Liberal Justice, Future People, and Natural Resource Conservation

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Over the past few decades, liberal political theorists have become increasingly concerned with effects of natural resource depletion and long-term environmental damage on future generations. Yet grounding natural resource conservation obligations within traditional liberal theories of justice has proven quite challenging. One difficulty is that even radically depletive policies may causally lead to the birth of particular future people who cannot straightforwardly claim to have been harmed by such policies. More problematically, many liberals endorse accounts of the prerequisites for rights and the circumstances of justice that fail to give standing to future people.

Given these difficulties, it is not surprising that, when it comes to natural resource conservation, many thinkers have replaced or augmented traditional liberal theories of justice with communitarian theories, democratic stewardship theories, theories of obligations of beneficence to future people, theories that rely on present individuals’ affections for future people, theories that focus on the importance of human flourishing, or theories that focus on the inherent value of natural objects. Though I do not deny that these approaches may have merit, I argue that obligations to conserve natural resources for future people, even for those who will only live in the very distant future, can be grounded in existing liberal theories of justice. And as Brian Barry argues, demonstrating that conservation is a matter of justice can significantly strengthen the priority that such an obligation is given.
The key idea developed in this article is that there is a justice-based obligation to conserve natural resources for future people that present people owe to each other. The basic steps of the argument, which I initially develop in a simple two-generation case, are as follows: First, once the members of the second generation exist, the members of the first generation have an obligation to provide them with a share of either natural resources or equivalent resources that is equal to the share enjoyed by the members of the first generation. Second, if some members of the first generation end up shirking this obligation, the other members of the first generation bear residual liability for making up part of the shortfall. Third, those in the first generation who can anticipate being subject to this residual liability can rightly insist (in order to avoid having to make up shortfalls) that their contemporaries either conserve sufficient natural resources or save sufficient equivalent resources for the members of the second generation even before these future individuals come into being. When it can be anticipated that saving sufficient equivalent resources will be impossible, the members of the first generation have a justice-based obligation (to each other) to conserve natural resources for future people.

After making this argument in the two-generation case, I show how it can apply to the case of multiple generations. The basic idea is that although contemporaries will never be directly faced with the claims of those living in the distant future, they will be faced with the claims of the next generation who can anticipate the claims of the subsequent generation and so on through a chain of overlapping generations. I argue that the commitment to equality of shares in the two-generation case, combined with sufficient foresight and the fact that generations overlap, can generate obligations among
contemporaries (to each other) to conserve or save resources even for individuals who will live in the very distant future.

**Future People, Rights, and the Circumstances of Justice**

There are at least two major obstacles to grounding obligations to conserve or save for future people within the framework of liberal justice. The first is that future people lack the prerequisites for having rights on a variety of liberal accounts of these prerequisites. Some theorists have argued that for an entity to have rights, it must exist and currently have interests.\(^9\) Others have argued that it must be able to exercise certain powers (at least as a logical possibility).\(^10\) Still others have argued that the entity must be able to question the legitimacy of others’ actions.\(^11\) Future people do not meet any of these prerequisites and so, as Hillel Steiner writes, “[they can] have no rights against present persons… [and] can therefore have no rights that present persons conserve anything for them.”\(^12\)

The second problem is that, on many traditional liberal accounts of the circumstances of justice, future people simply do not stand in relations of justice to contemporary people. Some liberals, for example, claim that the circumstances of justice require that individuals have an approximate equality of power to threaten each other.\(^13\) Yet as Brian Barry and others point out, future people have no such power to threaten contemporaries.\(^14\)

Future people can also fail to stand in relations of justice to contemporaries even on less stringent conceptions of the circumstances of justice. Even if the circumstances
of justice only require that there be some kind of reciprocity between individuals, it still seems that claims of justice cannot arise with regards to future people. As Barry writes:

[T]here is no room for justice as reciprocity to operate between people who are not alive at the same time. The man who asked what posterity has ever done for us got to the heart of the problem. Since, in the nature of the case, posterity cannot do anything for us, there can be no obligation arising from justice as reciprocity to do anything for posterity.\textsuperscript{15}

It is, of course, true that we will be in relations of reciprocity with some future people and that some future people will meet the prerequisites for having rights. It is unclear, however, what this requires from us now. Moreover, it is even more difficult to think about what we are required to do for future people whose lives will not temporally overlap at all with our own.

I will not attempt to avoid these problems by introducing different prerequisites for rights or by arguing for different circumstances of justice. I concede without argument in this article that future people do not currently have any rights and do not currently stand in relations of justice with present people. I will refer to this as the problem of intergenerational liberal justice. If so, then any justice-based obligations to conserve natural resources cannot be obligations present people owe to future people. But I argue that present people can (and do) have obligations to each other to conserve natural resources for future people.

\textit{The Natural Resource Rights of Newly Existing People}

Demonstrating that each future person, once she exists, has a right to a share of either natural resources or equivalent resources equal to the share of each of her predecessors is
the first step in the argument. To simplify matters, let us consider a highly stylized hypothetical case: A group of interstellar explorers have come upon a new planet that has a single, homogeneous, perfectly divisible, useful, and scarce natural resource called manna. Assume that:

1. The manna is a nonrenewable natural resource that can be immediately harvested in its entirety by the original explorers.
2. There are no technological advances (either manna related or otherwise) on the planet.
3. The manna is not absolutely necessary for the survival of the explorers.
4. Besides the manna, many other goods and services are produced in the explorer economy, some but not all of which require manna as an input.

Let us further simplify for now by imagining that there will only be two generations on the planet: the original explorers (which I will refer to as Gen 1ers) and another group of individuals who come into being later (Gen 2ers). Assume that the Gen 2ers appear in the middle of the Gen 1ers lives and that they appear all at once and fully-grown. Further assume that there is an equal number (N) of Gen 1ers and Gen 2ers and that the Gen 1ers know that the Gen 2ers will appear and know their exact number. Finally, assume that the Gen 2ers are not born as a result of the actions of the Gen 1ers. This final assumption is meant to focus our attention on the rights the Gen 2ers have (once they exist) to natural resources merely by virtue of their claim to equal moral concern as opposed to any claims they may have by virtue of the fact that the Gen 1ers’ choices brought them into existence.
For the purposes of this article, I will also take as given two important and controversial normative propositions. First, I will assume that if there are external resources that no person labored to create (e.g., the manna), all individuals who meet the prerequisites for having rights and stand in relations of justice to each other have equal claims to these resources. Second, I will assume that individuals’ equal claims to such resources are best respected through giving each person private ownership of an equal share of them. Given these assumptions, I will argue in this section that the Gen 1ers have a justice-based obligation to the Gen 2ers once they exist to transfer to each of them a share of either manna or equivalent resources that is equal to the share received by each of the Gen 1ers. I will call this the equal-share-transfer obligation.

It might appear as though this obligation straightforwardly follows from the two normative assumptions I have made. In fact, several theorists move quite quickly from a proposition about equality of shares in the single generation case to something like an intergenerational equal-share-transfer obligation. However, this theoretical move requires more careful scrutiny than has been given it so far.

The only objection that is typically considered when making this move is one based on the early-arrival claims of the members of the first generation. But early-arrival, or first-possession more generally, is a relatively implausible way to ground permanent ownership claims even in the single generation case. In any case, many of the most promising arguments in favor of first-possession (such as claims about consent or about some approximate equality of opportunity to appropriate) are wholly implausible in the multigenerative context. On the other hand, there are two subtle but powerful challenges to the equal-share-transfer obligation that have been largely overlooked.
These challenges are based on the initial non-existence of the Gen 2ers and the dependence of the Gen 2ers psychophysical identity on the actions of the Gen 1ers. I argue in this section that neither of these challenges is ultimately successful.

THE NON-EXISTENCE PROBLEM
To see how the Gen 2ers’ initial non-existence could undermine the equal-share-transfer obligation, imagine that by the time the Gen 2ers appear, the Gen 1ers have already consumed half of the planet’s manna. If the Gen 2ers did not exist when the initial allocation of the planet’s manna was made and had no rights then, why should they receive an equal share of the planet’s original stock of manna (i.e., a share equal to the share enjoyed by the Gen 1ers) rather than merely an equal share of the remaining manna?

Indeed, liberals who we see the foundation for the equality of shares as some type of bargain among the generations 23 or who support equality of natural resource shares in order to justify limitations on individuals’ freedom to use natural resources 24 may be committed to dividing only the remaining manna equally in this case. But there are at least some liberal accounts of the normative foundation of equality of natural resource shares that can justify granting the Gen 2ers a share that is equal to the share received by the Gen 1ers.

One such account, given by Dworkin, states that granting each person an equal share of natural resources with which to lead her life is part of what it means to treat every person with equal concern. 25 As Dworkin rightly suggests, this requires us to evaluate equality of shares from a synoptic point of view, ensuring that each person has an equal share of natural resources with which to lead her life taken as a whole. 26
Applying this idea to the case at hand, we should not merely ensure that the manna is equally divided at the particular moment when the Gen 2ers appear. Doing so would improperly neglect the manna that has already been devoted to the lives of the Gen 1ers. Moreover, note that even though the Gen 2ers did not exist during the initial allocation, once they exist, they each stand in relations of justice with respect to all of their contemporaries, including the Gen 1ers. They can thus rightly insist that their lives be treated with a concern equal to that shown for the Gen 1ers’ lives, which entails in this case being granted an amount of manna equal to the amount devoted to the Gen 1ers’ lives. By dividing only the remaining manna equally, we would unjustly be granting each of the Gen 1ers \(3/(4N)\) of the planet’s manna with which to lead their lives while granting each of the Gen 2ers only \(1/(4N)\).

Now, a more difficult case arises if we imagine that the Gen 1ers have consumed all of the planet’s manna before the Gen 2ers come into being. In this case, it is simply impossible to grant the Gen 2ers a share of natural resources that is equal to the Gen 1ers’ share. Thus, it might appear (counterintuitively) that if the Gen 1ers are sufficiently voracious in their consumption of manna, they might be able to avoid sharing any of it with the Gen 2ers.

Hillel Steiner attempts to solve this problem by calling into question the property rights of the Gen 1ers in other physical objects that have been created with the manna and that still exist when the Gen 2ers appear. Since the Gen 2ers did not consent to the Gen 1ers’ appropriation of the manna, on Steiner’s account they have no reason to respect the titles to the property in the objects that the Gen 1ers created with the manna. Presumably, to obtain the Gen 2ers’ consent to respect these property titles, the Gen 1ers

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would somehow have to compensate the Gen 2ers, perhaps even by giving them something equivalent to an equal share of the manna.

However, even if we accept Steiner’s controversial argument, this does not lead to a principled commitment to a resource transfer from the Gen 1ers to the Gen 2ers. After all, we might imagine that the Gen 1ers simply burn all the manna in order to enjoy the spectacle before any of the Gen 2ers come into being. Since this does not generate any physical property that has manna as an input, on Steiner’s account there are no property claims for the Gen 2ers to contest and no potential ground for compensation. Yet it seems intuitively implausible that the Gen 2ers’ case for receiving resources from the Gen 1ers depends on whether the Gen 1ers used the manna to create physical objects or not.

Indeed, there is a different justification for a resource transfer in this case that applies even if no manna-derived physical objects exist when the Gen 2ers appear. To temporarily set aside certain complications when making this argument, assume that though all the manna is gone, the Gen 1ers have, through their labor but without using any manna, created other goods called widgets each of which is uncontroversially equal in value to one unit of manna. In addition, assume that each Gen 1er has widgets equivalent to 1/(2N) of the planet’s original manna when the Gen 2ers appear.

Given these assumptions, a strong case can be made for a widget transfer from the Gen 1ers to the Gen 2ers. I have assumed that each person ought to have an equal share of labor-free external resources with which to lead her life. Admittedly, in the case when the manna is gone, there simply are no resources that are labor-free. That is, although the widgets are labor-free just like the manna would have been from the perspective of the
Gen 2ers, from the perspective of the Gen 1ers, the widgets are clearly not labor-free. But the Gen 1ers have been able to enjoy a large amount of labor-free resources (i.e., the manna), and any widgets that are taken away from them can appropriately be seen as simply reducing the net labor-free resources devoted to their lives. Once we recognize this point, the same reasoning that supported granting the Gen 2ers the full remaining half of the planet’s manna can be used to support a widget transfer. By insisting on a widget transfer, each Gen 1er would receive $1/N$ of the planet’s manna minus widgets that are equivalent to $1/(2N)$ of the planet’s manna while each of Gen 2ers would receive widgets that are equivalent to $1/(2N)$ of the planet’s manna. Each person would thus be granted an equal share of resources that are labor-free in the appropriate sense with which to lead her life. Generalizing from the widget example, if no natural resources are available once the Gen 2ers appear, then the Gen 1ers have justice-based obligations to provide the Gen 2ers with equivalent resources.

Note that I have not yet shown that Gen 1ers have obligations to conserve natural resources before the existence of the Gen 2ers. I have also not specified what the obligation to provide equivalent resources entails in a world where there is no resource that is uncontroversially equal in value to manna. I will address these issues below. But first I must consider another challenge to the equal-share-transfer obligation.

THE NON-IDENTITY PROBLEM

The assumption that the Gen 2ers simply appear independently of the actions of the Gen 1ers was meant to set aside the obligations of parents to their own particular offspring. But it has also allowed us to avoid an important objection to the Gen 2ers’ claims. Namely, in a more realistic world, the policy that the Gen 1ers pursue with regard to the
manna may well affect who will be born. Since the psychophysical makeup of new individuals critically depends on which egg is fertilized and which sperm does the fertilizing, a very small change in the chain of events (including a change in the manna consumption policy) can easily affect the identity of the Gen 2ers.

This presents an important challenge to the manna claims of the particular Gen 2ers who come into existence. If the Gen 1ers and Gen 2ers were simply two groups of individuals with different arrival times on the planet, we could straightforwardly consider how different manna consumption policies affect the late-arrivers’ lives. For example, we could intelligibly claim that the early-arrivers’ over-consumption of manna harms the late-arrivers. However, once we assume that different policies may lead to the birth of different individuals, it seems difficult to argue that a depletive policy carried out by the Gen 1ers harms the particular Gen 2ers who end up being born. After all, those particular Gen 2ers might well not have existed under a different policy. So assuming a life without manna is worth living, the Gen 1ers might argue that the Gen 2ers have no way of claiming to have been made worse off by the depletive policy. If they are not harmed by the policy of total manna depletion, it is difficult to see how they can legitimately claim that they the Gen 1ers ought to give them any natural resources or equivalent resources, let alone an equal share. This is an example of Parfit’s well-known nonidentity problem.28

In fact, Parfit himself considers this problem in the context of a policy that depletes natural resources.29 Although Parfit considers a policy that affects people in the distant future, there is nothing about the nonidentity problem that fundamentally precludes it from arising in the simpler two-generation case. We can, for example,
simply imagine that that due to some unspecified causal mechanism, the exact psychophysical make-up of all the Gen 2ers who appear is affected by the policy that the Gen 1ers choose with regard to how much manna is consumed before the Gen 2ers exist. With this assumption in mind, let us again imagine the extreme case where the Gen 1ers consume all of the planet’s manna before the Gen 2ers come into being. Do the particular Gen 2ers who appear have any claims to equivalent resources?

Parfit would argue that, since the Gen 2ers cannot claim to have been harmed by the Gen 1ers’ policy, the only objection to the policy could come by thinking about the hypothetical individuals who would have been born under a less depletive policy. Given Parfit’s arguments, it is unclear how the Gen 2ers can make the case for receiving equivalent resources, especially if we assume that no Gen 2ers would have been born under a less depletive policy.

One way to attack Parfit’s argument is to demonstrate that it relies on the wrong idea of harm. (Several papers have been written attempting to make this case.) However, I aim to show that the nonidentity problem simply does not arise in this case because Gen 2ers’ claim to manna or equivalent resources does not rely on an argument that they have been harmed by the depletive policy but instead is based on the argument that they are being harmed once they exist by not being given equivalent resources.

One might think of the Gen 2ers as having been harmed if one considers the problem, as Parfit does, from the temporal perspective of the Gen 1ers who are deciding whether or not to pursue the depletive policy. However, as I have conceded in this article, at this point in time the Gen 2ers do not exist and cannot have any preexistence interests.
or rights. They thus cannot be harmed in the relevant sense at this point in time regardless of what the Gen 1ers do.

To think about the question of harm given the assumptions made in this article, we need to consider the claims that arise once the Gen 2ers (whoever they turn out to be) already exist. When we consider the justice-based claims of the particular Gen 2ers who have already come into being after the depletive manna policy and who are not given any resources by the Gen 1ers, it becomes clear that their charge of harm is different from the one that Parfit considers. The Gen 2ers can concede that they have not been harmed by the depletive policy. But they could rightly point out that they are not asking for restitution for a past harm. Rather, their demands are based on the claim that they are being harmed now by not being given the equivalent resources that they are due on the basis of equal concern. While the nonidentity problem might call into question claims to restitution by undermining individuals’ claims to being victims of past harms, it cannot be similarly used to dismiss the Gen 2ers’ charge of current harm, and thus cannot be used to undermine their claim to a share of equivalent resources.

The Conserving/Saving Obligation

So far, I have argued that the Gen 1ers are obligated to provide the Gen 2ers, once they exist, with a share of either manna or equivalent resources that is equal to the share devoted to the lives of the Gen 1ers. In this section I argue that the Gen 1ers have an obligation before the Gen 2ers exist to either conserve sufficient natural resources or to save sufficient appropriately equivalent resources so that they will be able to meet their obligations to the Gen 2ers once they exist. I will refer to this proposed pre-Gen 2er-
existence obligation as the conserving/saving obligation. I conclude the section by considering the circumstances under which the Gen 1ers must actually conserve natural resources (rather than simply setting aside equivalent resources) for the Gen 2ers.

CAN FUTURE OBLIGATIONS TO FUTURE PEOPLE BIND NOW?

To some readers, it might appear straightforwardly true that we have a conserving/saving obligation before the Gen 2ers exist if it is true that we have an equal-share-transfer obligation once they exist. After all, we might think that the Gen 1ers have a justice-based obligation not to put themselves in a situation where they will be unable to meet their future justice-based obligations. If so, then the Gen 1ers are clearly obligated to conserve manna or save equivalent resources even before the Gen 2ers come into existence.

Indeed, we routinely uphold obligations based on future obligations. For example, when a court issues a prohibitory injunction, it prohibits some entity from taking actions today that will make it unable to meet its future justice-based obligations.\(^{32}\)

The problem, however, is that our obligation not to put ourselves in a situation where we will be unable to meet our future obligations is one that is owed to the potential victims of the future injustice. A prohibitory injunction is based on the legitimate interest of the party who will ultimately be harmed when the future obligation goes unmet. But since the Gen 2ers do not yet exist, they cannot be said (given the problem of intergenerational liberal justice) to have the rights necessary to generate any sort of prohibitory injunction against the Gen 1ers. There thus appears to be no one (before the Gen 2ers exist) to whom the Gen 1ers owe the obligation to forbear from taking actions
that will preclude them from meeting their future justice-based obligations to the Gen 2ers.

Note that we might straightforwardly make the argument that the Gen 1ers are acting immorally by taking actions that will make them unable to meet their future justice-based obligations. It is also true that the Gen 1ers might be acting with enormous imprudence by not conserving manna before the Gen 2ers exist. But neither of these points is sufficient to ground a justice-based obligation to forbear from depleting all the manna before the Gen 2ers come into existence.

DISAGGREGATING THE GEN 1ERS, PARTIAL COMPLIANCE, AND RESIDUAL LIABILITY
There is, however, a more promising approach to grounding the Gen 1ers’ conserving/saving obligation, one requiring us to alter the way in which we think of the Gen 1ers. So far in this article, I have followed a common practice among thinkers writing on intergenerational issues by treating the Gen 1ers as members of a monolithic entity: the first generation. Yet this abstraction, though sometimes useful, is inconsistent with the liberal focus on the individual. It is individuals, not (or at least not only) collective entities like generations, who have rights and obligations. And considering questions of intergenerational justice at this individual level can reveal certain rights and obligations that simply cannot be seen when looking at generations taken as a whole.

Once we consider the Gen 1ers as individuals, the first question that arises is who exactly has an obligation to which Gen 2er once the Gen 2ers exist? If Gen 2ers are not born to particular parents (as I have been assuming in this article), there seems to be no reason why any particular Gen 1er should have a special obligation to provide for the natural resources claims of a particular Gen 2er. It seems plausible instead to hold that
each of the Gen 1ers has an obligation to contribute equally towards meeting the claims of each of the Gen 2ers once they exist. Otherwise, the share of the labor-free resources devoted to the lives of different individuals might not be equal.

The next critical question is what should happen when one of the Gen 1ers fails to meet her obligation to the Gen 2ers? Consider the following case: Anthony and Agnes (the only Gen 1ers) are on a planet with 24 units of manna. They know that two Gen 2ers will appear in ten years. Initially, Anthony and Agnes each receive twelve units of manna. Anthony decides to save six units in order to be able to meet his future obligation to the Gen 2ers once they exist. He also decides to turn the other six units into a manna preserve for his exclusive personal enjoyment (a preserve that he plans to harvest to support himself during his retirement). Agnes, on the other hand, decides to harvest and consume all of her manna before the Gen 2ers come into existence. For simplicity, let us assume that neither Anthony nor Agnes has saved any other wealth that could constitute equivalent resources.

When the Gen 2ers (call them Ben and Beatrice) appear, they each rightly demand that the Gen 1ers meet their equal-share-transfer obligation (i.e., they each demand six units of manna). Anthony dutifully turns three units of manna to Ben and the other three units of manna to Beatrice. But when the Gen 2ers ask Agnes for the other half of their rightful share, she points out that she has no manna or equivalent resources and directs them back to Anthony.

Anthony, however, could object to transferring any additional manna to the Gen 2ers. He might point out that, as a general matter, if D and E owe some resources to C, and E pays his debt but D does not pay hers, E is not generally seen as being on the hook
for D’s debt to C. Why then should Anthony be on the hook when Agnes does not meet her obligation to the Gen 2ers?

The Gen 2ers have three potential responses to Anthony’s objection. First, they could appeal to their complete lack of responsibility for Agnes’s default in this situation in order to argue that the burden of Agnes’s default should be shared. In the vast majority of debt default cases, the debtee might have exercised more care in avoiding or mitigating the potential harm from the default. For example, C might have taken more care when choosing to deal or interact with D. Lacking knowledge about how much additional care C could have exercised and reasonably presuming that E is not at all responsible for the harm caused by D’s default, we might have good reason (both on efficiency grounds and on moral grounds) to make the debtee bear the full responsibility of a default in the general case.

In the case at hand, however, more caution or mitigation of harm by the Gen 2ers is impossible. The obligation that Agnes owes the Gen 2ers is not the result of any voluntary interaction that the Gen 2ers had with Agnes. Nor could they have bought insurance or taken actions to prevent Agnes from consuming all the manna. So the Gen 2ers seem to have a much stronger case than C does in asking others (e.g., Anthony) to share the costs of a default. Such an absence of responsibility on the part of the debtee may be one reason why taxpayers are routinely forced to contribute toward compensating the victims of certain crimes that are difficult to guard against or avoid when the offender cannot be made to pay appropriate compensation.

The Gen 2ers’ second response might entail disputing the individualistic way in which I have characterized the Gen 1ers’ obligations. They might argue that the first
generation *as a collective entity* has an obligation to them once they exist. This does not necessarily imply that Anthony must be on the hook if Agnes defaults, but it seems to strengthen the case for this conclusion. After all, if D and E are members of a partnership, and the debt owed to C is owed by the partnership, then if D does not pay his portion of the debt to C, E *is* generally acknowledged to be on the hook. Although this line of argument may well be convincing to some readers, especially if the example is adjusted so that there are thicker connections between Agnes and Anthony, I will not pursue this response further here.

The third and most powerful Gen 2er response involves the connection between Anthony and Agnes’s obligations. Unlike D and E, Anthony and Agnes resource debt is based on a *common* underlying obligation to ensure that each Gen 2er, once she exists, has an equal share of labor-free resources with which to lead her life.\(^{39}\) The resource transfer obligations of D and E, on the other hand, are based on separate underlying obligations (e.g., rectifying some harm each individual caused or meeting their individual contractual obligations). To see the importance of this distinction, imagine that both D and his resources and Agnes and her resources never existed. The resource transfer obligation of E in this counterfactual world would generally remain unchanged. However, Anthony’s would clearly increase. Specifically, Anthony would have to transfer four units of manna to each Gen 2er (i.e., eight total rather than only six total) while enjoying only four units himself in order to meet his equal-share-transfer obligation in this counterfactual world where Agnes and her resources are out of the picture.

Cases of individuals whose obligation to transfer resources is based on a common underlying obligation are not so unusual. For example, if E and D are C’s parents, they
each have an obligation to transfer sufficient resources to C so that C has a certain standard of living in terms of food, shelter, education, medical care, and so forth. If D shirks of her parental duty, the legal burden that E faces will increase. Another example from moral theory that has this obligation structure is the well-known moral duty of beneficence. When some relatively wealthy agents do not comply with this moral duty, it is standardly thought to increase the burden on complying agents.⁴⁰

Now, Anthony could concede that he shares a common underlying obligation with Agnes but appeal to the arguments that Liam Murphy makes about the duties of compliers in exactly such cases. Murphy argues compliers should not be required to make sacrifices that would leave them worse off than they would have been had everyone complied with their common underlying obligation.⁴¹ Asking Anthony to pick up Agnes’s slack, Murphy might point out, would entail “giving up” on Agnes as a responsible moral agent who is able to choose to comply with her obligations.⁴² More importantly, if the full-compliance distribution of burdens on the Gen 1ers to meet the Gen 2ers natural resource demands once they exist is fair (as I concede that it is), then forcing Anthony to give more manna to the Gen 2ers, if Agnes does not meet her obligations, would entail (wrongly) forcing him to do more for the Gen 2ers than he is fairly responsible for.⁴³

There are, however, several problems with Anthony’s Murphy-inspired response. First, the argument about the importance of not “giving up” on Agnes as a moral agent does not have the same force when her obligation is one of justice rather than a general moral obligation like the duty of beneficence. While having Anthony on the hook in the case of the duty of beneficence might indeed make it more likely that Agnes will shirk
her duty, in the case at hand, placing Anthony on the hook gives him the incentive and standing to insist that Agnes take steps to ensure that she will be able to meet her future justice-based equal-share-transfer obligation. And although forcing Agnes to meet this obligation would in some sense entail giving up on her as a responsible moral agent, since her obligation to transfer resources to the Gen 2ers is an obligation of distributive justice, we need not be concerned here (as we would in the case of a moral duty) with respecting Agnes’s right to do wrong.44

As for the second part of Anthony’s Murphy-inspired response, I concede here that forcing Anthony to do more than his “fair share” may well be wrong, and that this is exactly what we would be doing by insisting that he pick up Agnes’s slack.45 However, though this may give us a significant pro tanto reason not to ask Anthony to give up more than six units of manna, it does not settle what should be done all things considered. After all, the principle that each person should have an equal share of labor-free resources to lead her life also has some normative force and militates in favor of asking Anthony to transfer more than six units of manna. In addition, the benefit of mitigating the harm to victims of injustice also weighs in favor of asking Anthony to give up additional manna. When we weigh these considerations along with the complete lack of Gen 2er responsibility for Agnes’s default and Anthony’s ability to potentially prevent the injustice from occurring in the first place, it seems difficult to insist that the unfairness to Anthony in this case of a common underlying obligation is sufficient reason to allow him to enjoy six units of manna while each of the blameless Gen 2ers only enjoys three.46

Ultimately, I need not take a position on exactly how much more than six units of manna Anthony should have to give up. As long as the unfairness to Anthony does not
trump all the other considerations (which I do not think it does), we can say that Anthony bears a residual liability in the case that Agnes shirks her equal-share-transfer obligation. More generally, we can say that each Gen 1er bears a residual liability in case that other Gen 1ers do not meet their equal-share-transfer obligations to the Gen 2ers once they exist.

This residual liability on the part of each of the Gen 1ers forms the basis of an overlooked, justice-based obligation to conserve or save resources for the Gen 2ers. Although it is an obligation to conserve or save for the Gen 2ers, the conserving/saving obligation is not owed to the Gen 2ers. Rather it is owed to fellow Gen 1ers who can rightly demand that they not be put in a situation where they are forced to enjoy fewer natural resources than their potentially profligate fellow Gen 1ers. We have thus found agents with standing who can rightly insist before the Gen 2ers exist that (other) Gen 1ers avoid acting in ways that will lead them to default on their future justice-based obligations to the Gen 2ers.

Now, it is important to concede that this conserving/saving obligation does not arise in all hypothetical cases. It would not arise, for example, if there were only one Gen 1er. Alternatively, if the Gen 1ers’ and Gen 2ers’ lives did not overlap temporally, then the conserving/saving obligation would also not arise. Finally, since the conserving/saving obligation is owed to other Gen 1ers, it may be possible to argue that the Gen 1ers could avoid meeting this obligation by universally releasing each other from it.47

However, nothing in this article precludes the existence of other moral (or even justice-based obligations) obligations to conserve and save for future people that could
apply to the hypothetical cases above. The conserving/saving obligation described here is nevertheless important because of its compatibility with certain widely held, plausible liberal ideas about the circumstances of justice and prerequisites for rights (without requiring appending any additional theoretical scaffolding to traditional liberal theories). Moreover, it is an obligation to save and conserve that has not been previously recognized and that is applicable to our world given its multiple contemporaries and overlapping generations.

CONSERVING VERSUS SAVING

I began this article by specifically discussing the problem of conservation. So far, however, I have only shown that that there is an obligation among contemporaries to either conserve or save for future people. Before concluding this section, it is important to say something regarding the circumstances under which the Gen 1ers are obligated to specifically conserve natural resources.

At an abstract level, determining when conservation is required is straightforward. Particular Gen 1ers are required to conserve natural resources whenever other Gen 1ers can anticipate that it will be impossible for certain fellow Gen 1ers to provide the Gen 2ers, once they exist, with equivalent resources. There are two ways that this condition could be met. First, there simply may be no resources that are appropriately equivalent to certain depleted natural resources. In this case, all Gen 1ers would be obligated to conserve an appropriate portion of the natural resources that are irreplaceable in this way. After all, the fact that no money can replace a cherished family heirloom does not release its destroyer from the obligation to make amends (and in fact, the irreplaceability might increase the amount of resources that must be transferred). Similarly, the fact that there
are no resources that are appropriately equivalent to certain depleted natural resources does not release the Gen 1ers from an obligation to transfer resources to the Gen 2ers so that their share of labor-free resources is, as far as possible, equal to the share enjoyed by the Gen 1ers. And since Gen 1ers would be on the hook (in quite serious ways) if their fellow Gen 1ers fail to conserve such irreplaceable natural resources, they can rightly insist that their fellow Gen 1ers actually conserve such irreplaceable natural resources for the Gen 2ers.

A second way in which a conservation obligation can arise is if there are resources that are appropriately equivalent to natural resources, but it can be anticipated that some of the Gen 1ers will be unable to amass a sufficient quantity of these resources to satisfy their equal-share-transfer obligation. In such circumstances, those who do not conserve would again be creating enormous residual liabilities for their fellow Gen 1ers.49

At a more concrete level, determining exactly when natural resources must be conserved requires a complete and detailed account of what resources are equivalent to different natural resources. Many difficult questions need to be answered in order to develop and defend such an account, questions that are beyond the scope of this article.50 Even without a full account of what constitutes equivalent resources, however, we might venture a few tentative propositions. First, it seems intuitively plausible that most accounts of equivalent resources will allow contemporaries to substitute wealth for at least some natural resources, those generally valued straightforwardly in pecuniary terms. Second, there will be a class of natural resources (e.g., certain animal and plant species and objects of great natural beauty such as the Grand Canyon) for which different
accounts of equivalent resources will likely give different answers, with some accounts endorsing certain resources as equivalent to these natural resources and others insisting that no equivalent resources exist. Finally, it seems likely that there will be some natural resources that all plausible accounts of equivalent resources would view as irreplaceable regardless of how many resources are transferred to the Gen 2ers. At the extreme, there are some natural resources that are necessary for human life for which there simply are no substitutes.\footnote{51}

So it seems that there is at least some obligation on the part of contemporaries (to each other) to conserve natural resources for future people. How extensive this obligation to conserve (as opposed to merely save) is will depend on the exact account of equivalent resources.

**Multiple Generations**

So far I have only shown that the conserving/saving obligation exists when there are two generations and the generations’ lives overlap. However, the really difficult problem given the assumptions of this article is demonstrating that present people have obligations to conserve or save even for those who will live hundreds of years from now. I refer to individuals whose lives do not overlap at all with the lives of present people as *distant future people*.

One way to view current people and distant future people is simply to see them as members of two non-overlapping generations. If we view them in this way while conceding the force of the problem of intergenerational liberal justice, it will straightforwardly follow that there can be no obligations of justice between us and them.
whatsoever. But contemporaries and distant future people are different from two non-overlapping generations in a crucial respect: namely, they are connected by a chain of overlapping generations. As I argue in this section, this often-ignored (or abstracted from) fact is crucial for deriving justice-based obligations to conserve for future people.52

Admittedly, not all liberals ignore the fact that generations overlap. For example, contractian libertarians like David Gauthier have pointed to the overlap between generations as a key reason why members of distant generations can hope to have natural resources when they are born. Gauthier writes:

Mutually beneficial co-operation directly involves persons of different but overlapping generations [creating] indirect co-operative links extending throughout history. Each person, in considering the terms on which he is to co-operate with those in an earlier generation than himself, must keep in mind his need to establish similar terms with those of a later generation who in turn must keep in mind their need to cooperate with members of a yet later generation, and so on. Thus, although each individual might be prepared to agree with his contemporaries that they should exhaust the world’s resources without thought for those yet to be born, the need to continue any agreement as time passes, to extend it to those who are born as it ceases for those who die, ensures that, among rational persons, the terms must remain constant, so the exhaustion of the world’s resources does not present itself as an option.53

Although there is something initially plausible about Gauthier’s argument, I must confess that, like Larry Temkin and Avner de-Shalit, I do not see why a particular set of people alive at a particular point in time could not rationally agree to utilize the planet’s resources at a very high and unsustainable rate.54 It is true that under such a depletive policy the members of the younger generations will have to face the members of future generations and make some cooperative agreement with them. But I do not see why it has to be the same agreement or even an agreement guaranteeing the new people some
broadly similar amount of natural resources. After all, at that future point, the planet’s original resources will be gone and no longer “on the bargaining table” so to speak. If individuals’ initial bargaining position and some rule about dividing the cooperative surplus are what rightly determine the outcome of such an agreement,\textsuperscript{55} then it does not seem that the newly existing individuals (who were not around when the natural resources were used up at a higher than sustainable rate) could rightly demand any compensation for the fact that many of the planet’s original natural resources are gone. And if the members of the youngest present generation need not provide future people with such compensation, then it is unclear why present people (including the younger individuals) could not do better for themselves by being part of an agreement to rapidly deplete the world’s natural resources before the enormous number of the earth’s future inhabitants come into being.\textsuperscript{56}

Although Gauthier’s argument fails to generate significant obligations of conservation, if we combine his insight about overlapping generations with the principled commitment to the equal-share-transfer obligation discussed above in the two-generation case, we can derive obligations that will protect the natural resource shares of distant future people. To see this, we will need to examine a case where at least some generations do not overlap. Imagine that there will be four generations on the manna planet, the Gen 1ers, the Gen 2ers, the Gen 3ers, and the Gen 4ers. Assume that each generation overlaps temporally only with the adjacent generation(s). So for the Gen 1ers, both the Gen 3ers and the Gen 4ers are distant generations. Assume again that all members of a particular generation simply appear at the same time, fully grown, and that there are an equal number (N) of individuals in each generation. To simplify the case and
to focus on conservation, also assume that there are simply no other resources that are appropriately equivalent to manna.

In the two-generation case, each of the Gen 1ers was required to conserve half of her original share of manna, i.e., consume $1/(2N)$ and save $1/(2N)$ for the next generation. The extension to four generations appears straightforward. Each person in each generation can consume $1/(4N)$ of the planet’s manna. This solution is suggested by the requirement of transitivity. If each generation’s members are entitled to the same amount of manna received by the members of the previous generation, then it seems that, by transitivity, the Gen 4ers will be entitled to the same amount of manna as the Gen 1ers.

But we might have reached this conclusion too quickly. One of the Gen 1ers might argue that she and her fellow Gen 1ers could still meet all the obligations of justice while consuming more manna. She might suggest that the Gen 1ers could each consume $1/(2N)$ of the manna instead of $1/(4N)$. They will still, she might point out, be able to provide an equal share to anyone with whom they will stand in relations of justice (i.e., the Gen 2ers).

However, there is an important flaw in this logic. When the Gen 1ers try to hand over $1/(2N)$ to each of the Gen 2ers, the Gen 2ers could rightly point out that, despite appearances, they are not being given an equal share of manna with which to lead their lives. After all, when the Gen 3ers arrive, the Gen 3ers are going to rightly demand from the Gen 2ers a part of the manna that the Gen 2ers received. And this is a demand that the Gen 1ers will not have to face since they will already be dead. Since the Gen 2ers will have to share some of their manna with the Gen 3ers, they will not be able to enjoy
the full half of the planet’s original manna that the Gen 1ers are proposing to leave them and thus will have less manna to lead their lives than the Gen 1ers had.

Faced with this complaint, the Gen 1ers might offer to hand over an additional $1/(6N)$ of the manna to each of the Gen 2ers. This way the Gen 2ers could each keep $1/(3N)$ for themselves and give $1/(3N)$ to the Gen 3ers when they appear to satisfy the Gen 3ers’ demands.

But the foresighted Gen 2ers would rightly point out that this is not sufficient either. After all, the Gen 3ers will not be satisfied with one-third of the planet’s original manna because they know they will have the legitimate demands of the Gen 4ers to contend with. So the Gen 2ers would rightly argue that in addition to the one-half of the planet’s original manna that the Gen 1ers were planning on giving them, they need another one-quarter. This would allow them to consume one-fourth themselves while meeting the legitimate claims of the Gen 3ers who would rightly demand one-half of the original planet’s manna so that they could consume one-quarter and give the final one-quarter to the Gen 4ers. This is exactly the equal division solution suggested by the requirement of transitivity.

So the Gen 1ers effectively have an obligation to the Gen 2ers once they appear to provide enough manna (or equivalent resources) to ensure that all the remaining generations are able to consume a share that is as large as the share enjoyed by each of the Gen 1ers. Relying on the idea of residual liability, we can thus derive an obligation (that the Gen 1ers owe to each other) to conserve sufficient manna to meet these obligations even before the Gen 2ers exist. So though the Gen 1ers will never directly have to confront the demands of the Gen 4ers, they will have to confront the demands of
the Gen 2ers who can anticipate that they will have to confront the demands of the Gen
3ers who can anticipate that they will have to confront the demands of the Gen 4ers. The
logic used in this four-generation example could be extended to any number of
generations as long as the generations are connected by a chain of overlapping
generations.\textsuperscript{57}

Now, there is an objection that once we consider a very large number of
generations (approaching infinity), each generation’s members will only be able to use a
miniscule amount of natural resources.\textsuperscript{58} This outcome seems quite intuitively
unappealing.

One response to this objection is that it is a particular artifact of the simplifying
assumptions made in this article (no technological advances,\textsuperscript{59} no discovery of new
natural resources, the Gen 2ers simply appearing as opposed to being the result of the
choices of particular Gen 1ers, and so on). Once we relax these assumptions, we may
well find that each individual is able to have a significant amount of natural resources
devoted to her life.

A second response is that given the assumptions made here, there is nothing
particularly disturbing about this outcome from the perspective of justice. If new batches
of individuals simply appear continuously and predictably over time on the otherwise
static manna planet independently of anyone’s actions, it is indeed true that each
individual will only be able to consume a very small amount of manna. However, Since
first arrival/possession has no normative significance in terms of justifying differential
shares of manna, as suggested above, this situation does not seem to be morally different
from one where there are simply a very large number of \textit{initial} explorers on the planet but
no future individuals come into being. In such a situation, each individual would rightly be entitled to an equal (though miniscule) portion of natural resources. Although the paltriness of individual manna shares is unfortunate, there does not seem to be anything *unjust* about this outcome.

**Conclusion**

Much more remains to be said about both natural resource conservation and about intergenerational justice more broadly. Many problems including future uncertainty, the implications of technological change, parental responsibility, and a full account of equivalent resources have been set aside here. These are problems that must be addressed in order to determine our real-world obligations to conserve natural resources. In addition, I have not explored the ways in which the arguments made in this article could be leveraged when analyzing other topics in intergenerational justice.

Although many questions remain unanswered, several important issues have been addressed. I began by arguing in the two-generation case that once the members of the second generation exist, they each have a right to a share of either natural resources or equivalent resources that is equal in size to the share enjoyed by the members of the previous generation. Neither the fact of initial non-existence nor the fact that future people’s identity will depend on the natural resource policy pursued by their predecessors challenges this right or the corresponding equal-share-transfer obligation.

Next, I argued that by considering *intragenerational* obligations it is possible to derive an obligation to either conserve natural resources or save equivalent resources for future people *before* they exist. Under conditions of partial compliance, contemporaries
have a residual liability to meet some of the resource claims of newly existing individuals when their fellow contemporaries fail to meet their obligations. Those who wish to avoid being asked to shoulder more than their equal share of the burden can rightly insist that their contemporaries set aside appropriate natural resources or equivalent resources for the members of the next generation. When people alive today can anticipate that there will be no resources that are appropriately equivalent to certain depleted natural resources, then they can insist that their contemporaries conserve such natural resources for those whose lives will overlap with theirs.

But in fact I showed that present people also have a justice-based obligation to conserve or save even for those who will live in the distant future. This follows from the fact that generations overlap combined with a principled commitment to the equality of shares among contemporaries. Present people will be confronted with the demands of the members of the next generation who can anticipate being confronted with the demands of the members of the following generation and so on. With proper foresight, it becomes clear that current individuals will be indirectly confronted with the claims of members of distant generations and will therefore be obligated to conserve or save for them.

Thus, the traditional framework of liberal justice need not be abandoned when thinking of the problem of conserving natural resources for future people even though these future people may not have rights and may not stand in relations of justice to present people before they exist. Once we stop thinking of generations as monoliths and give due consideration to the fact that generations overlap, it becomes clear that we have significant justice-based obligations to each other to conserve natural resources (or save
equivalent resources) not only for those in the next generation, but also for those who will only be alive in the distant future.

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1 For a brief discussion of this problem, see the Introduction of Justice between Age Groups and Generations, ed. Peter Laslett and James Fishkin (New Haven, Conn.: Yale University Press, 1992).


3 See for example Dennis Thompson, "Democracy in Time: Popular Sovereignty and Temporal Representation," Constellations 12, no. 2 (2005); 245-61.

4 See for example Chapter Two of Wilfred Beckerman and Joanna Pasek, Justice, Posterity, and the Environment (New York: Oxford University Press, 2001).

5 See for example John Rawls, A Theory of Justice, Revised ed. (Cambridge, Mass.: Belknap Press of Harvard University Press, 1999), p. 255. For a criticism of this move, Brian Barry, Democracy, Power, and Justice (New York: Clarendon Press, 1989), pp. 504-05. The other problem with Rawls’s theory is that he makes no distinction between natural resources and other forms of wealth. This is consistent with Rawls’s view that the products of effort should be regarded in practice as just as morally arbitrary as other goods. Yet intuitively, I think most liberals would hold that the obligation current individuals have to conserve the wealth they created through their labor is different from the obligation to conserve goods (i.e., natural resources) that they did not create.

For a review of some examples see Chapter Eight of Beckerman and Pasek, *Justice, Posterity, and the Environment*.


See Beckerman and Pasek, pp. 15-23.


See Bruce Ackerman, *Social Justice in the Liberal State* (New Haven, Conn.: Yale University Press, 1980), pp. 70-75. Ackerman later explicitly writes, “Generations yet unborn cannot participate in the dialogue and, hence, cannot assert their [rights]” (Ackerman, p. 222).


For a brief discussion of this tradition, see Barry, *Democracy, Power, and Justice*, p. 496.

Ibid., pp. 496-97.

Ibid., p. 483. Barry acknowledges that there are three possible ‘escape routes’ one might take to derive obligations of justice by appealing to reciprocity. The first is based on an obligation to repay the conservation efforts of previous generations. The second is based on the idea that conserving natural resources for future people is a kind of public good (assuming that many of the present people care about the well-being of particular future people). The third has to do with the ability of future people to affect the reputations of present people. Barry rejects all three of these escape routes. For a rejection of the first two escape routes, see Barry, *Democracy, Power, and Justice*, pp. 483-86. For Barry’s rejection of the importance of reputation, see Barry, *Democracy, Power, and Justice*, pp. 495-96. I am perfectly willing to forgo these escape routes by assuming that no one conserved significant natural resources for present people, that present people do not care about the well-being of the future people, and that present people do not care about their posthumous reputations. My goal here is to suggest yet another ‘escape route’ for proponents of justice as reciprocity that Barry and others have overlooked.

The interstellar explorers and manna case is taken in modified form from Chapter Two of Ackerman, *Social Justice in the Liberal State*. 
We can imagine that there is some other perfectly abundant natural resource that can support the explorers that enters the story only for this purpose.


I defend this equal share proposition elsewhere as well. See Chapter Four of Mazor, “A Liberal Theory of Natural Resource Property Rights.”


See for example David Gauthier, Morals by Agreement (Oxford: Clarendon Press, 1986). If half the manna is already gone, then it will not be “on the bargaining table.” I will return to this issue below.

See for example Steiner, "The Rights of Future Generations." If half the manna is already gone, then there is no need to compensate anyone for forbearing from utilizing it.


Ibid., pp. 83-84.

Steiner, "The Rights of Future Generations," pp. 159-64.


For an argument that Parfit relies on the wrong idea of harm, see Elizabeth Harman, "Harming as Causing Harm," in Harming Future Persons: Ethics, Genetics and the Nonidentity Problem, ed. Melinda Roberts and David Wasserman (New York: Springer, 2009). For the argument that there is an important distinction that Parfit overlooks between wronging and harming, see Rahul Kumar, "Who Can Be Wronged?" Philosophy & Public Affairs (2003): 99-118.

For a discussion and some examples from British law, see Mindy Chen-Wishart, Contract Law, 2d ed. (Oxford; Toronto: Oxford University Press, 2008), pp. 597-98.

We could, for example, argue that the Gen 1ers would be violating their own moral integrity by taking actions that would later make them unable to meet their obligations to the Gen 2ers. David Heyd makes an analogous argument with respect to a girl who decides to become a mother knowing full well that she will be unable to meet her duties to the future child. David Heyd, Genetics: Moral Issues in the Creation of People (Berkeley, Calif.: University of California Press, 1992), p. 111.

By not conserving or saving for the Gen 2ers, the Gen 1ers condemn themselves to a future life of penury since any extra wealth they accumulate beyond some moral minimum once the Gen 2ers exist would rightly be subject to transfer to the Gen 2ers in order to allow the Gen 2ers to enjoy, as far as possible, an equal share of labor-free resources.

One could argue that those with more wealth generally should contribute more to meet the claims of the Gen 2ers. This argument raises issues similar to those raised by the argument that those with more wealth should receive a smaller amount of manna to begin with. I address these issues elsewhere. See Mazor, “A Liberal Theory of Natural Resource Property Rights,” pp. 131-36, 202-10. In any case, the argument in this article could easily be reworked as long the burden of providing for the Gen 2ers is properly seen as shared (even if not perfectly equally).

For example, having Gen 2ers dependent on particular Gen 1ers would generate an enormous amount of inequality in the shares devoted to the Gen 2ers if some Gen 1ers defaulted on their obligations. In addition, if the quantity of resources that must be provided to the Gen 2ers in order to count as equivalent depends in part on the subjective preferences of particular Gen 2ers, then those Gen 1ers responsible for
meeting the claims of Gen 2ers who value natural resources very highly may end up with a greater saving obligation and thus may have fewer labor-free resources devoted to their lives.

37 I am grateful to an Editor for suggesting this example.

38 In many countries, there are funds for the victims of certain crimes that are difficult for victims to guard against. See for example, the Criminal Injury Compensation Authority in the United Kingdom that, according to its website, is “a government organisation that can pay money (compensation) to people who have been physically or mentally injured because they were the blameless victims of a violent crime.” http://www.cica.gov.uk/. (Accessed March 10, 2010). Emphasis added.

39 Note that individuals can have common underlying obligations without being members of any type of collective entity with such obligations. Unlike the previous argument about the existence of some generational collective entity, for the purposes of this argument, we do not need to assume any connections between Agnes and Anthony besides their obligations to the Gen 2ers.


41 This is a rough paraphrasing of Murphy’s actual compliance condition. For more precision and discussion, see Chapters Five, Six, and Seven of Liam Murphy, Moral Demands in Nonideal Theory (New York: Oxford University Press, 2000). Note that though Murphy’s book is specifically concerned with the duty of beneficence, his basic argument about the obligations of complying agents applies whenever agents share a common underlying aim. (Murphy at times suggests that the key distinction that makes his argument applicable is whether or not the moral principle in question is agent-relative or agent-neutral. But it seems clear from his discussion on p. 94 that the key point is the presence of a common aim. Puzzlingly, Murphy persists in trying to impose his agent relative/neutral distinction by viewing all obligations where there is a common aim as agent-neutral within the group that shares the common aim.)

42 Ibid., 116.

There are good reasons for refusing to coercively interfere with certain actions that are morally wrong. See Jeremy Waldron, "A Right to Do Wrong," *Ethics* 92 (1981): 21-39 at p. 29. However, it is standardly recognized that coercive force should be used to induce individuals to honor their obligations of distributive justice.

Hurley suggests that our assessment of what’s fair might be affected by the noncompliance of some agents. See Hurley, "Fairness and Beneficence," at pp. 858-59.

Note that we are not deciding here between fully protecting Anthony and fully protecting the Gen 2ers. Unlike Anthony, the Gen 2ers are not asking to enjoy their full-compliance manna shares (i.e., six manna units a piece). Rather, they are asking that each get an equal share of the manna controlled by complying agents (this is the division of the manna that would occur if Agnes and her resources did not exist).

However, one cannot always be released from obligations even by the person to whom one is obligated. So some work would have to be done to show that a mutual release from the conservation/savings obligations would be permissible. In any case, because of the immorality and imprudence of such an action, it is wholly implausible that a *universal* mutual release from the conserving/saving obligation would obtain in any realistic example.

Clark Wolf argues that present people have obligations to conserve even for those who will only live after they are dead. See Clark Wolf, "Contemporary Property Rights, Lockean Provisos, and the Interests of Future Generations," *Ethics* (1995): 791-818, at pp. 808-10. If Wolf is right, then the prerequisites for rights and the circumstances of justice discussed above will have to be revised. I will not pursue this controversy further here.

Note that while the equivalent resource savings obligation may in some cases be impossible for certain individuals to meet, it will generally be feasible to meet the conserving/saving obligation by conserving natural resources since it only requires the Gen 1ers to forbear from using natural resources rather than requiring any positive action on the Gen 1ers’ part.

These difficulties include, for example, whether to use an objective or subjective account of the value of natural resources. If a subjective account is used, questions arise regarding how to contend with differences in valuation between present and future people and about anticipating the preferences of future people. Although I do not provide an account of equivalent resources here, elsewhere I argue that
equivalent resources are those resources that the Gen 1ers could have reasonably anticipated (at the point when they were consuming the manna) would make the Gen 2ers unenvious (in Dworkin’s sense) of the share of labor-free resources devoted to the lives of the Gen 1ers. See Mazor, “A Liberal Theory of Natural Resource Property Rights,” pp. 395-99.

51 We might imagine that the Gen 1ers have an opportunity to pass such vital natural resources to the Gen 2ers in a form that is sufficiently stable so that these natural resources can still sustain life as long as the Gen 1ers are alive but sufficiently degraded so that they are no longer fit to support human life after the death of the Gen 1ers but long before the death of the Gen 2ers.

52 Throughout their discussion of distant future people, Beckerman and Pasek abstract from the fact that generations overlap. See Beckerman and Pasek, Justice, Posterity, and the Environment, p. 15 and passim.

53 Gauthier, Morals by Agreement, p. 299.


55 See Chapter Five and Chapter Seven of Gauthier, Morals by Agreement.

56 Giving a definitive proof of this would require wading too far into Gauthier’s theory. For those who doubt that the younger generation in particular would do better by agreeing to such a highly depletive policy, note that the older generation could conceivably ‘bribe’ the younger generation by offering it a larger share of the spoils of the depletive policy in order to obtain its consent.

57 The argument, though I won’t make it here, can be extended, to the case of an “environmental time bomb” policy that does not lead to a destruction of natural resources until several generations have passed. Think of the point when the “bomb explodes” and then work backwards through the chain of overlapping generations insisting that each generation have a share equal to its predecessor. It becomes clear that the individuals who carry out the policy will face much greater natural resource claims from the members of the next generation.

Some have argued that technological progress will make future people far better off than present people and that this significantly curtails the obligations of those currently alive to conserve/save for future people. See for example, Chapter Six of Beckerman and Pasek, *Justice, Posterity, and the Environment*.

Evaluating this claim requires a careful discussion of a variety of issues including the moral status of generational technology levels, the relationship between technology and equivalent resources, and the way in which differences in technology affect the measurement of different individuals’ natural resource shares. The assumption of no technological change was meant to set aside these thorny but important issues for the purposes of this article.