

A charter for survival

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Agrowing number of people see protection of the environment as a moral issue ... But what, specifically, is the environment? What actions are good or bad for it and what moral issues apply to it? I will discuss this by thinking of the environment as the entire planet, or as the home of Earth's sentient beings^a, or as the home of *Homo sapiens*.

Morality concerns what people should do and not do according to some religious or secular principles. Such principles may include an explicit or implicit duty of custodianship for the environment, and more specifically, compassion towards some or all species. This discussion will consider what might be justified as the right, or moral, thing to do concerning the environment, noting differing individual beliefs^b about morality and about the significance of our actions on the environment. First, it will be useful to look at some relevant aspects about the workings of the environment.

Interactions and Consequences

All life on Earth needs close limits of conditions, such as temperature, availability of a specific range of substances, absence or avoidance of a specific range of substances, and continual presence of other organisms including other members of their own species. All life, in its processes of existing, continually alters its immediate environment. Billions of years ago, organisms called cyan bacteria excreted oxygen into the atmosphere, eventually causing the extinction of many other species of that era. This new chemically reactive environment, however, pushed evolution onto a much more dynamic course.

This was just the operation of natural processes, and one key element happened to be a particular species of living organism. Nevertheless, it shows that from an early stage the Earth's surface, including its climate, has been continually and significantly affected by its inhabitants. Some later effects were: covering the land with plants; increased

concentration of oxygen; production of calcium carbonate; and the decomposition of rock by bacteria, plants and fungi.

These effects were produced in conjunction with inorganic factors: fluctuations in the strength of the sun's radiation; continual movement of the earth's crust; the impact of large objects and radiation from outer space; gravitational effects of the sun and the moon; and the rotation and revolution of Earth around the sun. Together these caused great extinctions, generated new kinds of organisms and affected the form, temperature and behaviour of the land, seas and atmosphere.

Human activity has had its own specific effects, starting with hunting and grazing of animals, then agriculture and use of fire. Now, thousands of years later, with the immense power of modern technologies, and the huge increase in human populations and their appetites, the impact is very significant.

Continued human action, it has been suggested, could lead to the extinction of humanity itself. Would this be a good or a bad thing? We might think it bad, but from the point of view of many other species the extinction of humanity could be a good thing. Pre-human extinctions cleared the way for our present existence, so our possible demise might be thought of as just part of a continuing process.

I think it is unlikely that humanity would be completely extinguished by its effects on the environment. We are too widespread around the earth; too resourceful and resilient; too diverse in culture and belief, and our gene pool is diverse enough to survive the likely adverse environments. But some real possibilities that are short of extinction are still very dire^c.

What are we Actually Doing to the Environment?

Humanity is seriously harming the environment in many ways — using up resources; poisoning the air, water and land; destroying

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the habitats of other species; and warming the surface of the earth and the atmosphere.

Resources

The increasing human population and its demand for ever higher 'standards of living' are using up many essential resources: fresh water, arable land, food species (notably fish), plants and carbon-based fuels^d. Most are vital not only for humanity but also for other species. Many species are extinct and many others are threatened.

The causes of depleted resources are:

- carelessly wasteful collection and use, in virtually all of our activities;
- extravagant use, arising from extravagant lifestyles and aspirations;
- use in a way that does not consider probable environmental requirements.

Even if we used resources sparingly, however, our sheer numbers might still cause us to consume some of them at an unsustainable rate.

Poisoning

Thousands of recently developed substances have already been introduced into the water, air and land, and more are continually being added. Many of them have been shown to be noxious to humans and other species. The full effects of most of them are still not known. Some are slow acting, so that their effects are not discovered until years or decades after contact or ingestion. Some are benign in themselves but have been shown to be dangerous in combination with others. These substances are created by:

- manufacture and use of chemicals and materials for industrial, agricultural, medical and personal use;
- use of engines and other equipment that emit noxious gases and/or particles;
- trying to extinguish 'troublesome' species.

Habitats

Damage to habitats of people and other species is caused by:

- clearance of land for crops, grazing, urban and industrial areas, roads, mining, and storage of water;
- cutting through or breaking habitats into small areas by roads and other uses;
- introduction of exotic species — weeds, predators and pathogens;
- human intrusion;
- poisoning.

Global warming

Human-induced global warming is caused by direct or indirect emission and release of

'greenhouse gases', notably carbon dioxide and methane, from:

- industry;
- transport;
- agriculture;
- clearing of land;
- civic and household use of energy.

Once started, global warming can induce other processes that increase it.^e

It is most unlikely that we will avoid severe and widespread consequences of global warming, but immediate drastic action would delay and reduce the damage. Warming itself may not be the most dangerous threat to humanity, but it increases the spread of disease and the depletion of resources and habitat.

Is This Just Doomsday Scare-Mongering?

Some people dismiss the need for any action on environmental issues, saying that they:

- don't believe these environmental degradations are real;
- don't believe the situation is as bad as painted — or technology will fix it, 'as it always has', or whatever God wills will happen anyway;
- don't think it is urgent — other issues are more important or pressing;
- don't want to believe the situation is a problem — it would spoil lifestyle, position or aspirations;
- don't think anything can be done about it — it's just too late or too hard;
- don't know what to do about it;
- don't think individual people can make a difference.

So why don't we all just accept our situation and optimise the new world that is being introduced by new technologies?

There are several issues here:

- how sound is the case for imminent disaster?
- are there other more urgent issues than the environment?
- will such development make the situation worse?
- is such development necessary to provide an acceptable standard of living worldwide?
- is wealth necessary for human happiness?
- will new technology protect us from possible adverse environmental effects of economic and industrial development?

As for the approaching doomsday, we see unprecedented longevity and wealth in many countries, despite the allegedly terrible new chemicals to which we are now exposed, and despite occasional economic slumps.

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Increases in health and material prosperity seem to be unstoppable. And we remember previous unfulfilled dire predictions, from Malthus in the early 19th century to the Club of Rome in 1972. But this time it looks like a bubble about to burst. During recent decades, computer models have been showing the earth becoming increasingly warmer because of increasing emissions of greenhouse gases. But the models and their predictions keep changing. Critics dispute some of the evidence of global warming and point to flaws in the models, which use data that is not precise enough nor complete enough to represent the very complex and chaotic behaviour of the environment.

Nevertheless, we also have clear, measurable, warnings — shortage of potable water, disappearance of glaciers, melting of Antarctic, Arctic and Greenland ice, increases in ocean temperatures — that global warming is more advanced than the models predict. Further, there is the disappearance or endangerment of food species and the increasing acidification of the oceans (with CO₂), that things are going wrong. Meanwhile, populations and personal consumption continue to increase.

Other serious problems need immediate attention, such as war, private use of increasingly powerful weaponry and poverty. These should not be ignored, but neither should the environment, and most of them make the environmental problems more severe, and vice versa.

The hope, or expectation, of continued economic development has been fostered by progress in science, the industrial revolution and the success of capitalism. Wherever it is kindled, it is driven by well-known human traits. Governments like it: it pleases voters and increases international influence. Therefore, although it generally worsens the environment in many ways, development usually gets priority over environmental issues. More efficient and sustainable technologies will be likely to reduce the adverse impacts of development, but are not likely to be sufficient by themselves.

Equalisation of distribution of goods and services, i.e. 'bringing the poorer nations to a higher standard of living', is often said to make further economic development essential. Contrary to this argument, however, new technology and development usually benefit the rich much more than the poor. What is really needed is better sharing of resources, not greater exploitation.

Increasing the wealth of the poor while curtailing the consumption of the rich seems like an impossible hope. None of the major

religions has had any success in achieving it. But happiness brought by wealth is only transitory. Any long-term happiness or feeling of wellbeing depends on temperament, on engaging in satisfying activities, and having hope of reaching goals.

New technologies often produce effective substitutes for depleting resources — such as for energy or minerals with specific applications — and may continue to do so for many of our needs. Nuclear fusion, or more likely capture of sunlight, may become our primary energy source, for example, and hydroponics might substitute for arable land. Such solutions are generally only partial substitutes, and new technical capabilities often have unexpected serious side effects. Similarly, careful husbandry of agricultural land and forests could greatly increase their productivity. But we can no longer sustain another 'green revolution' similar to the previous one, which required vastly increased amounts of water and fertiliser, and caused depletion of land and destructive run-off into waterways.

Some serious problems are likely to have solutions, but no one can say which ones. In addition, the longer prosperity and longevity continue, the more serious all the problems will become. Archaeological evidence strongly suggests that earlier civilisations collapsed for environmental reasons but on a smaller scale. Earlier, there was usually somewhere else for the survivors to go. Now there isn't.

Moral Implications

What moral issues arise from these human impacts on the environment? A central issue in most people's morality is the welfare of human beings — ourselves, our family, nation, and, depending on our fears, compassion and generosity, all of humanity. Some of us would extend our morality to the welfare of all sentient organisms, or to Gaia — the dynamically interdependent system of the earth's crust, oceans and atmosphere — or the planet as a whole. So, to the extent that the environment affects the welfare of any of these, the 'welfare' of the environment is a moral issue.

But how do we justify human welfare — which is not the same as affluence — as a moral objective? The evolutionary process shows no respect for individuals or species — those not equipped to withstand changes to their environment die out. If humanity is the result of an evolutionary process, then the continuation of the evolutionary process may seem a desirable end in itself, even if it results in the extinction of humanity.

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If humanity *allows* its own demise, then that's evolution. Some people think there is some inexorable tendency (perhaps even a planned tendency) towards the evolution of increasingly marvellous species or towards increasing intelligence, with *Homo sapiens* as the current high point.

The usual assumption is that the next high point will be an enhanced form of humanity. Previous trends in evolution, however, had inherent limits, which were surpassed by new species that arose from different lineages. Perhaps our combination of emotions and intelligence may limit our ability to evolve as organisms — although we might enhance ourselves as cyborgs. Moreover, as suggested above, our nature or our actions might lead to our partial or total destruction. Nevertheless, when we look at how people determinedly survive in all kinds of harsh conditions, it is obvious that there is an inherent human will to survive.

I think almost everyone would regard prevention of the destruction or severe harm to humanity to be an important moral consideration. In addition, in general, prudence would be regarded as morally preferable to self-indulgence.

So then, where do we apply moral considerations to the environment?

Earth's continuation as a planet is dependent on the rest of the universe, not on anything we can yet do.

For as long as Earth's condition allows, Gaia will continue to work out its own consequences. In the past this has often been at the expense of many of its species. Gaia has been regarded as a thing of beauty, a place of worship, and an entity to worship or just an economic asset. Since Gaia's condition is crucial for the existence and wellbeing of all species, including us, its continued operation in a way conducive to our continued (tolerable?) existence must be a moral issue.

The welfare of the various 'useful' species is a moral issue because of our interdependence with them. And what about the others? The wellbeing of some other species has been justified as a moral issue because of their ability to feel pain and emotion, which has been amply demonstrated. The rights implied in this are:

- not to be killed;
- to be treated humanely, i.e., not cruelly;
- to be treated fairly;
- to be able to gratify innate feelings and urges.

If we accept this, then cruel use of animals generally regarded as sentient (not only the 'warm and cuddly') for food, for other use of

their body parts, for their muscle power, for entertainment and for companionship might be regarded as immoral — as indeed it is by many people.

Of course, this view is not universally accepted. Most people assume they have a natural or God-given right over other species. The cruelty of the food chain and of droughts, floods, earthquakes, etc., is often referred to as part of the natural order, with the claim that our actions are also merely part of that order. Indeed, predators are essential in maintaining the balance of ecosystems. But a large part of human endeavour is protection against the natural order, and the purpose of morality is to regulate 'natural' human tendencies, such as rape and stealing, when they are considered harmful.

It may be argued that we have a right to be able to follow our 'natural' lifestyle, unimpeded by consideration of other species which are all less intelligent and less aware of their situation than us. The same is often claimed about people with intellectual impairments. Indeed, people with unimpaired intellects but with lower social status or wealth are often denied the rights expected by people of greater status or wealth. Whatever is concluded about this, however, it seems very selfish to deny sentient animals at least some moral consideration.

In addition to this, some apparently 'useless' species may have an unexpected key role in the ecology that we are dependent on. How far can this be taken? It would be hard to argue for protection of the bacteria that cause diseases, or to such pests as mosquitoes, or various noxious fungi or plants. So judgment and common sense are need in drawing a line on what aspects of the environment to protect.

Possible Environmentally Moral Approaches

It is one thing to have moral objectives and another to know what to do to fulfil them. Even slowing down the damaging effects of our present lifestyles would be a great achievement. The idea of sustainability, that is, consuming no more than the earth can restore, seems out of reach. We would need to change our lifestyles immediately, and just being alive with our present world population puts a strain on the environment. Moving towards previous conditions, such as 'Australia before the Europeans arrived', is not an option because some of the changes we have caused are irreversible.

There is no agreement among experts or lay people about what are the most urgent problems to address, nor about what are appropriate or effective ways to tackle them. Not uncommonly large-scale attempts at resolving problems to be counter-productive or to introduce different problems.

Therefore, we cannot expect to have the environment saved by grand projects while we just go on living our lives. While some such schemes might help, history tells us that we should be wary of them. In addition, actions effective to one area will not necessarily work in others. It is only by whole populations taking individual and collective actions to alter lifestyles that the damage to the environment and to humanity can be reduced, or its increase delayed. We might even hope that much of the damage may be reversed.

A Few Specifics

The actions needed to be taken on a global scale if humanity is to avoid or delay environmental disaster are to have:

- the human population increase reversed;
- individual consumption of goods and services reduced;
- waste products mostly recycled;
- production of noxious substances eliminated;
- habitats of humanity and other species made liveable;
- causes of global warming dramatically reduced.

Such drastic and extensive changes will not happen without a widespread acceptance of a moral obligation and an aspiration to achieve them.

Certain aspects of lifestyle would need to be addressed, as follows.

Personal attitudes

Personal aspirations and care would need to be directed towards the community and the environment rather than the person or family.

Human compassion should extend to other communities and to other species.

Human population and Wellbeing

Population levels need to decline, so family planning and small families should become universally acceptable and promoted. Care should be taken, however, not to discriminate against the inevitable larger families.

Excess consumption

It should be immoral to waste or excessively consume resources, including potable water, food and non-renewable energy.

Since a vegetarian diet incurs the use of much less water, land and energy than a carnivorous one, high consumption of meat should become morally questionable. To a lesser extent this applies to milk.

Wherever practicable, we should use our brains and muscles instead of material resources to provide comfort and convenience in our lifestyles, and perhaps learn to prefer self-reliance to pampering.

Noxious substances

Industrial, agricultural, pharmaceutical, cleansing and beauty products whose manufacture, packaging, use or disposal releases substances that adversely affect the environment should be identified and phased out by the manufacturers. Benign alternatives should be sought by users.

Global warming

It should be regarded as immoral to continue to provide or use energy from sources that emit large amounts of greenhouse gases.

There should be a reduction in other processes that cause emission of greenhouse gases, such as in agriculture, logging etc.

Habitat

All the above affect the habitats of both human populations and other species. The habitats of both should be restored or replaced wherever possible. Any human intrusion into the habitats of other species should take full regard to their specific needs for wellbeing.

What Are the Chances?

Many of these moral values contradict aspirations, established ideas, entrenched religious principles and cultural traditions. So there would be strong dissent and opposition, probably becoming violent when the inevitable disruption started. Types of employment, transport, accommodation, eating and other aspects of life would need to change. For some time after the changes were begun the environmental effects would continue to worsen. Those in privileged positions, i.e., the wealthy, would need convincing that their impact on the environment should decrease to equal the rising impact of the less privileged. This applies to nations as well as to individual people.

A strong sense of community and mutual help would need to be developed within and between societies if there were to be any widespread acceptance of these moral issues.

Actions related to care of the environment will include attending to the desires of some people at the expense of others, or of a living generation at the expense of future generations. Current examples are the production of noxious waste and the depletion of scarce resources in the course of meeting demands for goods and services. Future generations would probably adjust to, and accept as normal (although perhaps not happily), conditions that we in developed countries would regard as adverse. Many populations around the world do this now, and the ancestors of most of us have done so in the past.

What would need to be done to get the suggested moral principles adopted? Would they then work if they were adopted?

First, a lot of disbelief would need to be overcome. Usually we don't realise what impact our every-day actions have on the environment. And we seldom, if ever, consider the environment in the hundreds of decisions we make each day. So widespread education would be necessary. But that by itself would not be enough to change habits.

Emotional, not just intellectual, conviction, and willingness to share the short-term disadvantages, would be needed. Since the measures would involve considerable inconvenience, and would often appear to worsen the situation, many people would never be convinced.

The action would work only if it started soon and if a sufficient proportion of the world's population, particularly of the richer countries, were actively engaged. This will not happen until enough people become very scared about the effects of what is happening to the environment.

When is soon enough, and what proportion of the world would need to be involved? Who knows? ▲

Notes

- a I think any boundary between sentient and non-sentient animals must be arbitrary, and regard sentience as a matter of degree.
- b In an earlier essay (*Australian Rationalist No. 74*) I discussed five separate justifications for taking moral positions: nature, personal convictions, revelation, logic applied to high principles, and evolving consensus. Some of these could support care of the environment.
- c With the extinction of a few key species — and we may not know the identity of all of them — humanity could be put in the position of desert dwellers without being able to employ most of the technology developed during the past few hundred years.
- d These include ethanol and 'bio-diesel' — derivatives of plants — whose production often puts further strain on already-scarce arable land.
- e The greenhouse effect is only one of the causes of global warming. Others are increases in the emission of radiation from the sun, periods when the earth is closer to the sun, and reduction of the reflectivity of the surface of the earth. Increase of greenhouse gases, including water vapour by increased evaporation, is one of the consequences of warming.

One effect of melting ice in the Arctic, Antarctica and Greenland is to cool the sea, in the process 'absorbing' a large amount of heat as latent heat (equivalent to the heat that would raise the temperature of that amount of water by 80°C). This has slowed warming and is partly why the global temperature has risen unevenly. The additional evaporation from the warmer seas has a similar effect, which is partly offset by additional rain and snow from the increasingly humid air.

Since the present concentration of greenhouse gases in the atmosphere is enough to melt the ice, the melting could be expected to continue even if we reduce further emissions. The decreased reflection from the decreased ice surface will increase the warming.

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