

inclusion of communities in the forum's structures, making it like an environmental council within a beefed-up UN. In the case of 4 the body is external and independent but could be elected and democratically accountable. In other words, 3 and 4 involve mutual coercion by mutual consent (Hardin 1977), the latter institutionalized in democratic accountability and limits and restraints on their power. In fact, given the experience of bodies like the UN, the worry would be that such bodies would be too feeble than too strong.<sup>15</sup>

Both 3 and 4 rest on initial voluntary efforts to set them up. But they assume, unlike 1 and 2, that mutual voluntary co-ordination may not be forthcoming without a superior centralized authority to build co-operation and enforce it from above.

I argued above that communities are unlikely to pursue environmental objectives unless other communities do so as well. They will perceive that lone action will be ineffective because the causes of problems are combined rather than locally specific. Furthermore, they will have to bear the cost of environmental friendliness while being subjected to environmental problems caused by other communities not doing the same. However, co-ordinated action engineered by centralized bodies can ensure that responses will be collective. Actors can be assured they will not be lone actors, ineffective in tackling alone problems caused by the combined actions of many communities and subject to the effects of environmental problems caused by others who do not work for solutions to them. They can be motivated into taking environmental action knowing that combined action appropriate to supra-local causes will be enforced and that there will not be free riders avoiding the costs of protection and continuing to inflict harm.

### The economy and technology in the sustainable society

I have looked so far in this chapter at low consumption and decentralized and global community as components of a sustainable society. I will turn my attention now to the economic structure and technological aspects of sustainability. The main issue I will discuss around economic structure is whether environmental problems can be solved within capitalism. On technology I will discuss whether changes to more environmentally friendly forms of technology can be sufficient to foster sustainability. I have argued that global as well as decentralized strategies favoured by many greens are needed to solve environmental problems. I wish to argue now that

interventionist rather than *laissez-faire* or capitalist approaches, of the sort favoured by economic liberals, are also required.

### *Can capitalism solve environmental problems? Capitalists, consumers and markets*

There are three main issues on whether environmental problems can be resolved within capitalist structures. (1) Can capitalists be expected to pursue environmentally sustainable courses of action? Is it in their interests to do so? (2) Can environmental sustainability be built on consumers voluntarily adjusting their behaviour within market structures? (3) Can environmentally friendly behaviour be fostered within markets by modifying them?<sup>16</sup>

I will suggest that, while some advances can be made within these constraints, it is unrealistic to expect that sustainability can be achieved within capitalist and market structures and through voluntary consumer action. Environmental sustainability will have to be tackled through the building of a much bigger non-capitalist sector in the economy geared to public-interest goals, through action at the level of production as well as consumption and through non-market interventions as well as financial incentives for voluntary adjustments of behaviour within markets. Collectivist intervention rather than economic liberalism is necessary for securing sustainability.

*1 Capitalist interests* Let me look first at the issue of whether capitalists can be expected to pursue sustainable courses of action voluntarily. Is a liberal approach of leaving capitalists be and trusting to their voluntary action adequate, or do more coercive interventionist measures need to be taken to make them respect environmental measures in the public interest?

In recent years there has been a burst of published guides not only on green consumer behaviour but also on good green behaviour for business and producers (see Elkington and Burke 1987). These guides rest on the premiss that businesses can adjust their behaviour in accordance with more environmentally sustainable patterns of behaviour. More significantly, they assume that it is realistic to expect that they actually might do this and that there is a market for books which explain how to go about it. There are also environmental audit agencies who aspire now to do more than tell businesses how to come into line with legislation on health and safety – for instance on asbestos replacement in workplaces or conformity to pollution regulations.



They also aim to give guidance to those who want to take further voluntary steps in pursuit of wider and bigger environmental aims.

The pro-capitalist argument starts off from the basis that the pursuit of capitalist self-interests does not conflict with wider goods in the public interest, environmental sensitivity for example. Pro-capitalists argue that the pursuit of capitalist self-interest will not lead to greed in production at the expense of the consequences for, say, resource depletion and pollution. Capitalists can be persuaded to show regard for the environment on the basis that it is in their interests to do so. Depleting resources, for example, will undermine their capacity to produce for profit in the future when resources run out. What are environmentally unsound activities that go against the public interest are also economically unsound activities for capitalists.

It is also not in the interests of capitalists to pollute because they will suffer the consequences as well as the public. In addition to this, there can be adjustments to markets such as pollution taxes and green consumerism. These provide further incentives within capitalist structures for capitalists to take measures voluntarily and in their own self-interests. Critics say that there is a contradiction between capitalist self-interest and the general interest of the population in environmental protection. Pro-capitalist greens, however, say that the two are connected, that the pursuit by capitalists of their self-interests is compatible with the general interest of the population as a whole.

*2 Green consumerism* Critics of capitalism say that the system is based on capitalists profiting through the production of more and more goods, rising consumption to increase profits and the creation of new needs in people to buy new products when the market for the old ones has been saturated. This produces levels of production and consumption which use up immense amounts of resources and create pollution in production and consumption. However green capitalists say that this sort of thing can be compatible with solving environmental problems if consumers use the power they have over producers – ‘consumer sovereignty’ – by refusing to buy products which are not environmentally friendly. This gives capitalists an incentive to concentrate on the production of environmentally friendly products in order to make a profit.

Moreover, pro-capitalist greens can say, this not only works in theory but is also what has been happening in practice over recent years in developed countries. People who are environmentally concerned, of whom there are said to be rising numbers, have started buying environmentally friendly goods: Ecover washing powder, lead-free petrol, bio-degradable goods, aerosols without CFCs and

organically grown products in which pesticides have not been used, for example. Capitalists produce more of these and fewer of the old environmentally damaging products. And there is now a plethora of green consumer guides. These themselves can be seen as a capitalist response to green consumer concern, selling information on the environmental credentials of different companies and products to a market which exists for it. They are both symptomatic and facilitative of the rise of green consumerism (see Elkington and Hailes 1988; Button 1989).

The British Body Shop Company exemplifies both the phenomena so far discussed: green capitalism and green consumerism. The Body Shop is a chain of cosmetics outlets which has spread across Britain and beyond from small beginnings in Brighton. It sells products which have been produced in less depleting and polluting ways than competitor products. They are not tested on animals and are marketed as having been produced in a way sensitive to the needs of the ‘indigenous’ populations of the countries from which they are derived.<sup>17</sup> The Body Shop has been a capitalist success, making a profit and expanding from selling environmentally friendly products. People who buy at the shop want to be green consumers, continuing to consume luxury products but in an environmentally friendly way. Pro-capitalists could say that the Body Shop shows how sustainability can be pursued through the entrepreneurial pursuit of capitalist interests, within the imperative to gain competitive market success, led by consumer concerns and without cutting back on consumption levels, even of ‘luxury’ products.

Green consumerism implies you can have capitalist consumerism and be environmentally friendly. You can have your cake and eat it. Acquisitive lifestyles can be compatible with an altruistic concern for the environment if consumption is adjusted in environmentally friendly directions. Green consumerism is a real boon for greens who have often argued that we need to sacrifice our materialist lifestyles to protect resources and prevent pollution. This is a demand which, in acquisitive industrial societies, where elections are won and lost on ability to deliver economic prosperity, is not a very popular message, publically or electorally. To be able to say you can be green and consumerist is much more appealing.

*3 Market values* Finally, green capitalists argue that markets, rather than being necessarily blind to environmental problems, can be compatible with their resolution. Competitive markets, far from being oriented to the pursuit of economic success against all else, can also be sensitive to other objectives such as social welfare and environmental sustainability.



Socialist and green opponents of markets argue that the only thing capitalists take into account when making and selling things is the monetary value of their products – how much it costs to produce them and how much of a profit they can be sold for. Factors which do not have a market value are not taken into account in their calculations. It does not make sense to include things other than exchange value in markets which are geared around this factor. Anything which does not appear on the balance sheet is excluded from production decisions. Free natural resources and the effect of industrial processes on the environment have no monetary value and so are not included in market calculations. In fact economists call things like social or environmental factors which do not appear on the balance sheet ‘externalities’ (see Mishan 1969).

Not only do these sorts of things not appear on the balance sheet, they are also free and so there are no financial disincentives to using or affecting them. You do not pay for a view of the Downs, for the service provided by the ozone layer, for rainwater, for rainforest diversity or for coal. You pay for the labour and capital which goes into the processes which make some of these things available for human consumption – the water or coal industry, for example. But you do not pay for the natural resources themselves. And if they are free, there is strong motivation to use them up without restraint.

However, green pro-capitalists like David Pearce (Pearce 1991; Pearce et al. 1989) argue that markets can be sensitive to environmental problems and that having a market system is not incompatible with caring for the environment. If the market is modified and parts of the environment are given values equivalent to how precious they are, then capitalists and consumers will have to take the environment into account in economic calculations about production and consumption.<sup>18</sup>

The value of environmental services should be incorporated into the costs of production or selling price of goods and services which are produced using them. This would provide market incentives for capitalists and consumers to pay attention to the environment. If part of the environment is given a price value then it will cost. It will show up on the balance sheet and will have to be included in production calculations rather than being regarded as an ‘externality’. Furthermore, because it involves a cost, there will be a financial disincentive to using or affecting it.

Monetary values can be introduced into markets through resource depletion charges or pollution taxes. These would involve interventions in markets to modify their workings rather than non-market regulation or direction. Their two big advantages are that (1) they

are compatible with the existence of markets rather than requiring their replacement and (2) they rely on voluntary action rather than coercion. They involve economic disincentives rather than political compulsion. They are compatible with markets rather than replacing market forces with state force. This is a big advantage for liberals. They leave action on environmental sustainability to the voluntary action of capitalists and consumers rather than pressing them into line by coercive state legislation from above.

### *Why capitalism cannot solve environmental problems*

I want to discuss now why I believe the proposals outlined above are not adequate for environmental sustainability. I do not think that capitalist measures are totally ineffective. Within capitalism some of these can and should be pursued. It is conceivable that on occasions capitalist self-interests will be best served through the pursuit of environmentally friendly practices. Green consumerism can engender more environmentally sustainable production decisions. Market values on environmental goods can provide an incentive for capitalists and consumers to behave with more of an environmental consciousness. However, these strategies alone cannot ensure sustainability for reasons I will outline.

*1 Capitalist interests* The argument that it is in the interests of capitalists to pursue environmentally sustainable practices is vulnerable on at least three grounds to do with adaptation, short-termism and future generations.

The first problem revolves around the perception that capitalists are an innovative and adaptive breed. Historically they are seen to have been able to switch production to new areas when old areas of production are exhausted. The green criticism of capitalism here says that there is nothing to say that they will not be able to do this if resources run out or if they over-exploit and despoil environmental services. In other words, environmental damage is not necessarily against the self-interest of capitalists if they can adapt, as they have shown in the past they can. This does not pose a problem for anthropocentric environmentalists because, while parts of the environment are depleted or destroyed, capitalist adaptation to new bases for production ensures that environmental damage does not hinder human well-being, at least in narrowly economic terms. For eco-centrists, though, or those concerned with humans who see their well-being as being entwined with environmental preservation rather than just economic



prosperity,<sup>19</sup> it is worrying because it means environmental damage can continue to be inflicted.

A second problem is that capitalists are often said to have a short-term rather than a long-term perspective. They tend to exploit something until it does not deliver a profit any more and then move on. Often they do not plan far enough in advance to calculate whether resources will run out or what they will do when they do. They are happy to exploit them while they are still around. This is bad for both anthropocentric and eco-centric greens because it implies capitalists will continue to exploit the environment as long as there is a fast buck in it, without an eye for what the implications of environmental damage will be for humans later.

There is a third and less standard problem with the view that self-interest will stop capitalists from damaging the environment. The problem here is that, in the cases of most of the large-scale and worrying environmental problems we are aware of, it is likely to be the interests of future rather than present generations of capitalists who will be most affected. If it is their own self-interests and not those of future capitalists that present-day capitalists are concerned about, then they will not be too bothered about environmental problems whose most serious effects are going to hit capitalists who are born later.

*2 Green consumerism* There are strengths and weaknesses in the case for green consumerism. I do not wish to throw the whole idea out of the window, so let me say something about some of its positive aspects first. There are four points to do with: the case for modern industrialism, third world interests, political effects and individual activity.

First, green consumerist arguments show that green rhetoric about the need to stop growth and consumption and about the evils of industrialism often fail to take into account increases in standards and quality of living that industrialism and consumerism have produced. Furthermore they suggest that some growth and consumption patterns may not be environmentally problematic and can be continued. They suggest that there have been positive benefits to the modernist project and that no-growth proposals need to be more disaggregated and discriminating, taking into account the benefits of consumption and areas of consumption which are not environmentally problematic.

The second positive point follows from this. Massive cut-backs in growth would not only lower standards of living in industrial societies but, as I suggested in chapter 1, would also hit third world

countries who rely on first world consumers to provide markets for their goods. The argument for continuing consumption and growth where it is environmentally sustainable, rather than seeking across the board cut-backs in these, is important for increasing third world standards of living as well as protecting those in the developed world.

Third, green consumerism can have a beneficial political effect. It makes it clear in patterns of purchasing behaviour that there is an environmentally concerned constituency and brings this to the attention of governments as well as producers. Governments then have an electoral incentive, like the producers' economic incentive, to react to consumer demand.

Fourth, green consumerism gives individuals who are alienated from political and other power structures something to do. For many people an involvement in green consumerism maintains their motivation for environmental protection and is a first step to a broader and deeper understanding of environmental issues.

However, there are limits as well as positive aspects to green consumerism (see Irvine 1989). I will mention five problems to do with: non-material fulfilments, work, information, expense and levels of consumption. The first two involve social criticisms of green consumerism and the next three environmental problems with it.

First, anti-consumerist greens might argue that green consumerism reinforces a focus on material acquisition. This leads to the one-sided development of human personalities in which acquisition and material comforts become overdeveloped and non-material intellectual, spiritual and psychological development is ignored. Second, another criticism can be that while consumerism is supposed to improve our leisure it often leads to a work culture in which people have to work long hours to earn money to obtain consumer benefits that they never have the time or energy left to enjoy.

Third, there is a problem in green consumerism with acquiring accurate information on the environmental friendliness of products. In practice, green consumerism is often based on poorly informed choices, and companies peddle products as green which are not all that environmentally friendly. Information on environmental friendliness is not always understandable, accessible or reliable.<sup>20</sup> Fourth, green consumerism is expensive. Organic food, catalytic converters, green washing powders and home insulation cost a lot, and green consumerism will not be effective as long as it is too expensive for many people to pay for it.

Fifth and most serious, anti-consumerist greens argue that there is a problem in green consumerist arguments in that levels rather than



types of consumption are the real problem. The implication here is that there are not enough sorts of consumption which can be made more environmentally friendly for green consumerism to replace low consumption as a strategy for sustainability. Natural limits demand reduced rather than just different forms of consumption. Numbers of consumers and levels of consumption taken together suggest the need for cutting rather than redirecting consumption patterns.

*3 Market values* To recall, this proposal is that if market values are put on environmental services (1) they can be included in market calculations and (2) there is a financial disincentive to despoiling the environment. There are two problems here: the first concerns consumers and the second producers. I will discuss these and then link them in with general problems to do with liberal ideas about freedom and coercion.

The first problem is that added values may be passed on by producers to consumers in the form of higher prices. There are two reasons why this is undesirable. The first, on grounds of social justice, is that it means that one group of people will have to pay for the actions of another group, to which they were not party and for which they should not be responsible. That is, they will pay for the decision of producers to pollute and pay rather than to pursue more environmentally responsible paths of behaviour. The second, on environmental grounds, is that it means producers can continue to degrade the environment by finding a way of paying to do it.

The second problem on market values is that they still leave businesses free to continue environmentally damaging practices. Even if consumers do not pay, producers may choose to. It is the deliberate liberal intention of market values proposals that companies are not coerced. But this means that the proposals are weak environmentally if businesses are willing and able to continue to pursue environmentally problematic courses of action. They can do this by paying the added values to deplete and pollute. As well as being flawed on environmental grounds, this raises problems to do with equality and justice because companies that are rich can pursue environmentally damaging practices, profiting in the marketplace as a result, while less well-off firms cannot.

An economic liberal might give two responses to this criticism. The first might be that liberal concerns outweigh environmental concerns. In other words, it is more important for producers to be free to choose than for environmental objectives to be achieved. This does not work, however, if the environmental problems resulting from this curb human freedoms. This could happen through, say,

the lack of resources available for the pursuit of certain paths of development or the adverse effects on human health of pollution. This may limit peoples' freedom to live a healthy life and be free to do things for which health is a necessary prerequisite. Liberals focus their fire on political coercion but an avoidance of political coercion may lead to greater coercions in the future resulting from environmental factors.

A second liberal response might be that if the added market values are not sufficient to deter companies from pursuing environmentally damaging practices then those values can be increased until they are. Market values on environmental services can be pushed up so high that no firms would be able to afford them.

However, the argument for market values against state regulation is that the former avoid the coercion on firms entailed in the latter. Proposals on market values combine environmental concern with liberal freedom. If market values become so punitive and prohibitive that no one could afford to pay them, then they effectively involve forcing environmental responsibility on firms just as much as state coercion. We may just as well then go for non-market restrictions on environmental harm such as state regulation.

Let me summarize on market values here, linking in the points I have made with general issues to do with liberal theories of coercion and freedom. First, if liberal concerns leave it up to firms whether to halt environmental damage or pay to continue it, then they run the risk of being ineffective on environmental grounds in the name of liberal freedoms. Second, if liberal approaches are ineffective on environmental grounds they may prove ultimately to increase rather than diminish coercion and so end up inadequate on liberal grounds also. The state could have to intervene later in a more authoritarian way than it would have done earlier in order to halt big reductions in human opportunities imposed by resource depletion or pollution. Failing that, depletion and pollution themselves may become so acute as to create environmental necessities which impose on human well-being and freedoms. Third, if market values are so severe that they cause firms to pull back from environmental degradation, then they could be seen to be coercive because they force firms to alter their behaviour unwillingly. In this context the argument for market values against state regulation on the basis of the former's greater liberalism no longer holds up.

All these points highlight problems in liberal theories of freedom and coercion. These theories are obsessed with the threat of state coercion. In being so they open up the way for other forms of compulsion – those of natural necessity or market forces – which are



perversely excluded from the range of sources which liberals say diminish freedom. State coercion to safeguard freedom from environmental necessity or economic circumstances is ruled out when it may be a force for protecting both the environment and liberty. Environmental problems and greater coercions in the form of heavy values on environmental services or emergency state action or environmental necessity are stored up for the future because of liberal fears of the state in the present.<sup>21</sup>

### *Green technology?*

I have discussed proposals for solutions to environmental problems within existing capitalist and market structures. Another proposal for solutions within existing structures and without having to change them involves the idea that new forms of environmentally friendly technology can be introduced which will diminish or rid us of the problems we presently face without us having to make widespread societal changes in economic structures or social lifestyles.<sup>22</sup> If what causes environmental problems is technology, then we do not have to change the economic system that underpins society. We can change the technologies we use and keep capitalism.

Let me give three sets of examples of how technological solutions under capitalism could be pursued: non-polluting technologies, the use of renewable resources and recycling.

First, non-polluting technologies. There are technologies which pollute. Many of these are associated with heavy manufacturing industry. Burning coal, natural gas and petroleum, for example, creates carbon dioxide. CO<sub>2</sub> emissions are a direct threat to human health and are thought to be a factor in global warming. CFCs, meanwhile, which are used as propellants and coolants in aerosols and fridges, among other things, are thought to cause depletion of the ozone layer. Ozone protects us from radiation from the sun which, as I have mentioned, causes skin cancer and damages food production.

However, these can be replaced by cleaner non-polluting technologies. Nuclear power is a target of much environmental criticism because of the dangers of radiation. However, governments argue that nuclear power is environmentally friendly because it is a source of energy which does not involve CO<sub>2</sub> emissions. CO<sub>2</sub> can also be reduced by the use of other alternative sources of energy – tidal, wind and solar – the reduction of vehicle emissions and forest burning and massive tree planting. Aerosols and fridges can be produced without CFCs although at present the alternatives are expensive. The

Montreal Protocol (1987) is an agreement aimed at phasing out CFCs and related substances by the year 2000.

These are technological changes which can cut down on pollution. Technical change can also deal with resource depletion problems. This brings us to the second technological change under capitalism. There are technologies that use up a lot of non-renewable resources – coal, oil and gas for example. These are resources which once they are used are gone forever.

The solution is to introduce new technologies which exploit renewable resources which cannot be used up and depleted. This might include the use of wind, sun and wave in wind-powered, solar-powered and water-powered machinery or the conversion of waste to liquid and gas fuels. Sun, wind, wave and much waste will always be there, however much we use them up to create energy. Another set of technical solutions to resource depletion involve more efficient ways of storing and retaining heat and energy so that less energy needs to be used in the first place.

Third, there is recycling. This involves technological developments which allow us to recycle goods for reuse rather than disposing of them. This cuts down on resource depletion for the production of goods that can be produced using recycled waste – paper, glass and certain metal products for example. It also sometimes reduces the polluting effects of extractive and manufacturing processes.

However, many greens, while keen that clean technology be developed to diminish environmental degradation, are not convinced that technical solutions alone can solve environmental problems. There are two issues here: first, whether technologies exist or can be developed which could beat environmental problems; second, whether technological solutions are always clean enough themselves.

There are two ways of approaching the first issue. The first is to look at whether technological solutions exist which can overcome environmental crises. The second is to try to judge, if such solutions do not at present exist, whether humans are skilful and adaptive enough to develop ones that will.

The first issue is fairly clear cut. Technological solutions, some of which are mentioned above, do exist to many environmental problems and the issue now is to make them economically cheap enough to be usable and to mobilize political will behind their wider proliferation. However, there is relative unanimity among greens and technocrats that technological solutions adequate to resolve existing problems do not yet exist over a sufficiently widespread range of such problems. Where technological optimists pin their hopes is on the ability of humans to come up with technological solutions in the future.