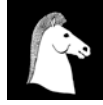




Environment & Society Portal



The White Horse Press

Full citation: Luper-Foy, Steven. "Justice and Natural Resources." *Environmental Values* 1, no. 1. (1992): 47-64.
<http://www.environmentandsociety.org/node/5457>.

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Justice and Natural Resources

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ABSTRACT: Justice entitles everyone in the world, including future generations, to an equitable share of the benefits of the world's natural resources. I argue that even though both Rawls and his libertarian critics seem hostile to it, this resource equity principle, suitably clarified, is a major part of an adequate strict compliance theory of global justice whether or not we take a libertarian or a Rawlsian approach. I offer a defence of the resource equity principle from both points of view.

KEYWORDS: Environmental ethics, future generations, justice, natural resources.

LIBERTARIANS AND TWO TYPES OF COOPERATION

At the heart of libertarianism is a distinction between two sorts of cooperative scheme. The first sort is a *noninterference scheme*, one by which people limit the extent to which they interfere with each other's endeavours. The second is a *scheme of mutual aid*, one by which we join with others for mutual advantage. An arrangement in which we avoid killing each other is an example of the former. If we combine our forces to harvest our crops we will have created an instance of the latter.

According to libertarians, noninterference schemes are central to justice. They are needed since all of us ought to be as free as possible to devise values and plans, and to design our lives in accordance with those values and plans.¹ Yet a group of people is free to vote, worship, or what have you, only if everyone avoids doing anything which prevents that group from doing those things. So freedom requires constraint. In particular, if a group is free to acquire all of the world's resources, or an enormous quantity of them, then everyone else must do without. It is all too common for people to want enormous quantities of the world's resources, and if these people take them, it is impossible for the rest of us to get a share without interfering. A rather different example of inevitable constraints stems from the fact that others often try to plan our lives out for us without consulting us. Thus people sometimes claim the right to decide that and

whom we shall marry, or what our religion shall be. When they do, it is sometimes impossible for us to avoid altogether interfering with their plans (as when someone wants you to marry A, while A would rather you marry B), and almost always unreasonable to expect us to do so even if we can.

Once we acknowledge that interference sometimes must be tolerated, then we need an account of *legitimate interference*. With such an account, we could say that everyone is obligated to support an order in which everyone avoids all but legitimate interference in the projects of others. Everyone is obligated to cooperate to the extent of instituting and supporting such a scheme.

But our obligations would not end there. We also have obligations that arise from the associations we form with others for mutual aid, each making a contribution in the expectation that the others will do so as well. Perhaps we are not *obligated* to join with others in pursuit of mutually beneficial goals. Certainly the libertarian view is that we have no such obligation. But libertarians would also say that when we agree to join we *owe* each other in ways we otherwise would not. So in addition to an account of legitimate interference we need an account of *legitimate cooperation* that would specify the ingredients of legitimate schemes of cooperation, including the proper distribution of the benefits and burdens involved. We can then require conformity to the dictates of that account.

Even if entry into schemes of mutual aid is usually strictly voluntary, there is one apparent exception. We have already said that everyone is obligated to help institute and support a noninterference scheme, one guaranteeing that no one interferes illegitimately with the plans of others. Yet such a scheme is beneficial for all involved, and hence it is a scheme of mutual aid. In order to avoid confusion about the overlap between noninterference schemes and schemes of mutual aid, I will arbitrarily apply the term 'mutual aid' only to schemes whose mutual benefits extend beyond the requirements of noninterference. So even if it is already a closed question whether joining schemes of noninterference is obligatory, it is so far an open question whether joining schemes of mutual aid is obligatory.

The account of legitimate cooperation favoured by most libertarians is fairly straightforward. All parties to a contract must honour their agreement as long as it was made without coercion or deception. Accordingly, the terms of legitimate cooperation are settled by the terms of agreements people make upon entering into schemes of mutual aid. I will say nothing further about the libertarian account of legitimate cooperation, however, since the resource equity principle rests on their account of legitimate interference, not on their account of legitimate cooperation. Or so I will argue next.

THE RESOURCE EQUITY PRINCIPLE AND LIBERTARIANISM

Unfortunately, libertarians have provided little theoretical apparatus for choosing an account of legitimate interference. John Hospers' libertarian principle, "every human being has the right to act in accordance with his own choices, unless those actions infringe on the equal liberty of other human beings to act in accordance with their choices", is fine as far as it goes, but it says nothing about what to do when the courses of action people want to take *are* mutually incompatible.² The libertarian would do better to adopt (what might be called) the *liberty maximizing principle*: each person should be guaranteed the most extensive scheme of liberties consistent with guaranteeing the same scheme for all. At least this principle says something about what to do when lifestyles clash, namely, extend to everyone in the conflict a scheme of freedoms that ensures that everyone's plans are interfered with by others as little as possible.

Even this injunction faces difficulties, one of which is that there may be more than one scheme of universal freedoms whereby everyone's plans are interfered with by others as little as possible.³ But some version of the liberty maximizing principle can be used by libertarians to flesh out the account of legitimate interference which they need, and the point I want to make is that if that principle is accepted, the resource equity principle ought to be accepted as well. Almost all of us would like to be as free as possible to appropriate natural resources, but obviously the freedom to appropriate the whole stock of natural resources cannot be extended to everyone. Oddly enough, the policy favoured by many libertarians is a 'first come first served' policy, presumably because it *could* be consistently extended to everyone. But this policy would do nothing to maximize the freedom of everyone to appropriate resources. In particular, the absurd 'first come first served' policy completely denies future generations the opportunity to appropriate any natural resources.

So what universally extendable freedom would leave everyone as free as possible to appropriate resources? Roughly one permitting everyone to divide resources equally among themselves (including resources that are not wanted by those otherwise entitled to them, if any). Of course, this freedom could be specified more clearly. Will specific bundles of resources be identified as belonging to particular individuals? Will the cash value of a share of resources do just as well? Such matters need clarification, but working out a precise statement of the sense in which we are entitled to a share of resources will have to wait. For now I simply want to claim that the resource equity principle, which states that everyone is entitled to an equitable share of the benefits of the world's resources, is a good point of departure for the libertarian.

There is another and, I think, superior way libertarians might develop the details of an acceptable noninterference scheme. Instead of relying on the liberty maximizing principle to do the work, they could work with a piece of John Rawls' apparatus. I think that a limited use of Rawls' original position apparatus

can serve as the basis for an account of legitimate interference on the international level that would be acceptable to libertarians and ought to be acceptable to anyone else.⁴ Rawls thinks that his apparatus is also suitable for working out principles of legitimate cooperation, which I doubt, but whether or not we agree with him on that score we can still use it to pick out principles of legitimate interference. It requires that we take the attitude that all things being equal our interfering with someone else's plans is as bad from the standpoint of justice as their interfering with our own. From that point of view it is possible to identify principles of legitimate interference that will be fair to all concerned. And a noninterference scheme that resolves conflicts among people in a way that is fair to all concerned should be appealing to libertarians as well as anyone else.

Very briefly, Rawls' idea for ranking conceptions of justice for the basic structure of a society is to conduct a thought experiment in which the list of alternative conceptions is presented for evaluation to a group each of whom represents a citizen. We stipulate that the representatives are rational and mutually disinterested, so that the aim of each is to pick an alternative that advances the interests of his or her ward as far as possible. We also stipulate that while each representative knows that his or her ward embraces some conception of the good, its details are unavailable. The representatives are situated behind a *veil of ignorance*, so that none of them knows specifics about the situation of the individual whose cause he or she is to champion. These unknown specifics include the conception of the good but also the race, sex, income, occupation, and generation of their wards. Rawls coins the term 'original position' for the situation in which the representatives rank alternatives, and it is designed to favour conceptions of justice that are fair to citizens. Fairness is ensured primarily because the veil of ignorance forces representatives to assume that their ward might occupy any social position in society including the very worst one and to pick a conception of justice accordingly.

Consider how the pursuit of fair principles of legitimate interference would cash out with respect to natural resources. Natural resources are the raw resources of the earth. They are not to be confused with goods like wealth or the refined products of industry, both of which come into existence already owned since they are created through the cooperative activity of people who have been promised a share in exchange for producing those goods. Raw resources such as land, water, air, and the various minerals contained therein are not produced, and hence no one has any initial claim on them, and that includes past generations as well as present and future generations. Nonetheless, natural resources are obviously crucial to the achievement of anyone's plans, either because those resources are directly desirable, as wilderness areas are desired for the solitude and variety of life they provide, or since those resources can be converted into directly useful items through the application of industrial techniques. Hence each of us would like to have far more of the earth's resources than is possible since people's desires are great and resources scarce.

In using the original position apparatus to settle who may claim the world's raw resources, we can begin by supposing that everyone in the world, past populations as well as present and future populations, is assigned a representative who is situated behind Rawls' veil of ignorance. (This approach is more reasonable than Rawls', in which whole nations are assigned representatives.) These representatives know that their wards have a conception of the good that they (the wards) would rather not alter, but they do not know much about the content of that conception. The representatives also know that their wards can change their conceptions, and so could adjust if they lacked the resources ideally suited to their plans, so long as the resources offered them were not too minimal. Therefore, parties behind the veil of ignorance could not favour one sort of project over another, and would not worry unduly if people with especially demanding projects ended up with fewer resources than necessary to achieve their aspirations. It is reasonable to suppose that the representatives would opt to give everyone a claim to an equitable share of the benefits of the world's resources. This resource equity principle would apply not on the societal level, but rather globally, for the parties would see no reason to let citizens of some countries gain a greater share simply because they happen to live in resource-rich lands. No doubt the representatives would want to fine-tune this principle, but they would certainly accept it.

THE RESOURCE EQUITY PRINCIPLE AND RAWLS

We have shown that Rawls' apparatus can be used to defend the need to incorporate the resource equity principle into an adequate noninterference scheme. However, this does not imply that Rawls should accept the resource equity principle. He assumes that there is no special difference between the statuses of schemes of mutual aid and noninterference schemes, and hence seeks principles that will cover both sorts of scheme, and principles that might be adequate for one sort of scheme may not be adequate for both.

The reason Rawls attributes no importance to the distinction between the two sorts of scheme is that on his view the citizens of a just society attempt to advance the collective good.⁵ People have their individual projects, but they take sufficient interest in the collection of everyone's projects (many of which are incommensurable with others) as to regard the completion of that group project as a goal to be achieved through a cooperative effort in which the collective output of primary goods such as wealth is maximized and the benefits and burdens of the effort are distributed fairly. On this vision, both a scheme of noninterference and of mutual aid are to be pursued.

Rawls is quick to insist that the group project not be constructed the way the utilitarian would do it: by squishing the project of each person together with those of everybody else, much as individuals moosh together their own projects

so as to construct a coherent system of preferences out of their pre-reflective desires. "By this [utilitarian] construction. . . many people are fused into one," Rawls complains. He wants nothing to do with the utilitarian approach since it "does not take seriously the distinction between persons."⁶ Instead, the group project is pursued through maximizing the production and availability of the multi-use items that Rawls calls primary goods.

Given such an ideal, it would be reasonable to turn the matter of selecting a conception of justice over to representatives in the original position, who would see to it that a cooperative scheme is pursued that provides for everyone's projects. Representatives would not hesitate to design a scheme by which some people are required to contribute to the projects of others, and would opt, as Rawls himself says, to organize society's employment opportunities into a structure that generates as many primary goods as possible.⁷

I reject Rawls' ideal for several reasons, not the least of which is that in demanding that we direct our efforts in life to producing the means by which the collective project may be pursued, Rawls' ideal blurs the distinction between people in much the same way as does utilitarianism.⁸ On both approaches the fact that a certain project is *mine* is irrelevant from the moral point of view. Also, I think that Rawls' libertarian opponents are correct in insisting that taking part in schemes of mutual aid is always optional. But the resource equity principle can be defended without assuming this libertarian-style claim and without rejecting Rawls' social ideal. It can be defended even if we take Rawls' attitude toward the two sorts of scheme.

Rawls himself would appear to disagree about the justness of the resource equity principle, at least in part. He does think that saving for future generations is obligatory, as is made clear by the just savings principle he defends.⁹ However, what Rawls says about international justice is in tension with the resource equity principle. His view is that if individual nations were *internally* just, little more would be required to make the world as a whole just. Principles of international justice would be limited to conventions such as a principle of equality of nations and corollaries such as the principles of national autonomy and self-defence.¹⁰ Among these conventional principles is no hint of anything that requires substantial redistribution of goods *among* nations. Rawls is content to let vast inequities in resources and other goods persist so long as the inequities do not occur within nations.

Several philosophers and political scientists have criticized Rawls' discussion of international justice, insisting that if Rawls has shown that his strong principles should apply within nations then similar reasoning justifies the application of those principles across the globe.¹¹ The point seems rather obvious: Rawls would say of a nation consisting of internally just subunits (such as states) some of which are extremely rich while others are extremely poor that it is unjust since it fails to conform to the strong principles of justice which representatives of its citizens (or even of its individual states) would adopt. Yet

if the parties in the original position would condemn such a nation, representatives of everyone in the world (or of each internally just nation) would condemn an international order including both extremely rich nations and extremely poor ones on virtually the same grounds. They would also condemn an intergenerational order with such extremes. The upshot is that Rawls' demurrals notwithstanding, his principles of justice are no less justified as principles of international, intergenerational justice than as principles of intranational, intragenerational justice.

One of the strong principles Rawls defends, the difference principle, has especially powerful implications for the intergenerational order. Even though it does not focus directly on the distribution of resource shares, it provides indirect support for the resource equity principle. For it says that *all* of the world's main institutions, including ones that handle natural resources, ought to be arranged so as to maximize the primary goods available to the least well-off. This does not imply that everyone ought to receive an equal share of the world's natural resources: perhaps the total supply of primary goods could be increased if some people control more natural resources than others. But since resources are so easily convertible into primary goods, it does suggest that everyone has a *prima facie* claim to an equitable share of the benefits of the world's resources, a claim that may be overridden when doing so benefits the least well off. I conclude that the resource equity principle is on firm ground when assessed in the way Rawls wants to assess principles of justice.

However, the resource equity principle as stated is so vague as to be incapable of telling us which natural resources we are required to conserve for future generations, or about the proper way to apportion our fair share of resources among our contemporaries. Let me therefore try to sharpen the formulation a bit, first in relation to future generations, then in relation to contemporaries. After doing so I will show that the resource equity principle's sharpened edges are desirable additions to a fair noninterference scheme when assessed using Rawls' original position apparatus. I will recommend my principle to libertarians on those grounds. Before I can recommend it to Rawlsians, however, I will need to allow for Rawls' indifference to the distinction between schemes of mutual aid and noninterference schemes.

THE RESOURCE EQUITY PRINCIPLE AND INTERGENERATIONAL JUSTICE

Because of the rights of future generations, the first orders of business are to set aside some of the world's unexploited resources for them, and to decide what levels of pollution are tolerable. (Some of the resources new generations have coming to them should be sold before they come of age to help cover medical and educational expenses not otherwise provided for.) Exactly how much of the

resources should be set aside and how much pollution is acceptable is hard to say, primarily because the required rates of conservation and pollution depend on the size of future populations, and the distantly future population size is unpredictable. However, some observations about our obligations to later generations will help us settle these issues.

Note that our having obligations to future generations is *conditional* on the existence of future generations. We are obligated to share the world's resources (and to do other things involved in avoiding illegitimate interference with their projects) *only* with people who will exist. Moreover, we do not have any obligation to bring a successor generation into existence. (Indeed, the libertarian would say that no one ever has an obligation to have children,¹² but advocates of justice as fairness must disagree. They must say that while it is permissible for one generation to have no children whatever, it is not permissible for a generation to have just a few, since a fairly large number of children is necessary to maximize the prospects of the intergenerational least well off.¹³) Therefore we could altogether avoid the existence of obligations to future generations by altogether avoiding the existence of future generations. Still, the more people we create, the more there are who have a claim on the world's resources, which is why it makes sense to say that the required savings and pollution rates are linked to the size of the future population.

However, it is still hard to identify the just savings and pollution rates since at best we can determine only how large the next generation will be. We can choose either to prevent any future generations at all from existing, or to bring about a successor generation of a given size. The generation we produce will itself determine how large *its* successor will be. We cannot completely control the size of the future population as a whole since *the size of each generation is under the control of its predecessor*. To unravel these difficulties, let us make a simplifying assumption we can drop later. Let us assume that each generation must concern itself with the next, but, so far as savings and pollution are concerned, only with the next, leaving the latter to determine its required savings and pollution rates by deciding how large its successor generation shall be.

Given this assumption, it would be reasonable to adopt the following plan: if the best prediction (based on information provided by prospective parents) were that the present generation will replace itself, then that generation would set aside half of the world's natural resources for the next generation. (Let us leave aside the issue of pollution for now.) It would prevent those resources from being recovered by the present generation except where plans call for replacing the resources, as when it allows trees to be harvested on condition that reforestation occur. And it would prevent the development of reserved land and the destruction of irreplaceable natural wonders, though activities such as hiking that leave no permanent damage would be permitted and regulated. If the next generation were twice the size as the present one, the present one would set aside two-thirds of the world's resources; if three times the size, three-fourths would

be set aside, and so on. This policy would obviously give each generation a strong incentive to limit the size of the next, for the fewer its children, the greater the percentage of the world's resources it may exploit, and hence the greater its share of resource profits. Call the injunction of this policy the *restricted resource savings principle* – 'restricted' to remind us that the principle rests on a simplifying assumption we will eventually challenge.

The restricted resource savings principle leaves it up to each generation to decide how much of the remaining resources it will exploit. It could even exploit everything, but if it does it must be prepared not to produce a generation that would only die miserably from lack of resources. The absolute ceiling on how many people a generation may produce would be determined by the resources needed if their offspring are to have what they themselves would consider to be at least minimally decent lives. The general principle here is that no one may produce a child who cannot be expected to lead a life that child would regard as worthwhile.

The total number of children each generation would decide to produce is a crucial number. Each generation must estimate it before it can know how fairly to distribute the profits from resources to people who are willing to have few or no children. We cannot just divide the resource profits that are coming to a generation by its size and dole out the results to each member. That is unfairly favorable to those who have more children, for they will have decreased the profits due their generation and still received the same share going to their childless contemporaries. Instead, we need to ensure that people who have fewer children will receive a proportionally greater share of their generation's resource profits, while those who have more receive a proportionally lesser share. Call the injunction requiring this arrangement the *reproductive control principle*.

It is time to reexamine the assumption that each generation need only concern itself with saving for the next. A problem with this assumption is that it authorizes us to gobble up a huge percentage of the world's resources—say one-half—then produce a successor generation—say one that is equal to the size of our own—that does not have enough resources both to produce the same number of children as we did and also to sustain the same standard of living as we. In this scenario some of us would have helped ourselves to the right to reproduce and to exhaust huge amounts of resources knowing full well that the next generation could not do likewise.

This would be a right we could not defend, as becomes apparent once we take up the point of view of the original position and note that parties representing our children would insist on defending an equitable policy of reproductive freedom as well as an equitable policy concerning resource shares. Moreover, and here we return to the issue of pollution, they would want the level of pollution affecting their wards to be minimal. They would want a policy according to which we must limit our rates of reproduction, resource consumption and

pollution to ones that are also sustainable by future generations in perpetuity, so that as a generation we may parent a certain number of children, pollute, and consume resources at a certain rate only if our best guess is that each successive generation could do likewise. Call the requirement of these arrangements the *sustainable consumption-reproduction principle*.

It may appear that this policy is less practical than it is. Eternity is a long time, the skeptic might insist, and surely no matter how conservative we and our successors are in consumption, pollution and reproduction, resources will eventually run out and pollution will mount to deadly levels. Moreover, we cannot now know what conditions in the distant future will be like, so how can we be expected to figure out a policy that will be practical then?

As for the second of these skeptical points, it is a reasonable guess that resources which we want will always be wanted, and pollutants which we deplore will always be deplored, though not necessarily with the same intensity or for the same reasons as before.¹⁴ For example, perhaps future generations will cease to value wild animals as sources of food and will value them instead for aesthetic reasons, so that it will not do for us to destroy animal species through consumption, pollution, or the conversion of their environments for other purposes.¹⁵ The upshot is that we do not need much information about the future to know that our descendants would want as large as possible a share of the world's natural resources and as low a rate of pollution as possible.

The skeptic's point about exhausted resources overlooks the fact that most of what we must consume if we are to live is renewable or replaceable with substitutes. Certainly the sustainable consumption-reproduction principle is extremely demanding, but its terms could be met. So far as renewable resources such as trees, cattle and fish are concerned, each generation must restrict itself to consuming only what will be replenished or replaced either by that generation or by natural forces, to pollute only to a degree that can be absorbed by the environment without any cumulative effects, and to set its reproductive rate at a level consistent with the next generation's honouring the same terms. (By honouring the reproduction control principle, each generation could deal fairly with smaller families.)

This is not to say that a generation must replace trees with trees and fish with fish, however, thus leaving the resources of a region more or less as they are. Several considerations must be taken into account before a change from the natural order is made, but in principle parties in the original position representing future generations would not object to the replacement of certain plants with other ones that would be more useful to future generations. The considerations that must be weighed in deciding whether a region should be left intact as a conservation area include the following: the impact that a proposed conversion would have on the ecological order necessary to sustain life in general and human beings in particular; the possibility that certain species of both plants and animals may have uses that are unknown at present; and the aesthetic value of the natural

order to be disturbed. It is evident that such considerations would prevent the parties from countenancing a major shift from natural flora and fauna to artificially cultivated sorts, and would lead them instead to insist on keeping the human population level low enough to conserve vast regions of the earth intact, such as substantial portions of South America, but it is hard to see that any precise balance would be insisted upon.

As for resources for which there are no reasonable substitutes and whose supply is not renewable, they must be used only in conjunction with an effective program of recycling. Some such items, such as air and water, can be recycled directly, and in a way that does not consume them. We need only re-introduce into the environment air and water that is as pure as before. But other items can be recycled only in the sense that they can be converted into things that are themselves reusable. Such things not only must be converted into recyclable items but must be recovered sparingly so as to spread their availability over many generations. We may use iron or oil to make steel or plastic items, but only if we recycle those products or the steel or plastic out of which they are made. Our present policy of burning away our oil reserves in the engines of cars and jet planes must be phased out as quickly as possible, and renewable and non-polluting sources of fuel must be found. Given that there are nearly five and a half billion people in the world, it will be difficult to abandon our reliance on fossil fuels, so in large measure the solution must involve ensuring that the next generation's size is much smaller than our own.

It is not easy to say what would constitute a reasonable substitute for a resource, so that we can tell whether consuming a resource which cannot be renewed is acceptable. The question one must ask is whether representatives of future generations would oppose the substitution or not. Thus it might turn out that one could argue from the standpoint of the original position for the permissibility of consuming all (or almost all) of the available iron ore given that some other available substance could be substituted conveniently.

It is also difficult to decide when it is reasonable to allow an exception to the sustainable consumption-reproduction principle, but some exceptions are justifiable. Inevitably, for example, some non-renewable resources will be lost even with the best of recycling programs, and some pollution will occur no matter how we produce our energy. To determine whether an exception is allowable, we need to view matters from the perspective of the original position; in particular we should ask whether representatives of generations that otherwise might receive what we are consuming would be willing to grant us the exception. Sometimes they would grant this privilege since (among other things) they know that only by doing so can they legitimate their *own* wards' practice of consuming goods which cannot be replenished. Perhaps one could also justify burning fossil fuels and producing a bit more pollution than the environment could absorb on the grounds that doing so played an essential role in the discovery of renewable sources of fuel. But it is obvious that most of the present uses of fossil fuels serve

no such end. Those who consume the most should therefore shoulder the burden of discovering practical sources of renewable energy and converting the world to a recycling economy.

THE RESOURCE EQUITY PRINCIPLE AND JUSTICE FOR CONTEMPORARIES

So much for the just sharing of resources across the generations. Now let us sharpen the resource equity principle vis-a-vis justice for our contemporaries. We can start by taking into account the fact that intergenerational requirements have implications for intragenerational justice. In particular, arrangements with contemporaries must conform to the sustainable consumption-reproduction principle. Thus resources may be consumed only if renewed, replaced, recycled or converted into recyclable items. However, while these principles help us determine which resources are available to a generation as a whole, they do not clarify how the members of a generation ought to take advantage of the resources that legitimately may be exploited by them. Sharing with our contemporaries presents difficulties. For many reasons it would be absurd for a Rawlsian or a libertarian to say that the resources that are due a generation should be gathered together and doled out equitably to everyone in it. Among other things, gathering or recovering most resources is a costly business, and those who devote energy to this endeavour have some sort of claim to what they have recovered. So how *should* the members of a generation share the benefits of resources that are due it?

My proposal calls for a major expansion of the functions and authority of the World Bank, or the creation of some other international institution, so that it could sell the rights to recover resources on the open market. The rights sold would be temporary, so that whoever buys may purchase the rights to recover a specified quantity of resources in a certain area during a period of time consistent with withdrawing those resources without polluting others, such as air and water, and replenishing any renewable resources extracted. After this time the rights would revert back to the Bank for repeated sale. The Bank would seek to maximize the profits it received from these sales, which of course means that it could not demand so much that no buyers would be attracted. Profits from the sales would be used by the Bank to pay its expenses, and otherwise the profits would be distributed to the people who are entitled to a share of the benefits of those resources. Call the injunction that these arrangements be instituted the *resource recovery principle*.

People in the resource recovery business would sell the resources they extract for as great a profit as possible. The greater the profit, the more lucrative the recovery business. As their business became more profitable, more agents would take it up, thus competing up the price the Bank may charge for recovery

rights.

Some sorts of resources will require special handling. In particular, we cannot handle cultivated resources the same way we handle uncultivated ones. Whereas the benefits of uncultivated resources must be shared equitably with our contemporaries, such sharing need not always occur if the resource at hand is a cultivated crop. People who raise a crop that otherwise would not exist have a *prima facie* claim to it by virtue of being the only ones who invested their labour into the crop. This is not to say, however, that people who harvest a grove of trees then replant trees will own the trees that then grow. They had no special claim to the original trees; if they harvest them, they must replace them so as to do justice to future generations of people who otherwise would be deprived of the trees.

The situation is complicated when people replace an uncultivated with a cultivated resource, as when they clear land of trees in order to raise food. Here a resource that must be shared is replaced with one that is owned by individuals. Such replacements would not be objectionable in principle to parties in the original position in spite of the fact that these remove a natural resource from the scene. One consideration favouring the acceptability of replacements is that present and future farmers who own their crops still must compensate their contemporaries for the use of another natural resource: the land and soil and nutrients they use to grow their crops. Land and soil are natural resources that themselves must be shared equitably with others. One way to share the benefits of land and soil would be for the World Bank to lease farmland out for a limited period of time and distribute the profits it receives. No one would own farmland outright. Of course, the sustainable consumption-reproduction principle applies here too: Since farmland is a recyclable natural resource, it must be used only in ways consistent with its being recycled, so built into the lease would be the requirement that tenants who farm return the soil to its original richness before the lease is up. Farmers may lease the rights to draw nutrients from soil for their crops, but would be required to farm in ways consistent with the indefinitely extended productivity of the earth.

Land may be used for a variety of things other than farming, but I suggest that the best way to allow people to share fairly in its benefits is to permit no one to own land outright. To use land for any purpose, people must lease it. The Bank would be interested in maximizing its profits and would lease out land for varying rates and periods depending on the market. Once again the Bank's profits would be distributed equally among the people after its own expenses were covered. Call the injunction requiring these arrangements the *land leasing principle*.

RAWLS AND SHARPENED RESOURCE EQUITY

The resource recovery, land leasing, reproduction control, and sustainable consumption-reproduction principles constitute an improved version of the resource equity principle. If they really are crucial parts of an adequate account of legitimate interference, as I have suggested in the previous two sections, then we have gone a long way toward justifying them. I should think that libertarians would adopt them on this basis, for example. But to justify them for Rawlsians we must argue that they would be adopted by representatives in the original position who are willing to require that people enter schemes of mutual assistance.

At this point, however, the argument is simple. I suggest that while the representatives would *add* to the four principles of legitimate interference I have defended, they would not withdraw them when devising further principles in general and principles of legitimate cooperation in particular. They would find it useful to deal separately with natural resources on the one hand and the fruits of people's labour on the other, and to include my four principles in their policy for sharing the benefits of natural resources. At the same time they would want to redistribute the fruits of people's labour as part of a mandatory scheme of mutual aid given their interest in improving the prospects of less well off contemporaries and of future generations across the globe. At a minimum they would impose a 100 percent inheritance tax (or one that is nearly 100 percent), thus gathering the fruits of people's lifelong labour for equitable distribution to the world's next generation. But the fact that the representatives will adopt an account of legitimate cooperation that redistributes the fruits of labour is consistent with their adopting an account of legitimate interference that includes my four principles.

The scheme of mutual aid to which Rawls is committed forces some people to transfer the fruits of their labour to others who are less well off, thus limiting the autonomy of those who must sacrifice. But those who value autonomy more than Rawls does will appreciate the way I have developed libertarianism so as to justify the equitable sharing of the benefits of natural resources without justifying the equitable sharing of the fruits of people's labour. To justify the latter we must place so much value on equity in all things of value that we are willing to force people to work toward the ends of others, which is to use them as mere means. By contrast, natural resources are not produced by anyone and hence their benefits may be distributed without using anyone as a mere means. An improved form of libertarianism would expect people to take the responsibility for achieving happiness using nothing but their fair share of the benefits of natural resources, their own labour, and any help others voluntarily provide.

EXPECTATIONS FOR THE FUTURE

I have defended two requirements for world justice. (1) instituting a policy whereby as a generation we may rear children, pollute and consume natural resources at certain rates only if each successive generation could be expected to do likewise, so that the world's population level must be kept low enough to conserve vast regions of the earth, and (2) sharing equitably the benefits of the natural resources that our generation may legitimately consume. I will close with some sketchy claims about the moves we should make toward meeting these requirements, focusing on the concern that undeveloped nations must carry an unfair portion of the world's conservation requirement.

As things stand, the idea that the obligations of justice might cross state boundaries is given little credence. We live in a world of nation-states whose citizens consider justice to be almost entirely an internal affair. In particular, people think that the natural resources found within their country's geographical boundaries are theirs to exploit. Given this attitude, it would be unreasonable to expect people in resource-rich nations such as Brazil to burden themselves with a major part of the world's conservation effort. If the resources in Brazil belong to Brazilians, they may exploit them as heavily as is consistent with their doing right by future Brazilians. Moreover, if practical, people in developed countries must presumably return large regions of their territory to a natural state in order to meet conservation obligations to the future generations that will occupy those countries. But I have been arguing that people in no nation exclusively own the resources within its geographical boundaries. Will this suggestion entail that the citizens of undeveloped nations must carry an unfair portion of the world's conservation burden?

It will not, for two main reasons. One is that an effective conservation policy will require the assimilation of many of the people of undeveloped nations into developed nations. The second is that if the resource recovery and land leasing principles are implemented across the globe, there will be an immediate massive transfer of funds to people in undeveloped nations who up until now have not benefited from the exploitation of the resources in developed nations.

Consider the second point. If the resource recovery principle is implemented, the lucrative wheat fields in the United States, the oil fields in Saudi Arabia and the fish-rich waters of the world will all generate income for the people of undeveloped nations. These people would then take the attitude that the resources in developed nations are the property of the global community, and as such must be handled in a way that benefits everyone fairly. Once they take that position, it will be entirely reasonable to take the same position vis-a-vis the resources within the geographical boundaries of their own nations. If those resources belong to the global community, they should be handled in a way that is consistent with global justice, and it may be that most of the resources that should be conserved are in some of the undeveloped nations.

Now let me explain why I think that a substantial relocation of people would be part of an effective conservation effort. The most extensive conservation efforts should be made in the tropical rain forests of the world. There is far more diversity in them than elsewhere. Half of all known species live there, and fewer than 1% of the plants there have been examined for possible usefulness.¹⁶ One specific place where a major conservation effort must be made is in South America, for an amazing variety of the world's plant and animal species are concentrated there; for example, 19% (800) of the entire world's species of terrestrial mammals and one-third (90,000) of the world's species of flowering plants are in South America.¹⁷ The interests of posterity are best served if these species are preserved, and they may be preserved only if huge regions of South America are left undeveloped. But leaving a great deal of South America undeveloped requires keeping the human population there low, and that can be accomplished only by combining a severe limitation of the birth rate there with a substantial relocation of people into less sensitive regions of the world whenever birth rates do soar. As things stand, population growth in South America is higher than anywhere else in the world,¹⁸ and we have all heard dire predictions about the rate of deforestation taking place there as a result of massive numbers of poor people trying to make a living through such environmentally destructive practices as slash-and-burn cattle farming.¹⁹

The conservation effort of the world should occur mostly in undeveloped areas. But this is not to let people in developed nations off lightly. Their burden is providing a place for people to live. Developed nations would not be expected to meet their conservation obligations by restoring vast settled areas of their territory to a natural condition, which would probably be impossible anyway. They ought to conserve what they can, but it would be absurd to expect North Americans to return the forests in California to their original state, for example. Instead, from the standpoint of global justice it makes sense to expect developed nations to assimilate people from environmentally sensitive areas.

NOTES

An earlier version of one section of this essay was read at II Congreso Internacional de *Ethica y Desarrollo*, July 1989, Universidad Autonoma de Yucatan. Another section was read at the July 21, 1991 meeting of the International Development Ethics Association of the World Conference of Philosophy, Nairobi, Kenya. I thank Susann Luper-Foy, Curtis Brown and Alex Neill for helpful criticisms.

¹ Indeed, libertarianism as a doctrine might be expressed as the view that people should be as free as possible to do what they want, so that freedom should be restricted when and only when required to make people as free as can be. But libertarians do not always express their view in this way. A second formulation is that people own themselves and their labour. That is, people may do with themselves whatever they wish, and others must let them. A third formulation of libertarianism is a version of the Kantian injunction that

no one may be used as a mere means to the ends of others, namely the principle that no one is obligated to do something solely because it helps someone else (though they may do it by consent). It is always up to us to decide whether we will help others.

²Hospers, 1974.

³Onora O'Neill (1988) criticizes libertarianism on these grounds. I would think that the libertarian response ought to be that the schemes that tie are equally good. Use any one of them.

⁴He describes and defends this apparatus in *A Theory of Justice* (1971).

⁵Thus at the beginning of *A Theory of Justice*, Rawls writes

a society is a more or less self-sufficient association of persons who in their relations to one another recognize certain rules of conduct as binding and who for the most part act in accordance with them ... These rules specify a system of cooperation designed to advance the good of those taking part in it. Then ... a society is a cooperative venture for mutual advantage ... (p.4)

In Rawls' ideal society a conception of justice is a set of principles that dictate a fair division of the benefits and burdens of the society-wide cooperative pursuit. Cf. Rawls, 1985.

⁶Rawls, 1971, 27.

⁷They would not adopt the version of Rawls' liberty principle that he defends in *A Theory of Justice*: "each person is to have an equal right to the most extensive total system of equal basic liberties compatible with a similar system of liberty for all" (p. 302). By assigning this principle lexical priority over his second principle, Rawls inadvertently implies that joining schemes of mutual aid is always optional. The point is perhaps moot, however, since in recent writings Rawls has reformulated his liberty principle so that it now guarantees only a fully adequate package of equal basic liberties, where "fully adequate" amounts to the resources necessary to develop and exercise moral personality.

⁸An extensive literature expands upon Rawls' discussion of whether various theories gloss over the distinctness of people, including Smart and Williams, 1973; Williams, 1973, which includes various relevant essays such as "Persons, Character, and Morality"; Scheffler, 1982; Nagel, 1986, and Parfit, 1984.

⁹According to Rawls, "each generation must not only preserve the gains of culture and civilization, and maintain intact those just institutions that have been established, but it must also put aside in each period of time a suitable amount of real capital accumulation" (*A Theory of Justice*, p. 286). Rawls also thinks that "it is not possible ... to define precise limits on what the rate of savings should be" (p. 286). About all we can say about the required rate is that (1) it is not set by the difference principle since "there is no way for later generations to improve the situation of the least fortunate first generation," and the difference principle "would seem to imply, if anything, that there be no saving at all" (p. 291); (2) each generation must pass on a capital accumulation at least as great as it would have expected from its predecessor; but (3) the required accumulation "falls to zero" once just institutions are established (p. 298).

This is not the place to discuss these points but I cannot resist noting that the first of them rests on the false assumption that since the first generation to concern itself with intergenerational justice receives nothing in return it is automatically the least well off in any savings scheme. But if a few generations conserved little or nothing, a subsequent generation would find itself without the means to live at all; taking this fact into account, the difference principle would require that we improve the prospects of *that* otherwise forlorn generation by imposing sacrifices on earlier generations.

¹⁰ *A Theory of Justice*, Section 58.

¹¹ See, for example, Barry, 1973, Scanlon, 1973, and Beitz, 1979.

¹² Since the most freedom-maximizing, and the fairest way to deal with the conflict between my childlessness and any plans my parents (or future people other than my never-to-be-born children) might have is to let me decide not to have children (a freedom that is not to be confused with the unacceptable freedom to have as many kids as I like).

¹³ The link between a generation's level of welfare and its population has been pointed out by others, such as Bayles, 1978.

¹⁴ Similar responses were given by Bayles, 1978, and by Callahan, 1971 and Barry, 1977.

¹⁵ This point is consistent with the claim that individual animals have certain rights (as well as the denial of this claim), but I shall not discuss animal rights here.

¹⁶ International Task Force, 1985, p. 12.

¹⁷ Mares, 1986.

¹⁸ Coale, 1983.

¹⁹ Moran, *Developing the Amazon* (Bloomington: Indiana University Press, 1981), referred to by Mares, 1986.

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