumerism; there is a growing New Age search for self discovery, associated with an even greater recognition of missing “order” in modern society. It seems reasonable to see this as an expression of the Nature Conservancy’s rather surprising definition of its own purpose, as

“primarily cultural, that is the conservation of wild flora and fauna, geological and physiographic features of Britain for their scientific, educational, recreational, aesthetic and inspirational value. The term cultural should not be misconstrued: it is used here in the broadest sense as referring to the whole mental life of a nation”

(Nature Conservancy Council, 1984: 75).

Robin Grove-White, formerly Director of the Council for the Protection of Rural England has come to a similar conclusion, “Rather than the environmental agenda being presented to us from on high by science, the actual selection of issues ... arise from human beings responding gropingly to a sense of the ways in which their moral, social and physical identities are being threatened” (Grove-White, 1992: 28). Grove-White identifies the way forward as new theological understandings of the human person and its needs. Lynn White (1967) said much the same, 25 years ago, in an often-reprinted essay on “the historical roots of our ecologic crisis”. He argued, “What we do about nature depends on our idea of the man-nature relationship.”

Field Centres are not religious institutions, but the FSC cannot abdicate a responsibility to deal with all aspects of people if we are to provide “environmental *understanding*” in its fuller sense (Berry 1993b). The difficulty is that this responsibility is not met merely by balancing our budget or meeting conventional management targets. It may seem

impossible to deal with the “man-nature relationships” of a group of rowdy adolescents except in a very restricted sense. But if we lose the impetus that stirred Arthur Tansley, Roy Clapham, Francis Butler and others in 1943, or the holistic vision pursued by Charles Sinker, or the idealism represented by “environmental understanding for all”, we shall fail—and deserve to.

REFERENCES

- ALLEN, D. E. (1976). *The Naturalist in Britain. A Social History*. London: Allen Lane.
- ASHBY, E. (1975). *A Second Look at Doom*. Twenty-first Fawley Foundation Lecture. Southampton: University of Southampton.
- ASHBY, E. (1978). *Reconciling Man with the Environment*. London: Oxford University Press
- ASHBY, E. (1993). *Foreword*. In *Environmental Dilemmas. Ethics and Decisions*: xiv–xxii. Berry, R. J. (ed). London: Chapman & Hall.
- BARRETT, J. H. (1987). The Field Studies Council: how it all began. *Biological Journal of the Linnean Society*, **32**, 31–41.
- BERRY, R. J. (1987). Scientific natural history: a key base to ecology. *Biological Journal of the Linnean Society*, **32**, 17–29.
- BERRY, R. J. (1988). Natural history in the twenty-first century. *Archives of Natural History*, **15**, 1–14.
- BERRY, R. J. (1993a). *Environmental Dilemmas, Ethics and Decisions*. London: Chapman and Hall.
- BERRY, R. J. (1993b). Green religion and green science. *Royal Society of Arts Journal*, **141**, 305–318.
- BERRY, R. J. and CROTHERS, J. H. (eds) (1987) Nature, Natural History and Ecology. *Biological Journal of the Linnean Society*, **32**, 1–152.
- BLUEPRINT FOR SURVIVAL (1972). Harmondsworth: Penguin (originally published in *The Ecologist*, **2**(1)).
- CARING FOR THE EARTH. A Strategy for Sustainable Living (1991). Gland, Switzerland: World Conservation Union, United Nations Environmental Programme, and World Wide Fund for Nature.
- CARSON, R. (1962). *Silent Spring*. Boston: Houghton Mifflin.
- CHRISTIANS AND THE ENVIRONMENT (1991). A Report by the Board for Social Responsibility. London: General Synod Misc. 367.
- CONSERVATION AND DEVELOPMENT PROGRAMME FOR THE UK (1983). A Response to the World Conservation Strategy. London: Kogan Page.
- DARLING, F. F. (1970). *Wilderness and Plenty*. London: British Broadcasting Corporation.
- GROVE-WHITE, R. (1992). *Human identity and the environment crisis*. In *The Earth Beneath*: 13–34. Ball, I., Goodall, M., Palmer, C. and Reader, J. (eds). London: SPCK.
- INTERNATIONAL CHAMBER OF COMMERCE (1974, revised 1986, 1990). *Environmental Guidelines for World Industry*. Paris: ICC.
- JACOBS, P and MUNRO, D. A. (eds) (1987). *Conservation with Equity. Struggles for Sustainable Development*. Gland, Switzerland & Cambridge: International Union for the Conservation of Nature.
- JELLIS, R. (ed) (1966). *Land and People. The Countryside for Use and Leisure*. London: British Broadcasting Corporation.
- MEADOWS, D. H., MEADOWS, D. L., RANDERS, J. and BEHRENS, W. W. (1972). *The Limits to Growth*. Washington: Universe Books.
- MOORE, N. W. (1987). *The Bird of Time. The Science and Politics of Nature Conservation*. Cambridge: Cambridge University Press.
- NATURE CONSERVANCY COUNCIL (1984). *Nature Conservation in Great Britain*. Peterborough: Nature Conservancy Council.
- NORTON, B. G. (1987). *Why Preserve Natural Variety?* Princeton, N. J.: Princeton University Press.
- SHEAIL, J. (1976). *Nature in Trust. The History of Nature Conservation in Britain*. Glasgow & London: Blackie.
- SINKER, C. A. (1980). *A choice of ways*. In *Environmental Education: 16-21*. London: Department of Education & Science and the Field Studies Council
- STANBURY, D. (1987). Environmental understanding for all. *Biological Journal of the Linnean Society*, **32**, 43–48.
- TANSLEY, A. G. (1951). *What is Ecology?* London: Council for the Promotion of Field Studies (reprinted 1987) *Biological Journal of the Linnean Society*, **32**, 5–16.
- THATCHER, M. (1989). Speech at the Royal Society, 27 September 1988. *Science and Public Affairs*, **4**, 3–9.
- WHEELER, K. S. (1981). *A brief history of environmental education in the UK*. In *Environmental Education. A Review*: 22–3. Department of Education & Science. London: HMSO.

WHITE, L. (1987). The historical roots of our ecologic crisis. *Science, New York*, 155, 1203–1207.

WORLD COMMISSION ON ENVIRONMENT AND DEVELOPMENT (1987). *Our Common Future*. Oxford & New York: Oxford University Press.

WORLD CONSERVATION STRATEGY (1980). Gland, Switzerland: International Union for the Conservation of Nature, United Nations Environmental Programme & World Wildlife Fund.