There are many strategies for defending claims of justice concerning the environment. Bits of the non-human world may themselves be the sources of moral obligations. A growing number of people argue that animals have the sort of moral standing that implies that individual animals must be protected from various sorts of abuse and whole species from extinction. People also argue that entire ecosystems or life itself have moral standing (see Chapter 10 in this volume). Some or all of these people may well be correct; if so, their arguments would provide powerful reasons to change the ways people treat the non-human world. But I shall not assume (or deny) that the non-human world has any sort of moral standing. Whereas I think that we ought to treat the non-human world quite differently than we do, I want to give other sorts of reasons for changing our behaviour. I want to exploit the evident fact that many of our obligations towards the non-human part of the world are determined by how human beings should treat each other. Even if human beings had obligations only to each other, and the non-human world were merely a resource (a collection of natural resources) for us to use as we wish, we would still have powerful reasons to change our behaviour, or so I shall argue.

I shall avoid making strong assumptions about the sorts of thing that have moral standing because these assumptions are highly controversial. It is critical to find as uncontentious a basis for discussions about matters of global justice as possible, since agreement is a precondition for action, and the diverse peoples of the world find it extremely difficult to agree on anything. The conception of justice on which I shall rely is lean and, I believe, relatively uncontentious, as far as it goes. It is libertarian, at least in spirit. To be sure, libertarianism is controversial, but the controversy is almost entirely generated by people who think that justice is more demanding than libertarianism says it is, not by those who think that libertarianism requires things that are not true obligations. Thus it is common for people to complain that libertarianism is flawed because it does not require people to help meet the needs of others. But few will disagree with the libertarian’s claim that when I am doing something that has no impact on another my freedom to continue to do so should be protected. So people who disagree with the views I defend here are likely to do so because the views are not demanding enough. And even these people are likely to think that protecting the
freedoms championed by libertarians is more important than meeting the other requirements that non-libertarians would link to justice. There is a long-standing tradition in liberal philosophy, going back at least as far as the publication of J. S. Mill’s *On Liberty*, and including John Rawls’s *A Theory of Justice* that assigns liberty a place of prominence over the other features of a just society.

Another reason I rely on a libertarian conception of justice is that I happen to think that it is quite plausible, especially on the global level. However, I do not have the space to defend my version of libertarianism. I can do no more than lay out the theory I recommend, and get right to the suggestions I shall use it to defend.

THE THEORETICAL FRAMEWORK

The libertarian view suggests that people (and organizations of people) have *negative* obligations in the sense that we must do everything we can to avoid *interfering* with each other’s projects. The central task for the libertarian theorist is to work out a non-interference scheme, a scheme by which people may engage in their pursuits with minimal mutual interference. Of course, maximizing freedom will require restraints. For some to be free to arrange their private affairs, others must not (be free to) interfere. In particular, if some are free to acquire a particular set of natural resources others are not free to interfere, and hence not free to acquire them. Freedom in one area limits freedom elsewhere. But people should be as free as possible to believe, to value and to act as they wish, and a non-interference scheme is designed to tell us which combination of freedoms and restraints will allow individuals the greatest scope for their pursuits.

The claim that we ought to minimize the extent to which we interfere with each other’s endeavours will be acceptable to a wide range of people. What people will find far more controversial is the libertarian’s claim that we have *only* negative obligations. We have no *positive* obligations; we are not required to aid others except in so far as this is necessary to avoid interfering with their endeavours. We must abide by the terms of a non-interference scheme which tells us how to minimize interference, but otherwise we may freely refuse to join with others into schemes for mutual advantage. Fortunately, however, we may postpone deciding whether or not there are positive obligations. What I want to do in this chapter is to provide a framework for identifying our negative obligations and use it to clarify some of the requirements of global justice.

It is important to avoid a possible confusion concerning the libertarian claim that justice requires maximizing freedom. The sense of ‘freedom’ libertarians have in mind is a *negative* sense of freedom. The relevant sense of freedom is captured by Rawls (1972: sect. 32), who says that people are free to do something ‘when they are free from certain constraints either to do it or not to do it and when their doing it or not doing it is protected from interference by other persons’. Accordingly, libertarians want to devise a scheme whereby we avoid getting in each other’s way. Thus libertarians do *not* mean to devise a scheme whereby people are provided with as much help as possible to achieve their aims. The
latter could be construed as a scheme for maximizing people’s freedom to do what they want, a kind of freedom that can be thought of as ‘positive’. People have this ‘positive’ kind of freedom when they have the means or ability to take advantage of their (negative) freedoms. But our having the kind of freedom the libertarian is interested in does not imply that we have the means to take advantage of our freedom. Libertarians think that just behaviour is a matter of not hindering people in their efforts to accomplish their ends, not a matter of helping them accomplish their ends.

One of the failings of many libertarian theorists is that after saying that everyone should be free to do what fails to interfere with the endeavours of others, they do not tell us how to work out how we may act when we will thwart the desires of others. For example, you and I cannot both gain exclusive ownership of a particular Pacific island; how do we settle this and other disputes? My suggestion is that we make our choice of non-interference scheme using some of John Rawls’s apparatus. Rawls (1972) defends both a non-interference scheme and a scheme of mutual aid. He thinks that we have both positive and negative obligations, and uses his apparatus to identify both. My suggestion is that we use it to pick out negative obligations, not positive ones. My idea is that in designing a scheme of non-interference, we are looking to see what sorts of mutual accommodation should be insisted upon when people’s plans clash. Presumably we want those mutual accommodations to be fair, since initially no one’s plans have any greater claim to be realized than anyone else’s. Rawls has given us a superb tool for fair adjudication; let’s use it.

Briefly, I would apply Rawls’s apparatus in much the way that he recommends. Aside from the fact that I would use the apparatus to evaluate only non-interference schemes, the one important change I would make is a change in who gets represented in the original position. In his own brief discussion of international justice (sect. 58), Rawls assigns entire nations representatives in the original position. For many reasons, including the fact that the desirability of the nation-state is itself an issue of global justice, I recommend that we instead give a representative to all those affected by the principles of non-interference we seek, namely, everyone in the world. The rest of Rawls’s apparatus stays in place.

Let me sketch Rawls’s apparatus for those who are unfamiliar with it. The idea is to evaluate principles of justice from the standpoint of hypothetical people who are in a hypothetical situation which Rawls calls the original position. Each party in the original position represents the interests of one person in the world, and, in my version of Rawls’s apparatus, everyone in the world is represented by one party in the original position. The parties undertake the task of ranking alternative conceptions of justice on behalf of the persons whom they represent. By stipulation, the parties are rational, and hence strive to do what is maximally in the interest of their wards, and mutually disinterested, meaning that each is unconcerned about the interests of other parties and their wards. The parties have certain sorts of information. They have the general, scientific knowledge necessary to work out the consequences for normal human beings of the implementation of alternative conceptions of justice. But their knowledge of their wards is severely
restricted. They know that their wards are normal human beings, and that they have a sense of justice, meaning that their wards have a normally effective motivation and capacity to act from principles of justice once these are made plain, even though acting justly will often call for subordinating their efforts to secure a good life. The parties also know that their wards have a conception of the good, which is roughly a plan for their lives that specifies how ideally their lives would unfold. But the parties do not know anything else about their wards. Thus, for example, the parties do not know their wards’ idea of a good life or the specifics of their situations in society, and so are ignorant of their sex, race, income, occupation, generation and, since we want principles of non-interference which will apply across the globe, citizenship and place of habitation. Given these severe restrictions, the parties are unable to single out their wards and hence unable to contour their choice of conception of justice to the particular features of their wards. They must assume that their wards might occupy any of the social positions that would occur in a society that is ordered by the conception of justice they choose, including the worst social position. Hence they must select a conception that generates a society whose worst social position is fully acceptable to their wards. In effect, the parties are forced to treat everyone in society fairly, since for all they (the parties) know, the person they represent might be anyone. Rawls thinks that the fairness of his mode of selection of principles of justice transfers to the principles themselves; hence the aim of his slogan ‘justice as fairness’ is achieved.

REGIONAL AUTONOMY

So let us use Rawls’s original position to sketch part of a global non-interference scheme, and see what we can learn about our obligations towards the environment. I shall be particularly concerned to question the idea that the present order of sovereign nation-states should be accepted, especially given the assumption that they own the resources within their boundaries.

Everyone in the world, past, present and future, is represented in the original position, so the representatives will consider everyone’s interests to be equally important. But the representatives know the specific plans of no one. Obviously, then, they will want to choose a scheme that allows the greatest variety of plans to be realized, across the globe and across the generations. They will want to ensure that people are as free as possible to pursue their private goals, to be sure, but also that people are as free as possible to sort themselves into pairs, communities and other associations, and to author the rules that are to govern their interactions.

But what should be done to deal with the inevitable clashes of individual and collective plans? Clearly the most practical, freedom-expanding step to take is to preserve a high degree of regional autonomy, as suggested by the principle of regional autonomy: where clashes of individual and collective plans threaten to occur, let people sort themselves out into different geographical regions where like-minded people can govern themselves according to regional rules of associ-
ation which they themselves construct, or emigrate in order to seek some other region with more attractive physical features or rules of association. There is no more effective way to arrange for a great variety of incompatible lifestyles to coexist peacefully.

Of course, we cannot expect all rules of association to be constructions at the level of individual autonomous regions. The principle of regional autonomy itself is a global, not a regional, rule, and other global rules will be needed as well. We need global rules because some sources of conflict are irreducibly interregional or irreducibly intergenerational. No amount of intraregional or intragenerational rule-making will solve certain conflicts. Conflicting claims to natural resources are the outstanding example. Region A cannot settle a conflict with region B over the world's resources by making laws that apply only within A. And pollution wanders across regional boundaries, damaging features of the planet (such as the ozone layer) on which everyone depends.

As things stand, nations have some policies for dealing with ownership of natural resources, and are on their way to developing policies for handling other environmental matters. At summits of the seven major industrial nations environmental issues have been given higher and higher priority. And the United Nations has sponsored discussions about environmental issues that culminated in the United Nations Conference on Environment and Development in 1992. These discussions have made it clear that many states recognize that environmental problems are urgent. However, it is not clear that they realize how urgent the problems are, or that they realize how serious some of the global injustices involving resources are. For example, the people of each nation regard the natural resources that happen to fall within its borders as theirs — as the property of present and future generations of that nation — to conserve or destroy as they wish. The presumption is that the land and other resources within the geographical boundaries of each nation belong to (the people of) that nation alone. This conventional presumption is endorsed by Principle 2 of the Rio Declaration made at the United Nations Conference on Environment and Development in 1992. According to that declaration,

States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental and developmental policies.

I do not know of a plausible justification for this conventional assumption. Michael Walzer defends a related thesis when he argues that communities such as states have a right to exist and hence a right to sufficient territory (1977: 53–8) and resources (1983: 42–52) to enjoy their way of life. But I have already argued that while the existence of communities (which are like states in some respects) is just, these communities should not have all of the features which states have, such as sovereignty. Sovereignty entails the authority to disallow emigration, a power no community should have. However, even if we agree with Walzer that states have a right to the use of the territory and resources that will make their way of life possible, it does not follow that they should be given ownership of that
territory or its resources. For most communities could maintain their way of life even if charged rent for the use of territory and fees for resources. And let us not too quickly agree that states have a right to the territory and resources that will make their way of life possible. Doesn’t it matter what sort of life they lead, and how much territory and resources they demand? Surely communities are not entitled to (buy? take?) whatever resources they need in order to carry on their way of life, regardless of how demanding it is. We cannot assume that ways of life are acceptable just because they are established. We need principles of justice to tell us which sorts of consumption patterns and hence which cultures are permissible.

In any case, the key point is that the parties in the original position would insist on equity in the sharing of the benefits of the world’s resources, including the world’s land. From their point of view, the conventional presumption that state boundaries establish ownership of resources is completely insupportable. As the parties in the original position will recognize, the presumption is doubly unjust. First, it wrongs people who happen to live in resource-poor regions, and second, it wrongs future generations. Representatives realize that their own wards might be citizens of resource-poor regions or members of generations whose predecessors have consumed and polluted so extensively that little remains. Yet as representatives also know, natural resources are critical means for anyone’s life plan. Almost everyone wants as many natural resources as possible; why should the representatives accept an arrangement in which their wards might end up with comparatively few? Instead, the representatives would adopt the resource-equality principle: resources are to be handled in a way that is equitable both across the globe and across the generations.

Clearly enough, the resource-equality principle is incompatible with the idea that national boundaries establish the proper distribution of natural resources. None the less, the resource-equality principle could use some clarification. We need to know more precisely what an equitable resource policy will look like, both across the generations and across regions.

RESOURCES AND INTERGENERATIONAL JUSTICE

People want the benefits of far more resources than are available, and it is a safe bet that this will be true of future generations. But if resources are consumed too rapidly or if they are destroyed by pollution, then later generations must do without. Therefore the parties in the original position will want to demand that resources be consumed (and pollution allowed) at a rate that is indefinitely sustainable. Equity across the generations reduces to the demand for indefinite sustainability in the areas of both pollution and consumption.

Pollution is of great concern to the parties in the original position since it makes resources, such as land, air and water, unusable. As things stand, industries ignore many of these effects; the costs of pollution on present and future generations do not figure in the costs of their operations and are not passed on to those who purchase the products of the operations (the costs are ‘externalized’). In view
of the fact that any substantial level of pollution leads to high accumulations of harmful substances over time, the parties in the original position would want to prevent all but the small amounts of pollution that can be assimilated without harm by the environment.

The parties' concern about consumption patterns is the same as their concern about pollution: they will want policies that people can sustain indefinitely into the future. Thus the policy 'consume what you want' is unacceptable, since it allows any generation to consume everything, produce a future generation and leave it nothing. In securing sustainability, the parties' deliberations will have three main emphases: conserving, recycling and renewing resources.

In principle, most of the natural resources people absolutely require are indefinitely renewable. Energy from the sun is plentiful and for practical purposes inexhaustible. Food and many clothing and building materials derive ultimately from sources, such as plants and animals, that, suitably managed, are indefinitely renewable or replaceable. Justice calls for consuming renewable or replaceable resources only in connection with a policy of renewing or replacing them.

Often it will be legitimate to replace plants and animals living in a particular region with other, more manageable and productive life-forms, as when grasslands are converted into cattle or crop farms. Even future generations would be better off were such changes made. But changes in the flora and fauna of a region must be restricted since they eliminate a natural resource which otherwise would be available to future generations. The parties would allow major changes only when the changes would not result in the loss of species or in the loss of substantial areas of great biodiversity. The parties would protect species and areas of substantial biodiversity for the following reasons: first, the loss of species and biodiversity would have a powerful effect on the ecological order that sustains the world's life. Second, the plants and animals may have a wide variety of applications for people. And third, the particular plants and animals and the various species that are to be eliminated may have great aesthetic value.

Non-renewable resources are more problematic from the point of view of sustainability, but the main idea is to combine conservation with continual recycling. The way to handle water and air is clear enough: any water or air that is used must be reintroduced into the environment in its original purity. But it is harder to recycle resources like oil. Perhaps the best one can do is to insist that if such things are to be consumed, they must be converted into things which are themselves indefinitely recyclable, and also that they be gathered sparingly so that large quantities will be conserved and thus made available to many generations who will probably find them indispensable for many uses. It is impossible to justify the way fossil fuels are squandered today. Oil and natural gas are limited resources with an enormous variety of uses, yet present generations are consuming them in ways that future generations would certainly not endorse, especially when we consider the harmful effects of pollution which our children will have to endure.

Exactly what future generations there should be is an issue the parties must
also settle. The vast majority of people consider reproducing to be of central importance to them. I think that it is reasonable for the parties to assume that future generations will also want to reproduce, so that one high priority for the parties is to insist on capping the global rate of reproduction so that it is sustainable indefinitely. No generation would be shown special consideration in this matter; the parties would want each generation to be able to reproduce at least at the rate of its predecessors.

A complication is that what constitutes a sustainable rate of consumption and pollution depends on the rate of reproduction, and vice versa. If people consume less and if they destroy less by pollution, they could sustain a higher rate of reproduction, and vice versa. So there is some flexibility in the policy the parties would impose. The general principle they would favour, the sustainable consumption–reproduction principle, could be put as follows: each generation may consume natural resources, pollute, and reproduce at given rates only if it could reasonably expect that each successive generation could do likewise. Arguably, my principle is expressed at least roughly by Principle 8 of the ‘Rio Declaration’:

To achieve sustainable development and a higher quality of life for all people, States should reduce and eliminate unsustainable patterns of production and consumption and promote appropriate demographic policies.

When the population is too large to be sustained safely, the sustainable consumption–reproduction principle implies that it must be reduced. The pressing needs of a growing population are not acceptable grounds for lowering the planet’s biodiversity or damaging its ecosystem. The parties would consider such steps to be a bad idea from the standpoint of even more distantly future populations, and would prefer to reduce drastically (and even reverse) the rate of population growth instead, as required by the sustainable consumption–reproduction principle.

The sustainable consumption–reproduction principle appears to have some dramatic consequences, given the growth of the world’s population and the ways that population consumes resources. For it may be that the world’s population level has exceeded the point at which it can be indefinitely and safely sustained, thus violating the principle. And if the population has reached that point, our situation is dire, for it is clear that the world’s population will soon double. Most underdeveloped countries have tremendous growth, a doubling rate of thirty-three years. And even in countries where the birth rate is low, there are so many young people (who have not yet reproduced) that we can expect the populations in these countries to increase dramatically.

That the world’s present population level of 5.6 billion cannot be indefinitely and safely sustained is not something I can establish. The relevant literature contains both optimistic and pessimistic assessments. However, a plausible case can be made against the sustainability of 5.6 billion people. The case I have in mind was made by William Ophuls and A. Stephen Boyan (1992), who argue for a considerably weaker claim, namely that 8 billion cannot be sustained. But I think that their data, if accurate, would support my stronger claim. Let us consider some of the relevant facts as they report them.
First, all land that is good for agriculture is already in use. In fact, already much land in use is marginal, and the marginal land is not very productive. Eighty per cent of the world’s food comes from the better half of the land already in use. Second, land that is already in use is becoming less productive, not more productive. Third, not much new land can be made even as productive as the less productive land already in use. Clearing forests for cropland leads to a host of disasters, flooding, erosion and desertification among them, and new irrigation projects not only have the problems of the old ones (salinization, waterlogging, and fertilizer and pesticide contamination), but are also limited by the decreasing availability of good water. (Already, in one-fifth of the irrigated areas of the United States, water is being pumped faster than it is being replenished.) Fourth, the world’s oceans, which are largely vast deserts except on the edges, are already yielding about as much as they can, and their present yield may be unsustainable, since overfishing threatens some species, pollution is accumulating at an incredible rate and tropical wetlands are being destroyed.

These facts suggest two conclusions. First, much of the present level of productivity of agriculture is due to unsustainable methods of farming. The use of fertilizers derived from petroleum products and heavy applications of insecticides are just two examples of agricultural practices that must eventually stop. Given that unsustainable methods of farming must stop, a second conclusion is hard to avoid: for the foreseeable future land is already about as productive as it is going to be. In view of the limitations on land productivity cited above, if a switch is made to sustainable methods of production, we should not expect that the world’s capacity to produce food will increase much beyond its present level in the foreseeable future. To think otherwise is to assume an irresponsible attitude of faith that improved technology will rescue us.

The conclusion that land is about as productive as it is going to be for the foreseeable future is important given another claim made by Ophuls and Boyan: there is already a gap between available food and the number of people who need it, and certainly no safety margin to prevent many occurrences, such as insect plagues, drought, or other common natural catastrophes, from resulting in the starvation of millions.

So while Ophuls’ and Boyan’s conclusion that it would be completely irresponsible to expect to feed 8 billion, completely irresponsible to allow the population to grow that large, seems entirely justified given the empirical claims they make, I think it can be strengthened. Their data suggest that our present population level cannot be sustained safely. It is irresponsible to allow the population to remain at its current size. It is far easier to reduce the number of people who make demands on the world’s finite resources than it is to find new ways to provide an ever-increasing population with access to the resources they need if they are to live a worthwhile life. If resources and land productivity truly are dwindling the way Ophuls and Boyan say, then justice requires extreme cuts in the population, which means immediately limiting the average family size to one child per couple, and preferably even less.
RESOURCES AND INTRAGENERATIONAL JUSTICE

Only after we are clear about what each generation owes the next can we work out what its members owe each other. By setting the ceiling on the resources that are available to each generation, and by delineating how resources may be consumed, the sustainable consumption–reproduction principle specifies what resources are available to us as a generation. However, we do not yet know how the benefits of our generation’s share of resources are to be distributed among us. Who gets what? For guidance, we need principles of intragenerational justice or, to use a more common (though less desirable, since it takes for granted the framework of nation-states) expression, principles of international justice.

Of course, we are not completely in the dark about the matter of intragenerational justice since we have already seen that the parties in the original position would insist on a distribution of the benefits of natural resources that is equitable both across and within the generations. So what we need now is a practical scheme for realizing equity within a generation. My suggestion is that some international institution such as the World Bank should be assigned the responsibility of handling natural resources, and that its authority over the handling of resources should be a limitation on the power of communities to govern themselves. The World Bank would apply the sustainable consumption–reproduction principle to work out what resources were due to each generation, and then see to it that the members of each generation got their share of the benefits of those resources through the following policies.

First, the World Bank would sell on the open market the rights to recover resources that, unlike land and air, require recovery. Particular communities would have to allow free market forces to control the costs associated with natural resources and their recovery. In regions in which legitimate resource recovery was authorized by the Bank, the communities must allow access. By the same token, buyers of recovery rights would have to recover the items in ways that were virtually pollution-free, and use them in ways that were consistent with the conservation, renewal and recycling requirements of intergenerational justice, but otherwise would be free to keep whatever they recovered or to sell it to others (who in turn would be bound to meet the requirements of intergenerational justice). Forbidding pollution would, among other things, eliminate the possibility that the costs of dealing with pollution would be externalized by any industry, including the recovery industry. The recovery rights would be for limited periods of time, so that the Bank could maximize the revenues it gained from selling those rights.

Second, the World Bank (or whatever) would lease the world’s land, itself a natural resource, on an open market in which competitive offers were made for leasing rights. No one would own land outright; everyone would be required to purchase the right to use land. The Bank would lease land in various packages and for various periods, always with an eye to maximizing its revenues.

Third, the Bank would subtract from its revenues its own operating costs, and then it would distribute the rest equally among the members of the generation at hand.
My suggestion about leasing arrangements is consistent with a range of plans by communities for raising the funds necessary to lease the territory they required. On one plan the community’s governing body would lease an entire area using funds it collected through taxes or through subleasing parcels of land. On another the governing body would have nothing to do with leasing land, and would simply be elected by people who leased contiguous areas. On no arrangement is it likely that any community could control vast stretches of unused land that was needed by others, for market forces would tend to ensure that most useful land would find its way into hands that could put it to productive use.

My land-leasing arrangements would entail that communities that could pay the most for the most desirable areas of the globe would probably end up leasing them, but that result would not be unjust. When those who could pay the most to lease land did so, the proceeds available from leasing those areas would be as high as possible, which in turn would ensure that everyone’s share of the benefits of the world’s land was as high as possible. Note also that areas that were set aside for conservation purposes would not go completely unused, for people (such as indigenous populations) may occupy them and pay little or no leasing fee, so long as they maintained a lifestyle consistent with the goal of conservation.

Cultivated crops and livestock cannot be handled through the leasing arrangements I just sketched, for they are not natural resources and cannot be treated as such. The parties in the original position would favour equity in the distribution of natural resources since initially no one’s claim to natural resources is any better than another’s. But crops are a different matter. They are to some extent the fruits of someone’s labour. However, the land on which crops and livestock are grown and the nutrients on which they feed are ultimately natural resources. These resources would fall under the same leasing arrangements as others. Farmers and ranchers would have to lease land and use it only in ways which did not deplete it, and the rest of us would benefit both from our share of the leasing fee that farmers pay and from the food available for purchase.

The sustainable consumption—reproduction principle provides a limit on the number of children each generation as a whole may produce, but does not tell us which individuals may reproduce or how many children they may produce. The number of people in a generation directly affects how many resources it may enjoy, so we also need to know whether and how our decision to have a family should affect our resource share.

Two points are crucial here. First, the parties would conclude that every competent adult’s desire to reproduce is as important as that of any other competent adult. Each is entitled to no more offspring than the others, and the total is limited by the generation’s ceiling figure. Second, people who forgo having children create an opportunity for others to reproduce. Here the parties have grounds for rewarding those who have few or no children.

A practical way to accommodate these concerns is to arrange for the sale of parental rights on an open world market. If I have the right to have one child, I may sell that right to someone else. Through this mechanism, childless parents are compensated, and parents who have especially high numbers of children are
penalized in that they must purchase the right to have more children. At the same
time, there is no absolute limit to the number of children parents may legitimately
have, though they may have to pay dearly for the extra offspring. People who give
their children up for adoption will not gain the right to have more children, since
adopted children add to the population just as much as others. However, a family
that chooses to adopt or abort retains the right to produce as many children as
before, since adopting a child or aborting a foetus does not increase the world’s
population.

Implementing any limitation on procreation rights will require overcoming the
widespread attitude that people should be free to have as many children as they
like. It will require setting aside a growing mass of sometimes incoherent national
and international law promulgated by officials who work hard to ignore the fact
that the so-called ‘right to reproductive freedom’ which they are protecting
guarantees the individual’s right to help overpopulate the world. In the US, the
legal basis given for the ‘right to reproductive freedom’ is the constitutional right
to privacy (US Supreme Court 1972). So passing laws restricting procreation
rights in the US would require a substantial change of Supreme Court policy, or
even a constitutional amendment. Internationally, the situation is about as bleak.
Even though the UN mandates guaranteeing the prosperity of posterity through
such documents as the Child Convention of 1990 according to which children
have a ‘right’ to a standard of living that allows for their physical, mental,
spiritual, moral and social development (not to mention health care!), the UN has
also declared reproductive freedom to be a ‘basic human right’ in Proclamation
16 of the 1968 UN Conference on Human Rights.

The protection of the family and the child remains the concern of the inter-
national community. Parents have a basic human right to determine freely and
responsibly the number and the spacing of their children.

But let us notice that the ‘right to reproductive freedom’ is questionable even
from the point of view of its defenders. What is said in defence of the ‘right’ is
chiefly that it plays an important role in protecting women’s sexual autonomy,
their health, and their opportunity to participate equally in the social and political
arrangements of society (Hernandez 1991). However, the justifications are
completely unconvincing. The so-called ‘right to reproductive freedom’ is the
combination of a legitimate right, namely, the right to not have a child, with an
illegitimate ‘right’, namely, to have as many children as desired. And while the
justifications commonly given for recognizing the ‘right to reproductive freedom’ do
support recognizing the right not to have a child, they do not support recognizing
the right to have unlimited numbers of children. It is important for families and
individual women to have the legal right not to (be forced to) have children.
Truly, the right not to have children plays a central role in protecting women’s
sexual autonomy, health, and opportunity to participate equally in the social and
political arrangements of society. But the ‘right’ to have as many children as
desired does not play any such role.
REALISM AND ‘LIFEBOAT ETHICS’

I have said that each generation may consume natural resources, pollute, and reproduce at given rates only if each successive generation could reasonably be expected to do likewise. The members of each generation must share the benefits of its portion of resources and its allotment of parental rights equitably. But these are radical demands. Can we imagine making the transition from our present global order to one that is just by these lights? Perhaps, but the considerations involved are complex, and people’s foresight and commitment to justice are limited. There may even be powerful prudential grounds for resisting some of the suggestions I have made. Neo-Malthusians such as Garrett Hardin have argued that providing any sort of aid to people in nations whose population growth is substantial would be disastrous, so that any moral considerations that suggest such a policy should be rejected. Let me make some comments about Hardin’s influential arguments, then move on to make some suggestions about how to move towards more just global policies.

In a series of essays (for example, 1968, 1972 and 1974) Hardin has argued that people in the United States and in other wealthy nations should think of their relationship to people in poor nations as analogous to that of people in a few well-equipped lifeboats surrounded by huge numbers of swimming people who have fallen out of hopelessly overcrowded and ill-equipped boats and are desperately looking to climb aboard the well-equipped ones. One might think that justice requires those of us who are in the boats to conclude that the boats are a common resource, so that we should let swimmers board. But the attitude that the boats should be shared – indeed, ‘the fundamental error of the sharing ethics’ – is that the attitude would put people in a Prisoners’ Dilemma situation (for which Hardin’s term is “tragedy of the commons”): anyone swimming in the water would stand to gain by securing a place on the boat, even knowing that others are trying to do the same. But everyone is “in the same boat”, so to speak, and reaches the same conclusion. So everyone tries to board, and the result is that the boats are swamped and everyone is killed. Hardin’s conclusion is that the people on board had best not share their boat, and that, by analogy, people in wealthy nations ought to deny those in poor nations the opportunity to immigrate. Hardin goes on to argue that people in wealthy nations should not send food and other movable resources to people in poor nations. Once again, the idea that these are resources people should hold in common leads to a Prisoners’ Dilemma situation. Each poor nation’s ruler would tend to conclude that the best (since most selfish) policy is to take from the common food supply, and that the matter of replenishment should be left to wealthy nations. The collective result would be that resources were exhausted. Meanwhile, resources given to the poor would result in a population surge that increased the need for resources in poor nations even more, and since the rulers of these nations knew they could simply take more food from the common supply, they would have no incentive to halt the growth. Since sharing is suicidally to create ‘commons’, people in wealthy states must avoid it. To a large extent this means ignoring other nations and what goes
on in them, and turning their attention to eliminating commons that exist within their own nations, such as any commons that lead to any population problems there. There is no global population problem, Hardin says (1989), any more than there is a global street pothole problem; there are only separate population problems in separate nations.

Hardin thus makes two separate claims: first, the lifeboat analogy convincingly supports the claim that people in wealthy nations such as the US ought to ignore other nations and what goes on within them, and certainly that they ought not to aid people in poor ones, either by giving them food or by letting them in; and second, the ‘ethics of sharing’ in general and the idea that everyone is entitled to a share of ‘our’ resources in particular generates intolerable Prisoners’ Dilemma situations. Both of these claims are false.

There are many respects in which the situation of the world’s population is disanalogous to that of the people described in Hardin’s lifeboat metaphor. In view of these, it would be a mistake to reason from the point of view of the lifeboat metaphor. Two disanalogies seem especially important.

First, many of the emergencies that prompt the lifeboat metaphor are ones that cannot be dealt with if people hunker down within each ship of state. Many of the ‘commons’ that need to be addressed cannot be eliminated simply by each nation refraining from interacting with others. Such a policy leaves critical ‘commons’ in place, such as the seas and the atmosphere, which will be destroyed quickly once each nation ignores the others. As Hardin himself realizes (1989), an acceptable policy for handling these resources must be truly global.

Another respect in which the lifeboat metaphor breaks down is that it suggests that almost all of the resources it is desirable to conserve are in the boats of the wealthy. Disasters such as population explosions occur when the wealthy share their resources. But at best the analogy works when we imagine the wealthy sharing their resources with people in nations like Ethiopia that have very few natural resources. But many of the disasters that are important from the point of view of global justice occur in resource-rich areas of the world, such as South and Central America. There is an overpopulation problem in Brazil, but it is not caused by tender-hearted outsiders feeding starving masses. There is a great deal of poverty and a very high population growth rate in Brazil, but the Brazilians want to deal with the problem themselves by developing the resources they have. What is worrisome from the point of view of global justice is that the vast rain forests of the world really ought to be conserved largely intact, and the populations there held as low as is consistent with that aim. Certainly some of the growth in South and Central America is the result of foreign aid, but in the long run the nations in these regions would be able to exploit their resources without any aid, simply buying the technology they need. If we apply the lifeboat metaphor to such countries, we seem to be faced with the conclusion that the people in such nations are doing exactly what they ought to be doing: exploiting their own resources so as to feed the populations they decide to produce, and conservationists elsewhere simply ought to butt out. That is the wrong conclusion to draw, so the metaphor must go.
However, if we put the lifeboat metaphor aside, aren’t we saddled with a policy of indiscriminate sharing that creates disastrous Prisoners’ Dilemma situations? Hardin seems to think so. He thinks that the creation of disastrous Prisoners’ Dilemma situations is the ‘fundamental error of the sharing ethics’. However, Prisoners’ Dilemma situations are not created by the ethical view that sharing is appropriate. Rather, as Hobbes noted in *Leviathan* (using a different terminology), they arise among amoral agents who always attempt to maximize their own short-term self-interest. Such agents lack the moral capacity for co-operative activities such as taking turns harvesting each other’s crops or using the same pasture for their cattle. If you and I were such agents, you would *agree* to help me harvest so that I will help you harvest, but if I were to help you harvest, you would not actually follow through, since securing my help *without* giving yours in return is better from the standpoint of your short-term self-interest than securing my help *and* giving yours. But if I realize that you are motivated in this way, I will not accept your agreement. Similarly for other co-operative activities. However, moral guidelines allow morally motivated people to escape Prisoners’ Dilemma situations. They would follow through on their promises; hence co-operative activity such as sharing the burden of harvesting crops would be possible for them. Morality *solves* Prisoners’ Dilemma situations. It does not create them.

Of course, many people are short-term self-interest maximizers, and many others, people who are capable of moral motivation, are short-sighted or just too busy to work out all of the consequences of what they are doing, and hence end up acting as short-term self-interest maximizers. Co-operation with such people can be difficult. But the way to handle the latter, the short-sighted, is to identify what justice requires and inform them, so that their normally effective moral motivation can lead them to act justly. And the way to handle the former (as Hobbes saw) is first to identify what justice requires, then implement coercive institutions to enforce those requirements, so that acting as justice requires *becomes* something that is in their short-term self-interest.

Earlier I suggested that the benefits of the world’s natural resources must be shared in common, but it does not follow that these resources should be turned over to the short-term self-interest maximizers of the world. We require a policy that is *just*, and hence not disastrous for future generations. Its implementation must be coercive so that the self-interest maximizers of the world will comply along with the rest of us. In particular, as I have already argued, sharing the benefits of the world’s resources must be accompanied by whatever restrictions are needed to avoid disasters such as population growth that is inconsistent with the indefinitely sustainable consumption of the world’s resources.

**INTERMEDIARY STEPS**

Hardin’s metaphor encourages us to persist in looking at global justice from the standpoint of the present order of nation-states. We should reject both the metaphor and the standpoint it encourages us to embrace. The assumption that the present structure of national prerogatives is legitimate is a substantial obstacle to
realizing global justice, as I have attempted to argue. None the less, governments
guard their authority jealously, and laying such a structure aside to make the
changes I have been suggesting is not on the cards during the near future.
Accordingly, we must begin the process of reaching global justice by making
whatever changes are consistent with working within the structure of largely
autonomous nations. The most obvious plan would be for each individual nation
to undertake to perform within its borders the tasks I have assigned to the World
Bank above. This plan, too, is unlikely to overcome the political pressures against
it. But perhaps it is not too much to hope that some steps towards its imple-
mentation will be taken. The plan has three main components.

The first is the task of transferring the benefits of natural resources within
nations. At a later stage, the transfers could go international, largely from the
richer nations, which are doing most of the recovery, to poorer ones. But such
transfers would occur only after the order of nation-states was de-emphasized.

The second is the burden of converting to methods of energy production and
methods of consumption that are consistent with the sustainable consumption-
reproduction principle. Pollution must be eliminated as rapidly as possible. All
industries should be required to find virtually pollution-free methods of operating
within the very near future. Operations that could not do so should simply be shut
down unless substantial loss of life would result, and even if some lives would be
lost it might still be necessary to shut down pollution-generating operations.
Some loss of present life would be tolerable if there were strong reason to think
that an enormous loss of future life would be caused by the pollution. Outlaw
polluters should be fined more than the cost required to clean up the damage they
caused so that there would be no incentive to pollute.

Moreover, the squandering of non-renewable resources must stop immedi-
ately, inasmuch as many of the known reserves are on the edge of exhaustion.
Among other things, halting their consumption would involve the invention of
(clean) methods of generating renewable energy (such as harnessing solar
power), something that would happen only when inexpensive fossil fuels were
relatively scarce, for only then would there be an economic incentive to find
alternatives. One strategy is to institute a progressively increasing ban or tax on
superfluous uses of non-renewable energy sources such as fossil fuels, so that
their use for superfluous purposes would eventually be completely illegal or
imprudent.

The third component is each nation’s task of reducing its population level to
one it could sustain indefinitely given its resources. The incentives provided by
the family-planning policy suggested above would help towards this end, but the
force of law would have to play a role as well. It is especially important that
nations which have regions of great biodiversity such as rain forests reduce their
population size. It is folly to expect these areas to survive the onslaught of
ever-burgeoning populations.

Leaving it up to each nation to perform the task of the World Bank would, in
effect, entail that each nation act as if it were the only nation in existence. This
distortion would have obvious drawbacks, however. One especially salient draw-
back is that developed nations that have already squandered tremendous amounts
of the resources within their territory would have to reduce their populations
considerably and initiate enormously ambitious conservation programmes. There
would be a different but equally imposing drawback for less developed nations,
namely, that their development would have to be confined to forms that are
pollution-free and consistent with the conservation, renewing and recycling
requirements of the sustainable consumption–reproduction principle. Since the
technology for such development is largely in its early stages and expensive
where available, less developed nations could presumably improve their material
situation only in severely limited ways.

These limitations can be overcome as soon as the importance placed by people
on global justice is great enough to motivate them to restrict national sovereignty.
At that time, it will be possible for everyone to view the benefits of the world’s
natural resources as something to be shared equitably, and to construct consump-
tion and development strategies that make sense globally. Development will
occur in areas of the world that have already been developed and that are not
ecologically sensitive, and conservation will occur in areas of the world that are
underdeveloped and ecologically sensitive. It will be possible to make a trade-off
between people in highly developed but ecologically less important parts of the
world and people in ecologically more important but less developed parts of the
world. On the one hand, there should be transfers of funds generated by re-
sources; largely these will be transfers from people in developed areas to people
from less developed areas. Simultaneously, nations which are not environmen-
tally sensitive must greatly relax their immigration restrictions to accommodate
people from nations that combine large ecologically sensitive areas with large
populations. For the most part, this will mean that developed nations must take in
far more people than they would like. However, they can better afford to deal with
large numbers of people than less developed nations. Most importantly, the
pressure of overpopulation will be removed from the ecologically most strategic
parts of the world without simply requiring people who are now living in those
areas to carry the world’s conservation burden.

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