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**How green is my mallee:
changing Australian attitudes
to their land**

Brian Roberts

Fundamental Questions Paper No.8

Centre for Resource and Environmental Studies
Australian National University
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Papers in the Fundamental Questions Paper series arise from Part 2 of the Fundamental Questions Program at CRES. The main outcome of Part 1 of the program is presented in *Our biosphere under threat: ecological realities and Australia's opportunities* (S.Boyden, S.Dovers and M.Shirlow, Melbourne: Oxford University Press, 1990).

The Fundamental Questions Program seeks to engender and inform public discussion of the implications for Australian society of the need for long-term ecological sustainability.

How green is my mallee: changing Australian attitudes to their land

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Background to today's ecological realities

If you visit the Botanic Gardens in Sydney you will see a very small monument with a plaque stating that agriculture commenced in Australia on that site. It was from there that our land-based industries grew, from the 10 acres at Farm Cove to the impressive export industry of today. From those original battlers grew the unique independent cockie of today. To put our farmers in today's perspective we must sketch the global situation in which we find our Australian landholder and his relationship to his land.

Only 11% of the earth's surface is arable land suitable for crop production and from this we must feed 5 billion people. Asia, Africa and South America have population doubling times of 38, 24 and 30 years respectively. This year 11 million Chinese and 14 million Indians will be born, while world land resources are lost through erosion and salination at the rate of 7% per decade. China, with 23% of the world's population was able to reduce its population growth from 3.4% to 2.0 after introducing the one child family policy in 1979 (Davis & Wilsher, 1986). India's advantage gained from the green revolution in grain production, has been lost through the failure of its birth control programmes. In Bangladesh, Kenya and Ghana,

birth control is used by only 8%, 7% and 4% of couples respectively (Anon, 1981).

The good news is that while the world population was increasing at over 2% during the 1960s, it has declined to 1.63% today. The bad news is that two thirds of the world remain hungry while the gains made by improved food production technology are cancelled out by land degradation in many countries including Australia.

Fifteen years ago the writer (Roberts, 1974) described our predicament as follows: Despite numerous warnings over the years, Man has recently been somewhat bewildered by the fact that Nature has slapped him in the face for insulting her ecosystem. The animal which inhabits the urban habitat has become aware of uncomfortable changes in his immediate environment. Nature has answered back and Man has stumbled into an ecological trap. Civilizations have been living on promisory notes for generations and now they're falling due all over the world. The wilderness is no longer an environment to be conquered by Man, but a shrinking source of vital supplies. The once-heroic pioneer, developer and tamer of Nature, is seen in a more critical light today, against the background of the basic problem confronting modern Man, namely the provision of the necessities of life for an infinite population from a finite global potential.

For educational purposes, Man's environ-

mental problem can be divided into imbalances on three main fronts, namely, population increase, resource depletion and environmental pollution. We have been living off a Natural economy while accepting no responsibility for it, and in ignorance and arrogance we have been drawing on the capital of the world's ecosystems, without making any substantial deposits. In addition, we have come to realize that we can ignore Nature's laws only at our own peril, and that the eternal truths that govern Natural systems, inevitably catch up even with the species *Homo sapiens*, despite his advanced brainpower. Essential elements of any permanent ecosystem are, firstly, the control of populations, secondly the recycling of nutrients and, thirdly, the efficient use of energy sources. Man has ignored all three in his wasteful economy of planned obsolescence.

In spite of the writing on the wall, ignorance, vested interest and complacency make Man go on doing what history has clearly shown him to be wrong. Today we stand to be judged on the intrinsic values of our Western cultures in so far as they are compatible with reality and the naked truth concerning the requirements for our survival. Nature has sent us a final notice - payment is due, and we now need to decide **how** we shall pay, **not whether** we shall pay. There are no further opportunities to shirk our responsibilities or pass the buck internationally. The chips are down and only complete honesty and acceptance of realities are operative. So we find that today the status of the ecological problem is not determined by its age or its academic merit, but simply by its urgency. Two points need to be made here; firstly we cannot return to a past Utopia, and secondly we cannot maintain the present wasteful and unrealistic way of doing things much longer.

If we accept these premises we are bound to admit that Man's survival will depend on his willingness to change established views on birth control, resource exploitation and recycling of wastes. This then is the essence of the task that lies before governments and individuals, and to carry out this task we need to establish goals, priorities, action plans and global cooperation in bringing these plans to fruition. It is also worth noting that both ecology and economics are derived from the same Greek root - 'oikos' a home (Roberts, 1974).

Writing in the modern Australian context O'Connor notes that there is emerging in our

society an attitude of concern based upon:

- the acknowledgement that man can inflict damage on the environment comparable with the great natural disasters of the past;
- a concept of stewardship of our finite resources for our own use and for future generations;
- an awareness that our environment has a limited capacity to absorb the debris of our society;
- the acknowledgement that a finite world with finite resources cannot support continually expanding population and burgeoning technology beyond a certain level (O'Connor, 1986).

Whatever our particular forte, if we in land use planning are to be worthy of the name Ecologist, we cannot but see ecology as a Synthesizing, Applied Social Science concerned primarily with the study of communities. Thus, despite the growing multiplicity of interests within ecology, its most important application is likely to remain the broad field of resource management relative to human welfare.

Many analysts, confronted by the complexities of land use legislation, have recognised the need to bring together the natural world and the world of human society. Boer (1984) draws on Bookchin's (1982) central statement on this issue: '... We must develop a more rounded critical analysis of our relationship with the natural world. We must seek the foundations for a more reconstructive approach to the grave problems posed by the apparent 'contradictions' between nature and society.' The new subject area termed 'social ecology' has been developed to bridge this gap through a better appreciation of humankind in nature. Boer points out, however, that environmental law as it presently stands, could be incompatible with social ecology. This is because the law is presently a crude mechanism for administering the environment. These concepts equate with Bookchin's shallow and deep ecology which concern humankind's social system and its environmental system respectively. The relevance of these apparently esoteric distinctions to land degradation problems is that because these two systems interact, our understanding of natural ecology must now be followed by a parallel study of social ecology.

The concept that members of the community should be regarded as more than 'consumer citizens' has been argued by Craig (1982). He suggests that in the past we have used an approach to land use decision-making which treats individuals as isolated private consumers interested only in materialism, with no ethical or spiritual dimension.

Civilization and land degradation

Many writers since the first Sumarian chronicles on agriculture, have recorded the effects of civilization on the landscape and the soil. From the Tigris and Euphrates to the Yellow River, the march of Man's early 'progress' was marked by ruination and desolation, followed by migration and abandonment. In one sense the history of civilization is the history of the soil, since the impoverishment of the soil was followed by a poverty of body and spirit of the people. Nor did the New World learn the lessons of the Old World - it has been said that what Man learns from history is that Man doesn't learn from history. So it is not surprising that the ratio of forest clearing to forest planting in Asia is presently 5:1, in South America 10:1 and in Tropical Africa 29:1 (Anon, 1982). The writer (Roberts, 1986) has elsewhere quoted the well-known statement by the Red Indian Chief Seattle to highlight the fundamental difference that western development has made to our relation to the land. Other seldom-quoted responses from the Indians emphasize this lack of empathy on our part:

How can the spirit of the earth like the White man? ... Everywhere the White man has touched it, it is sore. The wise old Lakota knew that man's heart away from nature, becomes hard. He knew that lack of respect for growing, living things soon led to lack of respect for humans too. So he kept his youth close to its softening influence. Every part of this soil is sacred in the estimation of my people. Every hillside, every valley, every plain and grove, has been hallowed by some sad or happy event in days long vanished. The very dust upon which you now stand responds more lovingly to their footsteps than to yours, because it is rich with the blood of our ancestors and our bare feet are conscious of the sympathetic touch.

We in Australia would do well to consider these views, as Nature rebels against our ever-increasing demands.

When Jacks and Whyte wrote their 'Rape of the Earth' in 1946, they explained in graphic detail how the younger nations like North America, South Africa and Australia had not only ignored these lessons of history but had used the new-found power of technology to ruin the land at a pace unknown to the ancients. What we lack in Australia today is the wisdom to apply our power correctly. The impact of passages such as the following from 'Rape of the Earth' could have a far-reaching influence in moulding the perspectives and appreciations of the present generation: Erosion is the modern symptom of maladjustment between human society and its environment. It is a warning that Nature is in full revolt against the sudden incursion of an exotic civilization into her ordered domains. Men are permitted to dominate Nature on precisely the same condition as trees and plants, namely on condition that they improve the soil and leave it a little better for their posterity than they found it. Agriculture in Europe, whatever its other weaknesses, has been, and perhaps still is, a practice tending on the whole to increase soil fertility. When adopted and adapted elsewhere it has resulted, almost invariably, in a catastrophic decrease in fertility. The illusion that fertility can always be restored by applying some of the huge amounts of artificial fertilizers now available has been shattered by the recognition that fertility is not merely a matter of plant-food supply (for even exhausted soils usually contain ample reserves of plant food), but is also closely connected with soil stability.

Leaving aside for the moment the question of how present agricultural systems and methods of land utilisation have produced such disastrous consequences, we may enquire why these malpractices, which seem to threaten the whole future of the human race, should have been adopted and have become so prevalent in the newer countries. In the first place, the general principles and methods of land management that had been found eminently suitable for European conditions were the only ones fully understood by the colonising peoples. Thereafter, the necessary modifications introduced in different countries into land management practices were dictated not so much by natural environmental factors as by external economic

circumstances, particularly those created by the rapidly developing opportunities for international commerce throughout the world. Thus the development of land in new countries has not been a gradual evolutionary process dependent upon local conditions, but part of a sudden and explosive surge of immense and uncoordinated human power into unprepared territory (Jacks & Whyte, 1946).

Powell's writings make interesting reading for those seeking to understand the ethos of Man and Nature through a number of progressive stages of development of the Australian nation. Because ours is one of the youngest of nations, our conservation ethos drew heavily on the experiences, writings and values originating elsewhere. As Powell (1976) explains:

Students of environmental history in Australia cannot draw upon a rich tradition of local scholarship in their chosen field and it seems reasonable to suggest that an examination of the American experience showed an indispensable general perspective. Indeed, many leading figures in conservation and resource management in Australia were (and are) keen observers of the American scene. But there is a distinct temptation, in this as in several other matters, to allow simply for the familiar 'cultural lag' and to press on with a 'comparative' approach for Australia. The dangers are obvious enough - the special environmental problems facing Australians, and their sustained relationship with Britain, for instance, must never be discounted.

However, while some things have changed in our political arena, the following letter to the editor of the Melbourne Argus of 1st July, 1871, indicates that preoccupation by politicians with short term advantages has not changed:

1871 also promised to be a good year, for example, for the conservation and acclimatisation campaign of Edward Wilson and the Melbourne Argus. Following Mueller's public lecture by little more than a week, a letter in the correspondence columns of that paper again raised the issue of forest reservation and plantation, and the writer's urgent appeal for support in this 'truly national work' is worth recording. The true interests of the country find an advocate in you, so I make bold to ask your assistance in this good work. Our legislators, I fear, with very few exceptions, are too much intent on the loaves and

fishes of the present day to allow time for the consideration of what would be an enduring and living testimony of their patriotism.

Sustainability and the steady-state

A useful analysis of lasting systems has been given by Birch and Cobb (1981) who follow their view of sustainability with a list of characteristics of a sustainable society:

The meaning of sustainability is somewhat easier to express: to be sustainable is to be capable of indefinite existence. Sustainability came into use in the global context in relation to the environmental crisis. . . In a space-ship economy resource use is geared to the finite amount available (Boulding, 1971). The same idea was presented by Meadows et al (1972) in *The Limits to Growth*, Daly (1973) in *Towards a Steady State Economy* and later in *Steady State Economics* (Daly, 1977) and Henderson (1978) in *Creating Alternative Futures*. . . It was the lack of a positive connotation of the phrases 'steady-state', 'stationary-state' or 'equilibrium state' and their unacceptability to the third world that led to the phrase 'sustainable society' being coined at a meeting of the World Council of Churches on this subject in 1974 (World Council of Churches 1974, p 12). . . Sustainability in the real world is a relative matter, just as is justice. The call for a sustainable society refers to the indefinite future not 'the infinite future'. We will do well indeed to envision social forms that can persist for even a few hundred years, although that is a short time from an evolutionary point of view. From these considerations some conclusions can be drawn about the characteristics a sustainable society will have:

1. The population will be well within the carrying capacity of the planet. What that population would be depends on the economic habits and social organisation of the society.
2. The need for food, water, timber and all other renewable resources will be well within the global capacity to supply them.
3. The rate of emission of pollutants will be

below the capacity of the ecosystem to absorb them.

4. The rate of use of non-renewable resources such as minerals and fossil fuels will not outrun the increase in resources made available through technological innovation.
5. Manufactured goods will be built to last; durability will replace inbuilt obsolescence. Wherever possible materials will be recycled.
6. Social stability requires that there be an equitable distribution of what is in scarce supply and that there be common opportunity to participate in social decisions.
7. The emphasis will be on life not things, on growth in quality not quantity, on services not material goods.

O'Connor (1986) suggests that in practice it will only be possible to implement sound development principles if we go beyond the superficial conceptions of economic growth which have been so prevalent. We need to understand that growth is neither 'good' nor 'bad' per se. It is only meaningful to speak of growth if the factors of rate, direction, context and quality of growth are specified. 'To speak simply of 'pro-growth' versus 'anti-growth' or 'zero growth' is nonsensical. As Ashby points out past experience with societies in a state of zero growth is far from reassuring. He makes the point that they usually stabilise with a small dominant minority of wealthy people and a large oppressed minority of permanently poor people with a minimum of mobility between the classes' (O'Connor, 1986).

Following the classic work of Daly on no-growth economics, Boulding (1975) has given a useful overview of how we might move into a steady-state economy:

The key then is for economists and environmentalists to work together toward three important goals: controlling pollution, transforming our present linear or frontier economic system to a steady-state economy, stabilizing rather than continually increasing the flow rate of materials and energy, and achieving a more just distribution of the world's finite resources . . .

The only arguments among scholars are how close we are to the limits of the earth. Increasing evidence points to the idea that we must make this transition within the next 30 to 100 years to avoid nature's more harsh methods of achieving a steady state.

To draw further from Kenneth Boulding (1975):

Herman Daly shows us several types of growth that must level off in a steady-state world: population growth, blind economic growth, and the growing gap between rich and poor. What kinds of growth would be encouraged? . . . There would be as much scope as ever for all kinds of mental culture and moral and social progress; as much room for improving the Art of Living and much more likelihood of its being improved. . . Any activity that does not require a large flow of non-renewable resources or produce serious environmental degradation could grow indefinitely. . . We would trade the freedom to have unlimited children and to consume uncontrolled amounts of resources for increased leisure, education, creative opportunities, and freedom from hunger, poverty, and hopefully war.

The kinds of economic institutions required follow directly from the definition of a steady-state economy. We need an institution for maintaining a constant population; an institution for maintaining a constant stock of physical wealth and limiting throughput; an institution for limiting inequalities in the distribution of constant physical wealth among the constant population.

All these fundamental issues have a direct bearing on the Australian sense of value and the way we see ourselves and our natural resources.

Lessons from 200 years of land use

If Australians' attitude to their land during the past 200 years, is repeated in the next 200 years, the nation's future as one of the world's leading food producers will be in serious jeopardy. An incisive evaluation of Australian attitudes toward their land must recognise the complex interfaces between ecology, economics and human nature. In his book on farming in Australia and social attitudes in the 1940s, Hugh Robertson (1945)

makes the following statement: 'In Australian conditions there are no difficulties except custom and the idea that, because we bought the land, we can do what we like with it ... We don't buy the land. We buy the exclusive right to use the land, neither more nor less than that. We are the custodians of the land. The land is not for sale, it belongs to posterity.'

We have already considered lessons not learnt from world history. In the Great Southland we have learnt the hard way and Nature has paid our educational costs. It is worth identifying and summarizing the key points of our lessons and of our present dependence on land in Australia:

1. Australia's economy is primarily dependent on agriculture and mining.
2. Agriculture is dependent on the maintenance of soil productivity.
3. Soil productivity is declining as a result of erosion and salinity in both cultivated and pastoral regions.
4. The economic significance of land degradation is such as to make it Australia's most important environmental issue.
5. Despite decades of organised soil conservation activity in most States, erosion is increasing rather than decreasing.
6. The national erosion survey of 1978 indicates that soil erosion in certain States has reached disaster proportions.
7. Economic studies indicate that early preventative action is able to control erosion at relatively low cost.
8. Analysis of the land degradation problem indicates that the solutions lie in three areas: financial assistance, regulatory policy and attitudinal education.
9. Experience in the extension field indicates that positive financial incentives and negative legal incentives have limited effectiveness in the long term.
10. All indications are that without attitudinal change through education, little can be achieved in combatting land degradation.
11. Research on present attitudes toward erosion and salinity indicates that the significance of the problem is totally underrated by a large majority of the rural and urban population.
12. The funding of research into degradation awareness and education is totally inadequate and compares very unfavourably with commodity research funding in animal and crop production.
13. Being an unsaleable commodity, soil and its maintenance has been neglected by agricultural research funding bodies, despite the dependence of all commodity organizations on this basic resource.
14. There is a clear responsibility on rural organizations to support research and education which aim to maintain the productivity and thus viability of soil-based commodities.
15. Analysis of the erosion situation in Australia indicates that many rural commodities are presently being produced at the expense of soil capital - 13 tonnes of soil for every tonne of grain in some districts.
16. There is an urgent need for rural organizations, commodity boards and government agencies to recognize and act on the need for direct funding of research into the most appropriate methods of increasing awareness of degradation and its significance.
17. The present minimal responsibility shown by research-funding organizations toward landcare has led to voluntary groups of concerned citizens giving the initiative in community education and attitudinal change (Roberts, 1983).

John Kerin, Federal Minister for Primary Industries and Energy, has spoken forcefully on these matters in recent years. His comments reflect growing concern at the highest level about our lack of progress in soil conservation, and they warrant quoting here:

It is a constant source of frustration to me that while this country is facing a massive land degradation problem, I am constantly receiving requests from people, and this includes politicians, who are seeking funds either to prop up inappropriate systems of land use or develop more of the same. Despite the obvious lessons of the past, I can assure you the political pressure to flood the inland, irrigate saline soils, drain swamps and release mar-

ginal land for cropping is as strong as ever.

Many authorities believe that it is the Commonwealth's function to provide leadership and the support for a national soil conservation program. The Federal Government cannot simply pass off the management of this resource as a State matter. They certainly don't do that for other national resources such as uranium and petroleum. Our problem today in Australia, is deciding on the appropriate role of laws and ethics in tackling our land degradation problems. Boer (1984) notes that if we are to apply our new ethic within our new found social ecology, we will probably have to re-write our environmental legislation. This he believes would have to include redefining 'environment', reformulating the 'objects' of existing Acts and enabling active participation by the community in formulating and implementing the law. The writer suggests that, at a very basic level, we shall have to agree with the American Indian chief who, having observed the effects of overgrazing by cattle in the American West, said to the President: 'This we know - the earth does not belong to Man; Man belongs to the earth'. However, we have yet to decide what we should do to achieve sound land use. Should we preach, prohibit, sue, regulate, provide incentives, sell rights, or tax? Maybe all these have a complementary persuasive role.

Birth of a Western land ethic

Ethics are concerned with doing things the correct and proper way so that the group rather than the individual benefits. Ethical behaviour is acting in such a manner that, irrespective of legal requirements, the behaviour is regarded by the community at large as acceptable and as what would be seen to be considerate of the needs of others. An ethical person is thus unselfish, mindful of the needs of others, far-seeing and recognizes the norms set by the community.

Ethics and Land are not usually associated but just as there is consideration for others in social ethics, so there is awareness of the needs of future generations in 'conservation ethics', 'ecological ethics' or 'land ethics'. The term Land Ethics simply reflects the respect, stewardship, husbandry and proper use of land resources. It appears in many forms of behaviour of land users and is referred to by many

different names. The respect for the land is born of a range of human values and relates to a fundamental view of the association of Man and Nature, the mutual benefits which flow from good husbandry and an ability to live with Nature rather than battling against it (Roberts, 1983).

In a contribution to the Uniting Church's Bicentennial publication on Australians and their land, the writer (Roberts, 1988) noted the sequential development of positive attitudes.

A number of views of the humanity/nature relationship have been held by leading philosophers. The Routleys (1975) recognise three views which have bearing on land use attitudes in Australia:

- Humanity the tyrant
- Humanity the steward
- Humanity the cooperator.

Moving from tyranny over, to cooperation with, the landscape presupposes a movement from humanity-centred values to eco-centred views. This trend holds more hope for achieving an ecologically sustainable society than either of the alternative views articulated by Tribe, namely total manipulation of nature by people ('transcendence') or treating the natural order as sacred ('immanence'). The land ethic under consideration should be seen as an ever-developing and changing mirror of community awareness, resulting in increasingly eco-centred policy, education and law. Garret Hardin in his classical essay 'Tragedy of the Commons' reminds us of how individualistic self-interest was leading us to disaster. The time for the committed application for a nation-wide program of land care has arrived in Australia. Our future depends on its success, for we cannot afford not to act.

While the Orient and the Middle East can point to many great individuals and whole movements which embraced a respect for, indeed an admiration of, Nature, the Western tradition reflects a poverty of spirit in this regard. Not that we haven't had writers who proclaim the beauty of Nature or the joys of communing with Nature, but rather that our cultural and religious foundations have set us apart from, often above, the rest of the Creation. Lynn White (1967) has written at length on the role played by our Christian-Judeo roots in moulding our utilitarian view of our natural resources.

For my part I regard the little-known Aldo Leopold (1966) as a latter-day St Francis in his spiritual regard for the land and in his proposed

land ethic. One way of understanding land ethics as a concept is to recognize a sequence of developing moral responsibilities to humans, to other living organisms, to the land, and to the environment in which we live. Leopold saw the extension of ethics to the land as a process of ecological evolutionary thought. An ethic may be regarded as a constraint on our freedom of action in our effort to survive. In philosophical terms, our social ethics have distinguished social from anti-social behaviour. The need for such a distinction arises from the requirement to live together - the biologists' symbiosis. Our political and economic systems represent structured cooperative mechanisms for evolution.

The paramount question when identifying a sound ethical basis is whether we view 'nature', on one hand, and 'human society' on another, as distinct realms with a dichotomy between them, or whether we see them as different aspects of the same system. The former view leads to 'conservation' and 'development' being seen as opposed with continual 'trade-offs' necessarily resulting. This view appears to have dominated the debate in Australia to date, with the unproductive polarization between 'conservationists' and 'developmentalists' ensuing. There are signs that the latter view is now beginning to be taken seriously.

Nature should not be viewed simply as a **pristine wilderness** to be revered, nor only as a **quarry** to be exploited, despite the fact that both of these perspectives have their advocates. An enlightened, ethical basis for environmental legislation, which would also be consistent with our cultural heritage, would view nature as a **fertile garden** to be nurtured and cultivated by human beings (O'Connor, 1986).

The earliest ethics dealt with relations between individuals, later between groups, and in some eastern cultures, between people and Nature. In the West however, we have never broken away from the assumption that Nature is there for our use. This, we have agreed, is Nature's *raison d'etre*. Leopold points out that we have developed no ethic toward the land or toward the plants and animals that grow on it. He points out that this deficiency stems from our view of land as a possession and compares our rape of the earth to the ancient Greek Odysseus who slayed all his slave-girls because they too were simply

another lot of possessions in that society. So too our modern Australian relation to the land has been strictly economic, having privileges without obligations.

Though even in Ezekiel and Isaiah's time they regarded land degradation as socially unacceptable, their assertions never became part of our Western Christian values. However, as Leopold points out, a land ethic is 'an evolutionary possibility and an ecological necessity'. In recent times, notably since the political recognition of the significance of the greenhouse effect on our survival, the ecological imperative of nurturing the ecosystems we depend on has become a *sine qua non* for humankind.

The writer has elsewhere (Roberts, 1986) highlighted the manner in which our own religious base has stressed the Man/God and Man/Man relationships and neglected the Man/Nature (Creation) link to the detriment of our permanence on earth. It was thus heartening when in 1983 the National Soil Conservation Programme was launched, with one of its prime objectives that Australians adopt a land ethic. This reflected the writer's call in an invited lecture (Roberts, 1984) to the Australian National University entitled 'Land Ethics - a necessary addition to Australian values'. This concept draws on much of the sentiment of Routley and Routley (1975), Passmore (1974), Birch (1988) and Elliot (1978) who have written so eloquently on Man/Land relations in Australia. However, as Judith Wright points out we must fight not only for Nature but against our utilitarian consumer society's traditional values.

Ethical and moral values suffer a real disadvantage in a world obsessed with evaluating everything objectively and usually by monetary value. The facts which cannot be quantified compete poorly in the political and economic arena. As Len Webb (1985) points out, computerized analysis can only use 'hard data' and ignores Hume's dictum that no ethical value can be derived from a factual premise, or in his words 'No ought from an is'. It is after all, value judgements not objects, which make for quality of life in its true sense.

Religion as a contributor to man/land relations

The 'exploitation morality' of many cultures stems from an inborn confidence that Man is set

in dominion over the earth and that the purpose of all the milk and honey produced by Nature is for his benefit. The boundaries of religion and philosophy are not clear to me, but I take comfort from Godfrey-Smith of the Australian National University who says 'When you find you are not at all clear what you are talking about, or how you should continue - or even start - the chances are you have entered the realms of philosophy' (Webb, 1985). Religion usually implies a spirituality and the presence of a deity of some kind, but emotion can of itself evoke a conviction of, and fervour for, Nature's intrinsic value. As Judith Wright says, 'There is no stronger force than emotion ... For it is feeling that establishes values, and if we are ever to move from economic values to a reassertion of ecological values, our feelings and sympathies must be engaged first.' It doesn't seem necessary for Nature to have been 'created' by a supernatural being for appreciation and respect for other living things to become a basic value of any society. Charles Birch and the American theologian Jay McDonald have made a radical proposal on our respect for the life of non-humans, which they believe

should refer to the integrity of the **intrinsic value** of each and every individual creature and the integrity of the relations of each creature to its environment. In other words, we are to respect the life of kangaroos and whales, the relations they have with the environment that will preserve their intrinsic value, and also their instrumental value to other creatures. It is to respect all life in terms of its value to itself and to God, and its value to humans and other creatures (Birch, 1986).

The writer has elsewhere noted that religious, ecological and humanitarian motivations (Cook, 1970) are all equally sound premises on which various sectors of the society could adopt a land ethic.

Although St Francis of Assisi has been proposed as the patron saint of ecology (White, 1967), religious orders have no monopoly on land care. Thus Len Webb has re-defined the term 'moral' as 'respect for all things living'. Respect for Nature often has no theological basis, and reverence for ecosystems often stems from wonder at purely biological phenomena.

The ecology/theology nexus has been given special attention by Caldwell (1975) who gives the following overview:

In the theological or religious approach there are a number of different emphases. Lynn White (1967) suggests that we use St Francis as a model of respect for all life. Ecological ethics must not be based merely on the man-centred view that we endanger ourselves when we endanger the ecosphere but also on recognizing our obligation toward all life (Clarence, 1970). This theme of a reverence for life was also developed earlier by Albert Schweitzer, by the eminent theologian Paul Tillich (1955), and more recently by Paul Santmire (1970). Francis Schaeffer (1970), however, disagrees strongly and sees our obligation to be toward God and man and not toward all life. Rene Dubos (1972), Harold Schilling (1972), and theologian Gabriel Fackre (1971) suggest that our guide not be the passive conservation ethic of St Francis but the stewardship ethic of St Benedict, in which we use, guide, cultivate, and cooperate with nature in a wise, creative, and respectful manner.

Theologians such as Harvey Cox (1965) and Dietrich Bonhoeffer (1953) have attacked the false dichotomy that separates the 'secular' from the 'sacred'. Instead of waiting for life after death, the Christian has the responsibility to express his concern for others by responsible involvement in the world... Some have suggested that the answer does not lie in Western but in Eastern religions that contain a view of man in nature (Smith, 1972)... It appears that all of the great religions, regardless of origin, have some ethic of responsibility toward nature built into their rich and diverse teachings. Each offers ethical guidelines for those who follow its basic tenets, but too many men and women in all parts of the world choose not to obey the imperative that we care for the earth and our fellow humans. According to Birch (1986) 'Churches have not been in the vanguard of movements pressing for a life-centred ethic. The reasons include the notion that our main job is to remove oppression and injustice to humans. To add another task to that immense one is a distraction from the main task.'

Which path is best? Will ecology, humanism, various forms of Western religion, or the teachings of Eastern religions provide us with the im-

perative that will help us cherish and preserve life? There seems to be no one way for all humans. History provides us with examples of men and women who have acted with ultimate concern for nature and human life by following each of these diverse teachings. As an unknown theologian once asked: 'How dare we mere mortals restrict God to only one path?'

Even without an Eleventh Commandment calling humankind to cherish Nature and ensuring all living creatures a right to co-exist, much spiritual reward is obtained by those true 'deep ecologists' who practise what they preach. In the writer's first contribution to this subject (Roberts, 1974) the similarity between good land managers and sensitive Christians was noted. Both display a gentle humility, an absence of arrogance and of violent behaviour; both are considerate of others, unselfish and helpful. A contrary view is that of Lynn White (1967) who has given us what is arguably the most well-known essay on the effects of the Christian religion on our attitudes to the land. He says 'We are superior to Nature, contemptuous of it, willing to use it for our slightest whim ... What we do about ecology depends on our ideas of the Man/Nature relationship. More science and more technology is not going to get us out of the present ecological crisis until we find a new religion, or rethink our old one.' White's damnation of the ecological effects of Christian teachings and his praise for Oriental attitudes to the land are challenged by others like Tuan (1968) who point out that human nature, irrespective of creed, has put survival first and as such, even those cultures claiming spiritual harmony with Nature have caused irreparable damage to the environment.

Perhaps we need a radical like St Francis who broke from tradition in the Christian church and espoused the virtues of humility, not only for individuals but for us as a species. As White describes him, 'Francis tried to depose Man from his monarchy over creation and set up a democracy of all God's creatures'. White is hard on Christianity when he says, 'To a Christian a tree can be no more than a physical fact. The whole concept of a sacred grove is alien to Christianity and to the ethos of the West. For nearly 2 millennia missionaries have been chopping down sacred groves, which are idolatrous because they assume spirit in nature ... Both our present science and technology are so tinctured with orthodox Christian arrogance toward na-

ture that no solution for our ecologic crisis can be expected from them alone.' (Authors note: As I write, ABC-TV's Sunday Compass programme announces that Environmental Education Kits are available to the public from any State church head office - 6 August 1989.)

Some would say that the personal choice for us today is between theism and some form of pessimism, and that religious belief has been reduced to 'a God of the gaps' in our scientific knowledge and dominance. Perhaps to meet modern problems of the environment, like the greenhouse effect and the population explosion, Christianity needs to be modernized. If we look at religion's potential contribution to solving the environmental crisis, Marx's 1847 reference (Niebuhr, 1964) to religion being the opium of the people, and to Christians preaching 'cowardice, self contempt and submission' may well have a very positive side. Similarly if Freud's view (Brown, 1967) of religion as 'the universal obsessional neurosis of humanity' can translate into deep concern for the all living creatures, religion may well have a dominant role to play in changing our attitudes to our land and our ecosystems.

Whether Pell (1988) is correct in predicting that politicians and scientists will be looking to Christian communities as allies to explain environmental dangers and prepare them for the cost to overcome them, remains to be seen. Surveys show that 84% of Australians believe in God, 73% call themselves Christians and 12% don't acknowledge any religious affiliation (Ireland, 1988).

The possible role of religion in helping to develop an ecological consciousness may be weakened by the obvious rise of secularism. Pell says, 'In the long run Australians are unlikely to embrace some higher form of Enlightenment wisdom; our style is not that of a gentle scepticism or balanced, nuanced secularism. Most are not likely to embrace scientific humanism. In the long run the alternatives are likely to be Christianity or a reversion to paganism, a worship of the earth, an irrational world of superstition, the oppression of the weak; a sometimes escapist and self indulgent fantasy nourished on drugs and alcohol.'

There is sufficient evidence for all to see that as a nation we lack the respect and appreciation of our (God-given?) resources. A nation built on clearing, ploughing and burning has a pioneering heritage to be proud of, to admire and to give

confidence in future ventures. However, while the heroic achievements of the past deserve our admiration, there are aspects of the 'frontier mentality' which warrant serious reconsideration in modern times. With the 'wisdom of hindsight' we can see clearly how certain effects of our predecessors' actions are having a serious effect on the long-term productivity of the resources. This applies to soil, water supplies, natural grazingland, forests and fish.

In the present era of environmental awareness, the need to accept and apply conservation principles is widely recognized. Even in earlier years there were individuals who recognized the need for a less arrogant, dominating, conquering, exploitative attitude, towards non-renewable resources particularly. The following extract from Powell's (1976) history of environmental management in Australia since 1788 gives an indication of such early awareness:

It is not entirely extravagant to claim that, with the exception of Charles Darwin's 'Origin of Species' and the Bible itself, no book has had more direct and indirect influence upon Western man's perception and use of his environment than George Perkins Marsh's 'Man and Nature', published in New York in 1864... He surpassed both Humboldt and Darwin in communicating the almost revolutionary concept that Man's dominant role in nature displayed an immense, unrecognized and largely destructive power:

Man has too long forgotten that the earth was given to him for usufruct alone, not for consumption, still less for profligate waste. (Author's note: 'usufruct' is a legal term meaning 'temporary use of'.) Nature has provided against the absolute destruction of any of her elementary matter... But she has left it within the power of man irreparably to change the combinations of inorganic matter and of organic life, which through the night of aeons she had been proportioning and balancing to prepare the earth for his habitation, when, in the fulness of time, his Creator should call him forth to enter into its possession.'

As to the role of the present-day church in

Australia, the writer (Roberts, 1988) has noted that, 'Central to the unwillingness of many church apologists to face the ecological facts, are unconvincing attempts to rationalise: (i) the primacy of human society, (ii) the divine right to produce large families, (iii) the 'dominion over the earth' creed, and (iv) the inferences of guilt on the part of secular critics. Today the 'churchies and the greenies' have so much in common, particularly in the virtues of frugal living and the 'eye of the needle'. Important differences of opinion remain on the issue of the 'conquest of Nature' and how this relates to greed and doing unto others. Indeed it is a widely held view that a truly ecological philosophy of life has inbuilt religious overtones. Some traditional Christian spokespersons see contemporary environmentalism as a dangerous fad, a trendy cliché based on mystic spiritualism. However Andrew Dutney's (1987) view that the church can, and must do something and not merely 'shrug its ecclesiastical shoulders' is a view held by many in Australia today. 'If rehabilitation of Australian Christianity is to get anywhere, theologians must break out of the cloister and begin to work closely with the scientists and philosophers who can help them develop a coherent and credible ecological theology.' Birch (1986) says 'The call to Christians is for a deeply developed non-anthropocentric ethic, that is to say a life-centred ethic. I believe this is the same as calling for a theo-centric ethic because God is concerned about all life and not human life alone.'

Of the several recent Australian writers who have grappled with the environment/church relationship, O'Connor (1988) has searched for a new perspective. He says

Black (1970) tries to trace features of the western philosophy of life and what he calls its uncompromising treatment of the natural environment and its resources which led us to our present state of concern over ecological crisis. He sees the four most important aspects of our western world as:

- the conviction that man's role on earth is to exploit the rest of nature to his own advantage;
- an expectation of continuing population expansion;

- a belief in progress and history; and
- a concept for posterity. . .

There is no doubt that the driving motivations of dominion and multiplication have persisted and have intensified because they are somehow at the root of all environmental problems we are experiencing today. The question is how to evolve from this an environmental morality and an environmental ethic.

At first reading, it seems that man was set apart from nature. However, O'Connor believes it is wrong to immediately identify the idea of dominion over nature with the ideas of wasteful exploitation. He says

It is to the credit of mankind, starting with the Hebrews, that they evolved a concept of responsibility for husbanding the earth's resources. There seems to be no doubt that the Hebrews believed that one prime reason for their presence on earth was to look after the earth and be responsible for the lower orders of creation the same way as God accepted the responsibility towards them. It is from this that a concept of stewardship and proper management emerged... Our tradition seems to provide the basis for an environmental ethic. If we are to generate any change in our attitudes to the way we handle our environment and provide for future generations, we have to have such an ethic as a basis for action in the legal and economic fields as we make the transition from a young to a mature society (O'Connor, 1986).

The most significant contributor to Man/Nature relations in Australia is Passmore (1974) whose incisive analysis of the Christian influence on western environmental values is now well-known. To quote Passmore, 'We shall begin, rather, with the principal accusation - that Western attitudes to nature are infected with 'arrogance', an arrogance which has continued into the post-Christian world and makes men think of nature as a 'captive to be raped' rather than as a 'partner to be cherished'.

In the early decades of the present century, Christian apologists were particularly anxious to establish that science and technology were of Christianity's making, for science and technology were widely esteemed as the secular

saviours of mankind. Now, ironically enough, Christianity finds itself condemned as the progenitor of a diabolic technology. If both views exaggerate Christianity's historical role in this regard, it is still not an accident that technology flourished in the West for which nature was not sacred. We might in general define 'the West' as those civilizations whose major ideas and attitudes derive from Greek and Hebrew sources. Taken thus, it includes, of course, the Muslim regions. It will at once be obvious that, in the Christian separation of man from the animals and the Christian view that nature was made for man, there lie the seeds of an attitude to nature far more properly describable as 'arrogant' than the purely Old Testament conception of man's dominion.

Christianity has encouraged man to think of himself as nature's absolute master, for whom everything that exists was designed. They are wrong only in supposing that this is also the Hebrew teaching; it originates with the Greeks.

To sum up, so far as we can yet do so, the critics of Western civilization are to this extent justified in their historical diagnosis: there is a strong Western tradition that man is free to deal with nature as he pleases, since it exists only for his sake. But they are incorrect in tracing this attitude back to Genesis. Genesis, and after it the Old Testament generally, certainly tells man that he is, or has the right to be, master of the earth and all it contains. But at the same time it insists that the world was good before man was created, and that it exists to glorify God rather than to serve man.' (Passmore, 1974).

Can values and ethics be taught?

Plato wrote, 'Education makes good men and good men act nobly'. 'Noble' can be equated to 'responsible' in today's era of environmental awareness, but the task of changing values through education is a daunting one in a dollar-driven society where success has only material criteria. Would it be old fashioned to introduce 'Moral Philosophy' as a subject in today's curriculum in an effort to nurture a sensitivity to Nature and the environment? Could this result in moral and ethical responsibility for our actions toward the land and its elements? Some would argue that such fundamental values are 'caught not taught', inferring that role models and exemplary behaviour are the key to passing on such

noble community values. In this time of vocational training, many would argue that the desired 'sensus communis' in our teaching institutions is absent to such a degree that they are 'soulless' and perhaps even valuefree. It has become fashionable not to moralize and not to be dogmatic in teaching what is right. The 'should-ought' notion is now seen as subjective personal bias.

Why have ethics and morals moved from the centre to the periphery of our education? One reason is that religion, as a basis for community values, has waned. Another is the increase in pluralism and relativism. The rise of alternative ideologies has led to what has been termed a 'free market of ideas', all seen as equally acceptable options. A discussion of land ethics does not allow for an evaluation of the role of educational institutions but it is timely to consider what is expected of Australian universities when policy changes are challenging their role. Their role may be to seek out and transmit knowledge and to train students in the processes whereby truth is made known. To attempt to convert students to a particular view is regarded as unacceptable to the dispassionate search for knowledge. Where it is necessary to consider social or political viewpoints, these are not taught but rather dissected and examined objectively. The logic of the facts is not allowed to tip the scales toward any particular conclusion on desirable social values. Many academics would argue that moral and ethical values are best taught by not focussing directly on them, but rather by inference.

The fact is that unless a philosophy based on modern ecological realities is embraced by future decision-makers, the resource base of all alternative economic and social systems will collapse. This irrefutable situation narrows down the acceptable alternative 'truths' considerably when the long term global perspective is taken. The inherent inability of the majority to recognize the unsustainability of the 'Me-Now' desires of human nature is shown by the scales on which Chiras (1985) has charted most people's space-time values:

Individual interest can be identified by a single point that denotes one's space and time concerns. Most people's interest lies toward the lower ends of the scales, tending toward self-interest and immediate concerns. This... is very much a biological characteristic...

found in social animals such as monkeys and lions; however, concerns for the upper ends of the time and space scales are found in only the most social of all animals, *Homo sapiens*. This capacity to consider the consequences of our actions, notably, how they will affect others and what impact they will have on the future, is a fortunate feature of our kind... because humans have reached a position of unprecedented power as moulders of the world's environment. (Chiras, 1985).

This shows how our predictable concern with our personal comfort in the short term forms the basic problem in gaining acceptance of a land ethic which concerns other people in the future. Perhaps Harvard University's bold experiment in including Moral Reasoning and Social Analysis in its core curriculum, will show the way. As Frederick Borsch (1984) of Princeton says: 'The university's job may not be the teaching or imparting of a particular set of values so much as helping students to see where values come from, how they are shaped and kept, and how they in turn shape actions and institutions'.

The most important contribution which ecological education can make is the development of what we may term the **Ethic of Responsibility**. Only in this way will the clash between private convenience and public welfare be resolved. The prime difficulty lies in persuading people to make sacrifices concerning their so-called standard of living, the size of their families and the cost of recycling wastes which, in turn, affects consumer prices.

We might start with James Thurber's suggestion, that is: 'Let us not look back in anger, nor forward in fear, but around in awareness'. I would add, 'not with arrogance but with humility, not as though we were the last generation to inhabit the earth, but as temporary trustees of posterity's resources'.

Conservation is essentially a concern for the human species. Ecological action, in the long run, can only be based on compassion, respect, understanding and a willingness to share with others. Not, 'The land belongs to us' but 'We belong to the land'. Not 'We are the conquerors of the earth' but 'We are a part of the earthly system'.

One of the greatest services which ecological education could render, would be the development of a clear understanding of the difference between **sentiment and ethics**. Sentiment is an

unreliable guide; but ethics give us benchmarks, priorities, value judgements and accepted norms. Thus the starting point for ecological education is the development of realistic attitudes toward Man's treatment of his environment, and the end point of such an education is the cultivation of ecologically sound habits toward Nature. Between these points lies all the biological, physical, economic and social detail which gives an understanding of Man relative to his environment.

In making a case for ecological education, may I plead for an end to the churning out of academic barbarians whose only ability is to analyse and pull apart. What we need is broadly trained synthesizers with perspective and balance, able to evaluate whole human situations. At the same time I would warn against our using the scarcity of precise information on environmental problems as an excuse for inaction.

Ecology teaching is many things. It is showing a baby a beautiful flower, it is teaching a child to pick up papers, it is explaining the ecosystem to school pupils, it is studying energy flow at undergraduate level, it is analysing nutrient cycling with post graduates, it is family planning clinics, it is the study of environmental reports by politicians, and it is learning to live safely and successfully in a changing world.

If we as ecologists are to successfully fill the role of **horizontal specialists** who form a bridge between natural and social sciences we will do well to concentrate our energies on the following four educational activities:

1. Developing an ecological conscience by re-thinking the place of Man in Nature.
2. Extending moral ethics to include a responsibility toward the environment.
3. Persuading the masses that the concept of 'human rights' extends beyond inter-group relations to the Man-environment interface.
4. Examining the adequacy of the output of ecologists to meet the growing need for their services.

I like the classic simplicity with which J.M. Stycos explains the way major social changes go through four stages:

Phase 1: No talk, no do

Phase 2: Talk, no do

Phase 3: Talk, do

Phase 4: No talk, do.

I suggest that Australian environmental action is now entering Phase 3.

Changing Australian attitudes: the way ahead

Leopold suggests that all ethics are based on the single premise that individuals are members of an interdependent community. Man's instincts make him compete, his ethics make him cooperate. The land ethic extends the boundaries of the community's moral concerns beyond people, to the environment on which they depend. This changes the role of *Homo sapiens* from conqueror to member of a community of living things. In this way the 'resources', while altered by management for production, are given a right to existence, ie they have an intrinsic value of their own.

Ecology is the study of living organisms in relation to their environment, and conservation is the achievement of an equilibrium between Man and his land, but how do we develop an ecological conscience and what should we be teaching the coming generations. The list below was proposed in 1984 by the writer, who makes no apology for the 'should' value judgements implied:

- We should teach that the dominating and consuming approach to our non-renewable resources is short-sighted and has caused failures of civilizations throughout history. Our view that Nature is there primarily for Man's use should be reconsidered.
- We should emphasize that conservation does not necessarily imply non-use or protection for its own sake. It means maintenance of productive potential.
- We should teach that good farmers are in fact good applied ecologists, for both seek to harvest nature at a level that can be sustained by ecosystem equilibrium.
- We should teach that Man is not an independent controller of Nature, but an integral part of the global systems on which he depends. It is the lack of awareness of this interdependence that has caused the

environmental problems which the world presently faces.

- We should teach that environmental problems are complex and require national and international solutions - that our planet is a closed system where actions and reactions are of global proportions requiring global cooperation.
- We should bring home to coming generations the old Greek truism that men apparently don't learn from history - that each generation seems to have to learn its own lessons on ecological behaviour, at great expense to the earth.
- We should avoid the despair and gloom which so easily arise from consideration of environmental problems but rather we must teach the optimism and challenge which is demonstrated by the successes of dedicated and persevering individuals and organizations.
- We should teach that even in our democracy, the common good of the community takes precedence over the unfettered freedom of the individual to act irresponsibly towards the environment.
- We should stress the need for political ethics in our system of government, together with the desirability of more vision and less expediency, more statesmanship and less politics.
- We should emphasise the links and interdependence of landholders and city dwellers, of taxpayers and consumers, in such a way as to develop an understanding of resource conservation as an issue concerning the whole community.
- We should demonstrate case-studies which bring home the disasters of poor land management and the achievements of sound planning as a basis for sustained stable production.
- We should imbue in the next generation a pride in good stewardship of the land, a lasting satisfaction from well-nurtured land. The spiritual well-being which flows from such fundamental achievement should become an integral part of our national

ethos.

- We should insist that together with a national pride in conserving non-renewable resources, must be acceptance of a land ethic which not only values our good fortune but develops an awareness of others less fortunate and how we might share our luck.
- We should emphasize that as a resource-rich western nation set in the eastern arena, we have grave responsibilities which accompany our role as trustees of such natural wealth.
- Finally we should teach the place of Man in the grand scheme of things - that we are on this earth for but a fleeting moment in the life of our land. As such we cannot be end-users with a right to consume the potential of the land. Rather we have the privilege of using and leaving the land in a better condition than we found it. (Roberts, 1984a)

National goals - do we have any?

Birch (1988) has pointed out how the governments' goals have shifted from rising standard of living, full employment and both high economic and population growth in 1945; to equality of opportunity, helpful relations with neighbouring countries and environmental conservation in 1974. The shift to non-material goals is clear but Birch suggests that in some ways our goals have hardly changed in 30 years and that we continue to measure the health of our nation in terms of economic growth. He calls for a broader life-centred ethic to replace the people-centred ethic. This means accepting that all creatures have intrinsic value, apart from their utilitarian value to Man.

National goals should change as progress is made and as new global scenarios emerge. So apart from the motherhood goals of freedom, liberty and equality, the 'public culture' can be predicted to favour certain groups - the rich, the whites or the males. Donald Horne (1988) has called for a radical reconstruction of Australia's public culture (national goals?) in which the work ethic and the production/consumption calculus of modern society is replaced. He wants a different basis for thought and action but to what

extent that will be ecologically based is not very clear.

Scott Paradise (1969) suggests that the American attitude (and presumably that of all industrialized nations) toward nature can be reduced to seven basic values:

1. Man is the source of all value.
2. Nature exists only for man's use.
3. Man's primary purpose is to produce and consume. Success is based on material wealth.
4. Production and consumption must continue endlessly because man has a right to an ever-increasing material standard of living.
5. Material resources are unlimited.
6. Man need not adapt himself to the natural environment since he can remake it to suit his own needs using science and technology.
7. A major function of the state is to make it easy for individuals and corporations to exploit the environment to increase wealth and power. The most important nation-state is the one that can command and use the largest fraction of the world's resources.
8. The ideal person is the self-made individualist, who does his own thing and hurts no one.

Tyler Miller (1975) suggests that although most Americans probably do not see or accept these as their attitude toward nature, their individual, corporate, and collective governmental behaviour in the commons operates as if these were their beliefs - and this is what counts.

These eight values must be replaced by new ethical guidelines which the writer suggests apply as much to Australians as to the Americans that Scott Paradise refers to when he calls for a credo which accepts the following revised statements:

1. Man is not the source of all value.
2. Man must be the wise caretaker and steward of the earth for present and future generations.
3. Man's primary purpose is not to produce and consume but to conserve and renew, replenish not ravage the earth.

4. Improvement of life quality, not ever-increasing production and consumption of material things, must be our goal.
5. Earth resources are finite and must be cherished and renewed, not wasted.
6. Man's relationship to nature must be that of man and nature, a symbiotic partnership based on ecological understanding and cooperation.
7. Man is to preserve stability and enhance life quality by preserving and encouraging physical, biological, and cultural diversity.
8. A major function of the state is to supervise long range planning and to prevent individuals and corporations from exploiting or impairing the quality of the environment and human freedom and dignity.
9. Because no one can or should exclusively do his or her own thing, the ideal human goal is that of sharing and caring, not complete individualism and domination.
10. Each human being on this planet is unique, unprecedented, and has a right to a basic share of the ecosphere's resources.
11. No individual, corporation, or nation has a right to an ever-increasing share of the earth's finite resources.

National goal identification requires clarity on the quality of life to be aimed at for Australians. O'Connor (1986) has this to say:

The environment is seen as one of the great Quality of Life issues of this age. The idea of introducing the Quality of Life concept as a tool for decision makers has immediate, if superficial appeal, but it has so far delivered little of practical, as opposed to academic, value. A comprehensive investigation of the potential of the Quality of Life concept was undertaken by the United States Environmental Protection Agency via the Airlie Symposium, in Virginia, 1972... For the purpose of the Symposium the term Quality of Life was seen as referring to the well-being of people, primarily in groups, but also as individuals, as well as the well-being of the environment in which these people live. It means different things to different people and there is as yet no consensus as to what it means in precise terms. . . The first step in an

attempt to quantify the Quality of Life is the definition of what the concept actually means. Even this step proves extremely difficult although there is a big literature on parameters useful for measuring the state of society. . . The result of a large-scale study carried out by the American EPA showed the eleven most highly weighted factors were, in order of importance:

1. Democratic process
2. Public participation
3. Health
4. Choice in life
5. Housing
6. Economic security
7. Education
8. Land use
9. Essential living costs
10. Economic opportunity
11. Ecosystem.

The two significant conclusions from this are that:

- the factors on the list come from among the objectively-based social-indicator types rather than from the class of psychological factors; and
- economic factors are well represented in the top ten, thus indicating that economic indicators cannot be ignored in developing a Quality of Life index.

One rather surprising feature of the factor-weighting results is the rather low weight given to environmental pollution factors. Housing, land use and ecosystem are the three most highly rated factors in the environmental component, and specific pollution factors are far down on the list... A balance has to be struck between catering for the needs of posterity and redressing the problems of our own time' (O'Connor, 1986).

Hope and action

'Is there really any hope?' asked Heilbroner. The answer to this question is a resounding yes, probably the most important yes in the history of mankind. Teilhard de Chardin (1966) has said, 'It is too easy to find excuses for inaction by pleading the decadence of civilization or even the imminent end of the world. Three human attitudes can kill us: (1) the blind technological optimism of those who believe that some scientific innovation or unknown factor will always save us; (2) the gloom-and-doom pessimism of those who have given up hope; and (3) the greed, apathy, and refusal to face reality of those who have given up concern and involvement through easy fatalism or a naive view of reality.'

Psychologist Rollo May says that many of us are losing our ability to care about anyone or anything because we feel overwhelmed. We have a feeling of powerlessness - our lives seem to be managed by impersonal and uncontrollable forces. However, I give Tyler Miller (1975) the last word, which I believe applies very much to Australia today:

There are grounds for cautious hope that a value revolution is underway in this country (USA). People are stirring, questioning, listening, and organizing. They are asking, 'What is true wealth? What have we done wrong? What should be the true aims of our affluent nation?' It is particularly significant that some of our youth are educating their elders by showing them a fresh perspective on these crucial questions. There is a growing awareness that we must elect earthmanship leaders who will tell the people the truth - that we can't have everything, that we are in deep trouble, that we must make some significant and difficult changes, that for everything we want to preserve we will have to give up something, that the heaping of crisis on crisis need not be taken as a sign of doom but as the emergence of a world where we finally face up to the questions of what man is and what his place is in the world.

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