NON-IDENTITY, SUFFICIENCY AND EXPLOITATION

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Abstract: This paper argues that we hold two key duties to future people: to leave them enough in an absolute sense, and to leave them their fair share. Even if we benefit people by bringing them into existence, we can wrongly exploit our position to take more than our share of benefits. As in paradigm cases of exploitation, just because future people might agree to the 'bargain', this does not mean that they receive enough.

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Suppose our country faces a powerful enemy, and we face a choice between building up our army or acquiring nuclear weapons. We decide to build the bomb. Because nuclear deterrence proves effective, some wars never break out, saving many lives. Young men who would have been drafted get jobs in missile factories or in the civilian sector. All this affects which people meet, with whom they mate, and the moment that they conceive, resulting in children genetically different from those who would have been born under a non-nuclear policy. These children mate with others in the population. Within a few generations, the genetic makeup of nearly the whole country is different from what it would have been without the bomb. After eight generations of peace, a war breaks out and kills two-thirds of the population. Every following generation struggles to survive in a brutish and polluted world.

It seems we have committed a grave injustice. We bought ourselves and our descendants eight generations of peace at the price of a nuclear war. We may not have wronged the people who were living at the time of the war: They too stood to gain from the peace-inducing effects of nuclear deterrence, but had bad luck. You pays your money and you takes your chance. Every following generation, however, enters a damaged world. This seems unfair indeed. But wait. The post-holocaust generations are not the same people as would have been born had we opted for conventional deterrence. *Other* people would have been born instead. So long as they find their blighted lives worth living, perhaps they should even be grateful to us for building nuclear weapons, since it was the only chance *they* had to live at all!

Philosophers will recognize this as an example of what Derek Parfit calls the non-identity problem. All wide-scale public policies affect who is born and who is not. Unless we make future people's lives so bad as to be not worth living, we will not

harm them in the usual sense of making them worse off.² What then is wrong with ravaging the environment?

Perhaps our duty is to maximize benefits and minimize costs for future people, whoever those future people turn out to be. So long as the choices involve a fixed number of future people, utilitarianism gives plausible answers. But we are also deciding *how many* people to create, and here utilitarianism runs into trouble. If we should maximize total utility across generations, we might be obliged to have children whenever adding a child would increase overall utility. Moreover, while total utilitarianism would forbid us from making future people's lives so bad as to be not worth living, it would not preclude making people's lives *barely* worth living. The best world might turn out to be the Z-world of Parfit's famous Repugnant Conclusion: an enormous population whose sum utility was high due merely to its numbers.³

Alternatively, perhaps ravaging the environment violates future people's rights. If everyone deserves certain basic resources or opportunities, this explains what is wrong with exposing our descendants to the consequences of nuclear war, and goes some way toward solving the non-identity problem.⁴ But insofar as such arguments focus on basic needs, they seem too undemanding. They explain why we should not reduce future generations to destitution, but not why it would be wrong to leave them much poorer than ourselves.⁵ In any case, it may seem hard to show how we violate their rights unless we make them worse off—and this is the very premise the non-identity problem calls into question.⁶ Related to this, there is the issue of the *waiver*. We usually believe that people can waive their rights. Might not an entire future generation, knowing that our policies were a condition of its members' existence, collectively "waive" its rights, retroactively indemnifying us from all blame?⁷

This article advances a solution to the non-identity problem based on distributive justice. Drawing on a seminal analysis by Gregory Kavka, I argue that in our ordinary procreative decisions we recognize three rules. First, we try to minimize the proportion of children whose lives are not worth living. Second, we believe that all children should enjoy a minimum level of well-being, including such goods as enough to eat and good health. Third, we believe children should receive their fair share of benefits and burdens. Formulated as a population principle, this requires us, in lexical order, (1) to minimize the proportion of people with wretched lives; (2) to maximize either the proportion of people with decent lives, or the proportion who *can* enjoy decent lives; (3) to give potential people their fair share.

This forbids actions that risk impoverishing future people, without requiring us to maximize utility. It thus avoids the Repugnant Conclusion. At the same time, it shows how we can exploit our position vis-à-vis future people by taking more than we deserve. We can exploit people even if we do not harm them, as the example of willing sweatshop workers shows. Moreover, exploitation commonly involves a demand for concessions in exchange for seeing that *some* people gain and not others. Those individuals come out ahead, but the group to which they belong receives less than its share. In such cases, we often render rights inalienable. We should do so here. The rights of our descendants are not ones that we would allow them to "waive."

I. FAILING TO PROVIDE ENOUGH

In a famous example Parfit asks us to consider a fourteen year old girl who is thinking of having a baby. By having a child while she is herself so young, "she gives her child a bad start in life." Our instinct is to tell the girl that having the baby would be wrong. Nevertheless, so long as the child's life is worth living, it seems she does not harm him—indeed, for her to conceive now provides the only chance for *this*

particular child ever to live at all. We might object on the grounds that if one can choose between creating two individuals, one should create the happier of the two. Suppose, however, the 14-year-old girl learns that she will become sterile at age 15. Now it is a question of creating different numbers of people. If she does not have a baby now, she will never have one at all. No children are available for adoption, or ever will be. Her child's life will be worth living. He will not be worse off as a result. We may still think that the girl should not have the baby. Why not?

James Woodward's answer is that parents owe their children duties that a fourteen-year-old may not be able to perform. Others formulate this as an objection to causing future people to have "restricted lives," or lives that are "seriously defective," even if they are still worth living. This reflects our intuition that there are basic needs—such as food and shelter, or adequate parenting—that all people deserve to have met. In Kavka's words, "high priority should be given to providing all with the means to live at least a minimally decent life and engage in the major activities of human and community living." As Lukas Meyer has argued, such an approach resembles the sufficiency view of distributive justice. Sufficientarians are not concerned with equality, but rather that everyone should have *enough*. This is more than just scraping by; a satisfactory life should "include many genuinely valuable elements" and "be deeply satisfying." At the same time, sufficientarianism does not require us to have the *best-off* children possible. The main obligation is to do enough for them.

A. A SUFFICIENTARIAN POPULATION PRINCIPLE

What population policies does the sufficiency view imply? We can agree that we should avoid bringing people into the world whose lives are not worth living, such as infants suffering from Tay-Sachs disease or the direct poverty. ¹⁸ Nevertheless, a few

wretched people will inevitably be born, as well as some people whose lives, for reasons beyond our control, fall below sufficiency. Our goal cannot be simply to minimize the absolute number of people with poor lives. The most reliable way to do that would be to have no children at all. Maximizing the absolute number above the sufficiency threshold is less implausible, and goes some way toward satisfying utilitarian intuitions without entailing the Repugnant Conclusion. It does not require all people to have children, because this would place too great a burden on prospective parents, leading to many unsatisfactory lives. However, it does tell us to promote "a world overpopulated with individuals just above sufficiency, and perhaps containing many far below that line, over a less crowded world where everybody is very well off." This seems hard to accept.

Maximizing the *proportion* of people above sufficiency seems better, if only as a rough cut.²² We might propose the following lexical principle:

 $S_{I:}$ (1) Minimize the proportion of lives not worth living. (2) Maximize the proportion of sufficient lives.

This requires us neither to turn the world into Mumbai nor to have no children at all. However, it risks being too hard on existing people. Suppose I have four children, Amy, Beatrix, Charlie and David. Amy and Beatrix are healthy and happy, but Charlie and David are severely handicapped. The proportion above sufficiency is 2/4. My boss gives me a big raise. I could use it to pay for expensive home care that would allow Charlie to lead a sufficient life, bringing the proportion to 3/4. But there is another option. I could use the money to have five additional children, all of whom I expect to be healthy and happy. This would bring the proportion to 7/9. On the proportion-above-sufficiency criterion, I ought to do this.

Most people will think I ought to help Charlie instead. So long as we are dealing with cases involving the same number of people, maximizing the proportion above sufficiency gives the right answer. But if we can create new people, this risks swamping our obligations to existing ones. We ought to give some kind of priority to those already living. ²³ At the same time, we must not deliberately create deprived people in order to raise existing people above the threshold. I should not, for example, have another child so as to put her to work in a sweatshop to pay for Charlie's treatment. We might propose, again in lexical order,

 $S_{2:}(1)$ Minimize the proportion of all lives not worth living. (2) Bring existing lives above sufficiency in preference to adding new ones. (3) Maximize the proportion of new lives that are sufficient.

 S_2 protects my existing children without exploiting new ones. But it would sharply limit the number of new people below the sufficiency threshold. Is this too demanding? Let's return to the fourteen-year-old girl. We may agree that the girl should wait if she can later have a different child whose life will be sufficient. But if she cannot, opposing the *mere addition* of a person whose life is still worth living may seem perverse. Similarly, we may think it is bad that wretched people, such as the victims of the Ethiopian famine, ever live. We may also believe that if new people can be brought into existence above a sufficiency threshold, then this is what we should do. But if it is *not* possible to bring all the latter above the threshold, it may not seem bad that they ever live. To create people whose lives are worth living does not harm them in the usual sense. We might then favor

 $S_{3:}$ (1) Minimize the proportion of all lives not worth living. (2) Bring existing lives above sufficiency in preference to adding new ones. (3) Of new lives that can be sufficient, maximize the proportion that are so.

 S_3 would not preclude the mere addition of people with restricted lives. Yet it too evades the Repugnant Conclusion. Let us set the Sufficiency threshold just below Cuba, and the Misery threshold just above the Ethiopian Famine (the choice of countries is notional and should not be taken too seriously):

Sweden	
USA	
Cuba	SUFFICIENCY
Nicaragua	
Bangladesh	MISERY
Ethiopian Famine	NIDEX I

FIGURE 1: SUFFICIENCY AND MISERY

We should not want Ethiopians to be born below the Misery threshold. But we may believe that it is not bad for Bangladeshis to be born below the Sufficiency threshold.²⁵ If so, it is good for Swedes or Americans, who are well above the threshold, to help them. But it would be wrong to expect Cubans to do the same. This ensures that we will not end up, through continual growth and redistribution, as one big Bangladesh.

This is what Parfit calls an "Elitist version of the Lexical View." He worries that such views could lead us to reject redistribution from impoverished Europeans to malnourished Africans. ²⁶ Maximizing the proportion above sufficiency would indeed fall short in fulfilling our duties to *existing* people because, in its preoccupation with bringing people above the threshold, it would be insensitive to the needs of those far below. ²⁷ But as a *population principle* it works better. ²⁸ We should not deny food to starving people. If Africans are starving, it might be good for Cubans and poorer Europeans to help them. But we can reasonably think it bad that starving people are

ever born. While it may not be bad for impoverished Bangladeshis to be born, Cubans would not be obliged to aid them if it left the latter themselves deprived. ²⁹ We may, however, consider it unfair that some should live just above the sufficiency line and others well below it. If so, then this is a reason to adopt S_2 rather than S_3 , minimizing the proportion of people who fall below sufficiency.

So far I have assumed we are certain about the outcomes of our actions. Often we face choices where our choices *might* bring people below the threshold. Runaway climate change, for example, could impoverish future generations, but aggressive measures to curb carbon emissions could slow economic growth, also miring many people in poverty.³⁰ Confronted with tradeoffs between risks, it makes sense to maximize the *expected* proportion above sufficiency, multiplying the numbers affected by the estimated chance of their falling below the threshold.³¹ This speaks in favor of ambitious carbon mitigation. Over the next century or two we are likely to overcome most absolute material poverty—barring catastrophe.³² Even drastic curbs on carbon emissions by the industrialized countries seem unlikely to *stop* growth.³³ Nor would the levelling off of material production mean an end to human progress, including the reduction of poverty.³⁴ Runaway climate change, in contrast, could bring many or even all future generations below sufficiency. Given the huge number of future people, even a small chance of climatic disaster must outweigh even a high likelihood of slower growth over the next few decades.

B. SUFFICIENCY IS INCOMPLETE

The real shortcoming of the sufficiency approach is that it fails to explain how, without making people's lives "restricted" or "seriously defective," we can still act wrongly. Even critics of demanding theories of intergenerational justice may concede that it could "be *unfair* of any generation to take advantage of the fact that it happened

to arrive earlier in time in order to use up supplies of critical natural capital to the point that future generations would be reduced to dire poverty."³⁵ Yet this offers no objection to actions that leave future people above sufficiency. Take Kavka's example of a pill that, when taken before intercourse, heightens sexual pleasure, but causes a mild birth defect—say, a missing thumb. The particular child who results has not been made worse off, because pausing to swallow the pill affects his genetic makeup. Nor is life without a thumb seriously defective or restricted. The objection is that the outcome for future people should have been better, not that it is absolutely bad. ³⁷

Sufficiency must come before equity. As Raino Malnes observes, "Unmet vital needs are a greater evil than unfairness." Yet that does not mean that sufficiency exhausts our obligations in non-identity cases. We need a theory that allows us criticize choices like taking the pleasure pill. Where shall we look for it?

II. TAKING MORE THAN OUR SHARE

Kavka provides a clue. He tells the story of a couple who agree to produce a child and sell him into slavery. The contract binds the couple so that there is no way—legal or illegal—that they can free the child. His life, while hard, will still be worth living. Indeed, if the parents could somehow bargain with the prospective child in advance, he might consent to the decision, "waiving" his right to freedom in exchange for being born. Nevertheless, the couple's action seems wrong. Why? Kavka gives two answers. First, the slave boy's life will fall below the minimum level of quality that everyone's life ought to attain—we might say sufficiency. But a second reason is that the parents are "exploit[ing] their unearned position of control over life for others to, in a sense, 'extort' an unfair price for the exercise of those powers." While the slave boy might "waive" his right to freedom in exchange for the opportunity to exist, this is not a fair bargain for the couple to make.

Part of Kavka's objection is that it uses the slave child as the means to an end. 41 It is this Kantian dimension on which Parfit focused in a 1982 critique. Parfit concluded that the argument offers no objection to resource depletion or burying nuclear waste, since in such cases we are not *using* future people at all. 42 But Kavka also objects to the bargain because it is *unfair*. It is like discovering water during a drought and selling it at extortionate prices. Such actions "strike us as wrong because [they] extor[t] an excessive (and unearned) price...[for] the benefit of existence....The fact that such agreement would have been forthcoming under such coercive circumstances does not imply that the agreement is a fair one." The couple has misappropriated a benefit from their child—whoever he turns out to be—creating an inequity. They have exploited him.

A. A TYPOLOGY OF INTERGENERATIONAL (IN)JUSTICE

A widely accepted definition of exploitation is that of taking unfair advantage—often of the victim's weakness, desperation or ignorance. Failing to show respect for persons and taking more than one deserves are two ways cited of doing this. 44 Having the slave child is exploitative in both ways. On the one hand, he is treated as a means to an end. But the couple also deprives the boy of his birthright of freedom in order to enrich themselves. Exploitation can occur *even when the exploited party benefits from, and would voluntarily consent to, the transaction.* She may gain more than her exploiter. A doctor who overcharges for a life-saving operation, as Alan Wertheimer notes, exploits the patient even though the latter benefits more. The exploited party receives less than she deserves according to the relevant "fairness baseline." An action that does not harm a party can still *exploit* her. 45

Likewise, the mother who takes the pleasure pill takes more than her share from the relationship. A child without a thumb need not suffer a restricted or defective

life. Rather, by demanding he "waive" his right to his finger, the mother exacts an extortionate price. The same considerations apply in Parfit's example of Paula and Petra, both of whom know they will bear a handicapped child. Paula can avoid the handicap by delaying conception; Petra's child will be handicapped whenever she conceives. ⁴⁶ Let us assume the handicap is not a serious one. For Paula to have her child now seems wrong, whereas we are unlikely to condemn Petra. Why? Petra neither produces a child with an insufficient life nor takes unfair advantage. In contrast, by putting her own convenience (or whim) before the health of her child, Paula takes something that she ought not to take. She misappropriates a benefit. ⁴⁷

When we bring people below the minimum and take more than we deserve, our actions are especially bad. James Woodward asks us to imagine a chemical plant owned by Acme Corporation which cannot be operated profitably unless it disposes of pollutants in a dangerous fashion. Two people meet each other at the plant and conceive a child. The boy develops cancer as a result of the pollutants. His life is still worth living, and without the pollutants, *this* boy would never have been born.⁴⁸ Nevertheless, Acme's action was egregiously wrong. Why? One answer is that cancer deprives children of the sort of childhood that we believe every child ought to have.⁴⁹ But another is that Acme profited by causing a case of cancer. Its action is worse than that of Parfit's fourteen-year-old girl. Both actions result in a child whose condition falls below the minimum standard. Nevertheless, the girl's choice seems as much unfortunate as actually wrong. While sharp words might pass when we learn of her pregnancy, our chief response ought to be compassion and assistance. In contrast, we will throw the book at Acme Corporation. In large part this is because Acme's action was selfish. Suppose that, after having the baby, the fourteen-year-old girl steals and squanders a poor family's savings, thus depriving their future child of a good start in

life. Again, the theft will be likely to determine that child's identity, but this time we will judge her action much more harshly. Like Acme, she will not only have caused a child to lack a good start in life, but also have taken more than her share.

When parents neither risk neglecting their children nor take unfair advantage, we generally approve of their decision to conceive. Consider the case, adapted from Doran Smolkin, of a poor couple who decide to have a baby. The couple earns enough to provide the child with all the basic necessities, but she will have to work from the age of fourteen to support the family, and will not enjoy all the pleasures and advantages that a middle class couple could provide. Indeed, her overall welfare may fall below of that of the child without a thumb. Nevertheless, the couple's decision is unobjectionable. Imagine that the couple provided their daughter with the same minimum conditions as before, but used her earnings to buy themselves luxuries. Now we *would* condemn them, because they would be exploiting her.

	Equity	Inequity
Below Sufficiency	14-Year-Old Girl	Slave-Child Couple
		Acme Company
Above Sufficiency	Petra	Pleasure Pill
	Poor Couple	Paula

FIGURE 2: TYPES OF INTERGENERATIONAL (IN)JUSTICE

Thinking of the slave child as a case of exploitation casts light on a puzzle: If even a slave's life is worth living, why would we condemn the couple for bearing a child to sell him into slavery, but not for remaining childless?⁵¹ Parfit's answer is that while it would be permissible not to have a child, if they do choose to have a child, they ought to have a free one. Similarly, Parfit continues, one may legitimately refuse to save a stranger's arms at great cost to oneself, but if one does decide to do so, it would be wrong to save one arm when one could as easily save both.⁵² This is true even if the stranger prefers having one of his arms saved to neither. Compare Alan

Wertheimer's distinction between just and exploitative marriages. We do not believe people are obliged to marry. But if they *do* marry, we think that they ought to share the burdens of marriage. It is not enough to say that a spouse who is forced to assume more than her share of the housework has not been harmed because she prefers even an exploitative marriage to no marriage at all.⁵³

Why? Wertheimer's answer is that a decision to marry shifts the moral standard. Cooperation often creates a "social surplus"—gains to be divided among the parties. "Any transaction or relationship that creates a social surplus gives rise to a new moral feature—fairness or unfairness—that does not arise outside of that transaction or relationship." According to what is now a widely accepted "fairness baseline," spouses should share the housework. The same consideration arises in the case of the slave child. Couples have no obligation to create the social surplus of a human life. But if they do, they must not appropriate an unfair share. The decision to save the stranger's arms also creates a new moral feature. But in this case, the criterion by which we measure the rescuer's decision is not fairness, but beneficence. As Parfit says, it would be "grossly perverse" to refuse to maximize the social surplus at no cost, and to save only one arm when one could save two. 55

B. FUTURE PEOPLE'S FAIR SHARE

We have seen that we should, in lexical order of priority, (1) minimize the proportion of all lives not worth living; (2) bring existing lives above sufficiency in preference to adding new ones; (3) maximize either the proportion of new lives above sufficiency, or the proportion of new lives that *can* be lived above sufficiency. The parents of the Slave Child act consistently with (1) and (2). But by choosing to have a slave child rather than a free one, they violate (3). Moreover, they profit from doing

so. To profit by deliberately violating an obligation is to take unfair advantage. They have exploited him.

Bringing future people below sufficiency is not the only way we can take unfair advantage. We can also take more than our share. How do we know what our fair share is? Alan Wertheimer suggests that a rough cut is provided by the market price. "The competitive market price," he observes,

is a price at which neither party takes *special* unfair advantage of particular defects in the other party's decision-making capacity or special vulnerabilities in the other party's situation. It is a price at which the specific parties to this particular transaction do not receive greater value than they would receive if they did not encounter each other. It may or may not be a "just price," all things considered, but it may well be a nonexploitative price, for neither party takes unfair advantage of the other party. ⁵⁶

Demanding something as a quid pro quo that is normally given away for free can be a form of exploitation. We will look askance at a rescuer who demands \$10,000, as Wertheimer notes, because our baseline is that rescuers should not expect large rewards.⁵⁷ If the rescue is dangerous or costly, we might understand such a demand, but certainly not if all it involves is throwing a rope from the river bank.

For Acme Corporation to demand a "waiver" as the price of being born a particular person is to demand something for which there is no market price. "Agree to let us poison you," Acme says to the boy, "or we'll see that your parents give birth to someone else instead." There is no market rate for causing *some* people to exist and not *others*. It costs us nothing, and we do it all the time for free. You are not indebted to me if I delay your mother for five minutes in the supermarket, with the result that the same evening she conceives you and not someone else. ⁵⁸ To insist on recompense is like insisting on being paid for throwing in the rope. Moreover, such "bargains" do not even produce a social surplus. Acme's contribution is purely *parasitic*, like a trustee who transfers an inheritance to one heir rather than to another because the

former offers him a cut of the proceeds. Both the trustee and the heir benefit from the deal, but only because the deal determines the heir's identity.

The parents of the Slave Child and the mother who takes the pleasure pill, in contrast, are deciding whether to create a person at all. They do this at some cost to themselves, and in creating a new life, they create a social surplus. They may legitimately expect something in return. The problem is that they demand too much. "For the couple to *both* sell their prospective child into slavery *and* justify this act on the grounds that the child benefits," Kavka observes,

may be viewed as similar to an act of indirect extortion. To offer such a justification is tantamount to saying, "This is a bargain that the child or its guardian would have agreed to, hence there is nothing wrong with the corresponding act.".... [Yet] human existence, and the power to create it, [are not] commodities that may be sold for whatever the market will bear. ⁵⁹

In fact, the parents are exploiting a monopoly to sell *above* the market rate. ⁶⁰ They have a choice of "customers"—if this child doesn't agree to their terms, they can always "sell" to a different one. The child, on the other hand, can only be born if he accepts *these* parents' offer. ⁶¹ Suppose we could put the bargaining on a more even footing. Parents could "sell" to any child who accepted their terms, but children could also "buy" from any prospective parents who made an offer. The child would easily find parents who did not insist on selling him into slavery or popping the pleasure pill.

Would he? There are an infinite number of potential children. Wouldn't they compete with each other, with some offering up their freedom or their fingers in exchange for being born? Most parents do not *want* to take their children's fingers. Part of their share of the social surplus from childrearing is seeing their offspring enjoy the use of all ten digits. The market price for children is not the same as that for sweatshop labor. Indeed, some would see bargaining with one's children as if they were workers to be milked for the best possible terms as exploitation in itself.⁶² Mr.

Murdstone may do hard by his employees, but by Wertheimer's criteria he is not taking *special* advantage of them. ⁶³ By putting his own stepson to work sorting bottles, in contrast, Murdstone exploits David Copperfield by middle class Victorian standards. He offers David less of the social surplus from the parent-child relationship than he could obtain on "the market," as David discovers when Betsey Trotwood adopts him.

Defining exploitation as taking *special* unfair advantage does risk suggesting that any widespread practice—such as running sweatshops—cannot be exploitative. As Ruth Sample points out, it permits criticism of *abnormal* transactions, but not criticism of the norms themselves. The "market rate" for marriage is an unequal share of domestic housework, even in societies where women also hold full-time jobs. That this is what *most* men "offer" their prospective brides does not mean the bargain is fair. On at least some Marxist views, capitalist labor markets are exploitative because the owners' control of the means of production enables them to expropriate an unfair share of the social surplus from cooperation. Analogously, what if control of the means of *reproduction* allows parents to extort more than their share of the social surplus from having children? We should not assume that practices are fair because they are pervasive.

Nevertheless, most people have the chance to be both children and parents. Childrening is thus less likely to entail net unfairness over a lifetime. Moreover, it is widely assumed that parents *should* divide the social surplus unevenly—to children's advantage. Just as the former received the larger share from their parents, so too they should give the lion's share to their children. The market rate seems more likely to be fair to children than it does to workers or women.

C. CAN WE EXPLOIT THE PEOPLE OF THE DISTANT FUTURE?

We can exploit our children. Can we exploit our distant descendants? If we define exploitation merely as taking unfair advantage, then certainly we can. "[T]here are cases," asserts Wertheimer, "in which the exploitee may be entirely passive. A may sell photographs of B without B's knowledge, or rob a purse from a sleeping B or follow B's taillights in a dense fog."67 Defined in this broad sense, exploitation could involve appropriating an unfair share of benefits, or externalizing an unfair share of costs. ⁶⁸ But usually exploitation connotes using people. For the most part, we cannot do this to our distant descendants. As Christopher Bertram points out, many of the ways that we benefit at future people's expense, such as despoiling the environment, do not involve using them at all. Bertram argues that it is still possible to exploit distant future generations. Just as within a group of contemporaries, shirkers exploit their counterparts, so too in a long-term intergenerational enterprise, such as a family firm, one generation can exploit another. "It seems odd and arbitrary," he observes, "to allow the fact that activities take place non-contemporaneously to affect that judgment." Yet when one worker shirks her duties, she takes more than her share of the proceeds from cooperation. In contrast, we do not generally cooperate with our distant descendants. The exception—and it is an important one—is debt. When governments borrow to undertake public works, they do so on the understanding that future taxpayers will do their part by paying off the loan. If the borrowing serves the purpose of productive investment, it creates a social surplus which can benefit both generations. 71 But this is an exceptional case.

Rather than exploiting our distant descendants, it may be more exact to say that we *exploit our position at their expense*. Justice entails more than a fair division of a social surplus. It also means the fair distribution of inherited goods. We cheat distant generations when we deprive them of their just inheritance. How we determine

what that just inheritance should be depends in turn on our theory of distributive justice. An entitlement theory such as Nozick's will give a different account than a contractarian theory such as Rawls's. ⁷² Egalitarian theories of various stripes give yet other answers. ⁷³ As Robert Mayer observes, "Because a claim that exploitation has occurred depends on an assumption about what fairness requires, there will inevitably be different theories of exploitation." ⁷⁴ What is important here is that we can abuse our position in time to take unfair advantage not only of our children, but also of our distant descendants. ⁷⁵ Demanding a cut of their inheritance in exchange for ensuring that *they* are born is like taking a bribe to give a legacy to one party and not another.

III. THE INALIENABLE RIGHTS OF FUTURE PEOPLE

When a trustee takes a bribe, she makes people who would have received the inheritance worse off. In non-identity cases, we do not harm anyone in this sense. Even when it is theoretically possible that exactly the same individuals would have been born had we acted differently, the odds against it are astronomical. Some have suggested that if their lives are worth living, they would waive any rights they have against our actions, even if their lives were brought below the sufficiency threshold. If I is arguable, Heff McMahan suggests, that conceiving a person with a life below the minimum but above zero would not constitute a violation of his rights at all. For, if the person is later glad that he was conceived, this might be regarded as tantamount to his retroactively waiving his right.

Jeffrey Reiman has recently argued that the waiver argument misconstrues the interests of our descendants. He proposes that we imagine an original position of all people who are alive today and all people who will live in the future. These people would have an interest in being born with certain properties—such as health or wealth—but not in being born as any particular person *independent* of these

properties. They would "insist that it is unjust to make the price of some particular individual's existing that that person waive his or her right not to be negatively affected." Reiman's argument is an ingenious one that understates its own implications. Not only would the people consider it unjust to demand that they accept a birth defect—it would also be an empty threat. "Give me your finger," says the mother, "or I'll decide to have you later." "So what?" says the future child. "I'll just be born as another particular person." Since he would have no interest in becoming one particular person and not another, he could laugh in the blackmailer's face. ⁷⁹

Nevertheless, let us suppose the child does have a stake in being born as that particular person, or with that specific bundle of properties. His mother has still exploited him. We can best see this through an analogy. Imagine, to borrow Arthur Kuflik's example, 80 that we face a housing shortage, with more prospective tenants than apartments to go around. If tenants are allowed to waive their right to a minimally habitable apartment, we are apt to see a race to the bottom. Some would-be renters will sign away their rights in exchange for being offered a fleapit. If the housing shortage is extreme—say, 10 apartments for 1000 applicants—waivers might result in an entirely different population of tenants. If so, *no identifiable tenant will be worse off.* Indeed, each tenant may be glad she could waive her rights, because it meant *she* was chosen and not someone else. Yet if we allow waivers, landlords do better than they deserve, and tenants as a class do worse. Analogously, if we exploit our temporal position, future people may gain as individuals, but as a class they will receive less than their share.

When people are threatened by exploitation, we often render their rights inalienable. Such rights protect vulnerable people *as groups*. While the minimum wage protects workers as a class, it may actually exclude less diligent or capable

workers from the labor market by forbidding them to sell their labor on the cheap. ⁸¹ In such cases, Russell Hardin observes,

the members of a relevant class are potentially pitted against each other to their collective harm, and the only way to secure them against that collective harm is to deny them singly the right to free ride on the abstinence of other members of the class. If one holds...that a right is for the benefit of the right holder, one might find it odd that, when it is ever invoked, it is actually invoked to stop the right holder from acting in a particular way....The notion of an inalienable right is somehow contradictory if it is seen as an individual right. It makes sense only at the group level because whatever benefit comes to an individual under the right comes indirectly through its effects on the relevant larger class. 82

By forbidding tenants from waiving their rights, we prevent landlords from exploiting them. Suppose that potential people were willing to waive their rights in order to become the earth's tenants. We would rightly forbid them from doing so.

One might object, "Yours is a false analogy. If some tenants snap up apartments below code, other people are denied them. The latter are merely possible tenants, but real people. *These* people are harmed. If we impoverish future generations, the possible people will never exist at all." Do we object merely on behalf of the "other people"? Consider Joel Feinberg's example of a pair of scalpers who buy tickets to a baseball game for which demand exceeds supply. Feinberg has trouble seeing whom their action wrongs. Not the team's owners, who get the price they demanded. Not the buyers either. If not for the scalpers, *other* people would have gotten the tickets. The buyers are delighted to pay through the nose. Feinberg concedes that other fans might have a grievance, but holds that "it would be very difficult consistently to exclude willingness to pay as a relevant qualification in other contexts." Suppose that we agree. Can we not object to scalping?

I believe we can. Market transactions normally entail a social surplus. Sellers sell for more than the minimum they would be willing to accept, and buyers pay less

that buyers deserve a share of this benefit. Here, however, the scalpers have "stolen" part of the buyers' consumer surplus and thus exploited the buyers. In so doing they have also determined *who the buyers are*. Scalpers do better than they should and buyers as a class fare worse, even though *these particular* buyers do better. Similarly, particular future people in non-identity cases fare better, but future people as a class do worse than they deserve. The actions are *impersonally* unjust.

IV. SUFFICIENCY, EQUITY AND EXPLOITATION

Many writers on population ethics believe a solution to the non-identity problem should be an impersonal one. Such a belief makes sense: why *should* it matter which child is enslaved or loses her finger? Many also assume this theory must be utilitarian. This seems to me a mistake. In our everyday reproductive decisions, we do not consider ourselves obliged to maximize utility. Rather, we seek to ensure, above all, that our children receive *enough*. Maximizing total utility leads toward the Repugnant Conclusion, and has other unacceptable implications.

Notably, the sheer number of future people could require us to make enormous sacrifices in the present for the sake of trivial gains for our descendants, as critics of the 2006 *Stern Review* on the *Economics of Climate Change* charged. ⁸⁴ The usual solution is to "discount" gains to future people, but this is both *ad hoc* and misleading. ⁸⁵

We can avoid these problems by maximizing sufficiency. Seeking a decent existence for the largest possible share of persons—whether present or future—provides for our descendants without making impossibly high demands on the present. ⁸⁶ Nor does it require us to maximize population. Indeed, if wild animals have moral standing, it requires us to limit our numbers so as not to deprive them of

the conditions *they* require for decent lives.⁸⁷ Sufficiency must come before equity, and given how far we are from ensuring even the former for future people, it might seem that equity is icing on the cake.⁸⁸ All the same, we should not forget that we owe our descendants not only enough; we also owe them their fair share. We can take unfair advantage of future people as a class, even if individual future people benefit. The non-identity problem is no obstacle to condemning this.

Yet there are strong incentives for the present generation to take more than its share, and good reasons to believe that this is occurring. ⁸⁹ While future generations may turn out to be richer than we are, global warming or no global warming, it is also possible that climate change will bring them below sufficiency. To expose such a vast number of people to even a small risk of catastrophe is reckless. We have no excuse for discounting future people's interest in a sufficient life. ⁹⁰ Our duty to maximize expected sufficiency combined with the long shadow of the future means that we must avoid the smallest risk of permanent disaster. It offers a new basis for Hans Jonas' injunction to "gran[t] priority to well-grounded possibilities of disaster (different from mere fearful fantasies) over hopes, even if no less well grounded." ⁹¹

Recognizing that shifting costs and risks to the future is exploitative allows us to situate intergenerational justice in a broader body of progressive and radical theory. Yet it also reveals the peculiar obstacles that efforts to overcome these abuses confront. Future people cannot organize, or impose significant costs on their oppressors. Unlike exploited humans living today, they are almost entirely dependent on our goodwill. If people respond to moral suasion, or can be brought to identify with future people, exposing the exploitative nature of our existing practices may help to change them. If not, then the outlook could be bleak for future generations.

Matthew Rendall "Nuclear Wea

¹ Matthew Rendall, "Nuclear Weapons and Intergenerational Exploitation," *Security Studies* 16 (2007), 525-54; cf. Joerg Chet Tremmel, *A Theory of Intergenerational Justice* (London: Earthscan, 2009), pp. 56, 139-40, 163.

² Derek Parfit, *Reasons and Persons* (Oxford: Clarendon Press, 1987), ch. 16; Gregory S. Kavka, "The Paradox of Future Individuals," *Philosophy & Public Affairs* 11 (1982), 93-112 at pp. 95-98.

³ Parfit, *Reasons and Persons*, ch. 17.

⁴ Lukas H. Meyer, "Compensating Wrongless Historical Emissions of Greenhouse Gases," *Ethical Perspectives* 11 (2004), 20-35; Lukas H. Meyer and Dominic Roser, "Enough for the Future," *Intergenerational Justice*, ed. Axel Gosseries and Lukas H. Meyer (Oxford: Oxford University Press, 2009), pp. 219-48; Doran Smolkin, "Toward a Rights-Based Solution to the Non-Identity Problem," *Journal of Social Philosophy* 30 (1999), pp. 194-208; James Woodward, "The Non-Identity Problem," *Ethics* 96 (1986), 804-31.

⁵ Axel Gosseries, *Penser la justice entre les générations: De l'affaire Perruche à la réforme des retraites* (Paris: Alto Aubier, 2004), pp. 72-73, 82; Derek Parfit, "Future Generations: Further Problems," *Philosophy & Public Affairs* 11 (1982), 113-72 at p. 121; cf. Meyer and Roser, "Enough for the Future," pp. 229-30.

⁶ See the essays in *Harming Future Persons: Ethics, Genetics and the Nonidentity Problem*, ed. Melinda A. Roberts and David T. Wasserman (Dordrecht: Springer, 2009).

⁷ Parfit, *Reasons and Persons*, pp. 364-65, 375; cf. Edward A. Page, *Climate Change, Justice and Future Generations* (Cheltenham, UK: Edward Elgar, 2006), pp. 145-49.

⁸ Kavka, "Paradox of Future Individuals;" see also Gosseries, *Penser la justice*; Page, *Climate Change*.

⁹ Clark Wolf, "O Repugnance, Where Is Thy Sting?: On the Neutral Level of Existence and Parfit's Repugnant Conclusion," *The Repugnant Conclusion: Essays in Population Ethics*, ed. Jesper Ryberg and Torbjörn Tännsjö (Dordrecht: Kluwer, 2004), pp. 61-80.

¹⁰ Chris Meyers, "Wrongful Beneficence: Exploitation and Third World Sweatshops," *Journal of Social Philosophy* 35 (2004), 319-33 at pp. 320, 324.

¹¹ Parfit, *Reasons and Persons*, pp. 358-61, quotation at p. 358.

¹² Woodward, "The Non-Identity Problem," p. 816.

¹³ *Ibid.*, p. 815.

¹⁴ Kavka, "Paradox of Future Individuals," pp. 105-6; Smolkin, "Toward a Rights-Based Solution," p. 202.

¹⁵ Meyer and Roser, "Enough for the Future."

¹⁶ Harry Frankfurt, "Equality and Respect," *Social Research* 64 (1997), 3-15, quoted passages at p. 5; *idem*, "Equality as a Moral Ideal," *Ethics* 98 (1987), 21-43; Robert Huseby, "Sufficiency: Restated and Defended," forthcoming in *The Journal of Political Philosophy*.

¹⁷ Meyer and Roser, "Enough for the Future," pp. 229-30. Cf. Kavka, "Paradox of Future Individuals," pp. 104-6; Bonnie Steinbock, "Wrongful Life and Procreative Decisions," Roberts and Wasserman, *Harming Future Persons*, pp. 155-78 at p. 172.

¹⁸ Gosseries, *Penser la justice*, pp. 72-73.

¹⁹ Paula Casal, "Why Sufficiency Is Not Enough," Ethics 117 (2007), 296-326 at p. 298.

²⁰ Cf. James P. Sterba, "Abortion, Distant Peoples, and Future Generations," *Journal of Philosophy* 77 (1980), 424-40 at p. 439.

²¹ Casal, "Why Sufficiency Is Not Enough," p. 298.

²² Cf. *ibid.*; cf. Yitzhak Benbaji, "The Doctrine of Sufficiency: A Defense," *Utilitas* 17 (2005), 310-32 at p. 321. However, this formulation seems to offer no objection to allowing life on earth to die out.

²³ Wolf, 'O Repugnance, Where Is Thy Sting?' p. 63.

²⁴ Cf. Parfit, *Reasons and Persons*, ch. 19.

²⁵ Yitzhak Benbaji and Robert Huseby propose sufficiency theories with more than one threshold. While not defined as the level where life is no longer worth living, Benbaji's "pain threshold" corresponds roughly to the Misery Threshold here. Yitzhak Benbaji, "Sufficiency or Priority?" *European Journal of Philosophy* 14 (2006), 327-48 at pp. 338, 341-42, and Huseby, "Sufficiency: Restated and Defended."

²⁶ Parfit, *Reasons and Persons*, pp. 427-28, 437-38, quotation at p. 438.

²⁷ Cf. Casal, "Why Sufficiency Is Not Enough," p. 316.

Thus John Skorupski argues that if there are only enough resources to provide two existing people with "a just-pleasurable state of well-being...or alternatively (2) to afford to just one of them a sufficiently high level of physical comfort for a life of insight" we should choose the first. If, however, it is a question of whether to bring one or both people *into existence*, his "intuition goes the other way."

"Value and Distribution," John Skorupski, *Ethical Explorations* (Oxford: Oxford University Press, 1990), pp. 85-106, at pp. 100-1, 101 n. 19.

²⁹ Cf. Page, *Climate Change*, p. 171.

³⁰ Indur M. Goklany, *The Precautionary Principle: A Critical Appraisal of Environmental Risk Assessment* (Washington: Cato Institute, 2001), ch. 4.

³¹ Cf. Raino Malnes, *Valuing the Environment* (Manchester: Manchester University Press, 1995), pp. 64-65. Should we not also be concerned with how *far* future people could fall below the threshold? Maximizing sufficiency and giving priority to the worst off sometimes conflict: Resources that bring people above a sufficiency threshold might also be used to help someone far below it. In our dealings with contemporaries, sometimes we should help the worst off even at the cost of more people falling below sufficiency. (See Casal, "Why Sufficiency Is Not Enough," p. 316; Campbell Brown, "Priority or Sufficiency...or Both?" *Economics and Philosophy* 21 (2005), 199-220, at p. 218.) To give priority to the worst-off, however, requires us to know who those people are. Over the next few decades, many will live in Africa and Asia. But it is hard to foresee who or where the worst-off will be in five hundred, a thousand or ten thousand years. We do not face this obstacle in maximizing the expected proportion of people with lives above sufficiency.

³² Wilfred Beckerman and Joanna Pasek, *Justice, Posterity, and the Environment* (Oxford: Oxford University Press, 2001) pp. 112-13, 119.

³³ Clive L. Spash, *Greenhouse Economics: Value and Ethics* (Oxford: Routledge, 2005), p. 238.

³⁴ Ulrich Hampicke, "The Capacity to Solve Problems as a Rationale for Intergenerational Discounting," *International Journal of Sustainable Development* 6 (2003), 98-116 at pp. 111-12; cf. Hans Jonas, *The Imperative of Responsibility: In Search of an Ethics for the Technological Age* (Chicago: University of Chicago Press, 1984), pp. 164-74, 184.

³⁵ Wilfred Beckerman, "Intergenerational Equity and the Environment," *Journal of Political Philosophy* 5 (1997), 392-405 at p. 402. Emphasis in original.

³⁶ Kavka, "Paradox of Future Individuals," p. 98.

³⁷ Cf. Derek Parfit, "Comments," *Ethics* 96 (1986), 832-72, at p. 861.

³⁸ Malnes, *Valuing the Environment*, p. 109.

³⁹ Cf. Clark Wolf, "Intergenerational Justice, Human Needs, and Climate Policy," Meyer and Gosseries, *Intergenerational Justice*, pp. 347-76, at p. 352. More generally, the present paper shows

that while sufficiency should receive lexical priority, sufficientarianism must be paired with another theory of distributive justice. What theory that should be cannot be settled here, but Robert Huseby's suggestion of deontic egalitarianism seems a strong contender ("Sufficiency: Restated and Defended").

⁴⁰ Kavka, "The Paradox of Future Individuals," pp. 100-110, quotation at p. 106.

⁴¹ *Ibid.*, p. 110.

⁴² Parfit, "Future Generations: Further Problems," p. 119.

⁴³ Kavka, "Paradox of Future Individuals," pp. 106-9, quotation at pp. 108-9.

⁴⁴ Ruth J. Sample, *Exploitation: What It Is and Why It's Wrong* (Lanham, MD: Rowman & Littlefield, 2003); Alan Wertheimer, *Exploitation* (Princeton: Princeton University Press, 1996).

⁴⁵ Wertheimer, *Exploitation*, pp. 21-22, 40, 59, 107, 207, 223, 250-52; cf. Robert Mayer, "What's Wrong With Exploitation?" *Journal of Applied Philosophy* 24 (2007), 137-50.

⁴⁶ Parfit, "Comments," p. 861.

⁴⁷ What if Paula would be just as happy to delay conception, but forgets to take her birth control pill through negligence (cf. Tremmel, *Theory of Intergenerational Justice*, p. 42)? She does not gain by having the child now, and thus does not seem to exploit him. All the same, by reducing the social surplus from the child's creation at his expense, Paula takes more than her fair share. Could she later redress the balance by making supererogatory sacrifices on the child's behalf? We can certainly imagine Paula, guilt-stricken at the sight of the baby's hand, vowing to "make it up to him," and we might absolve her of guilt if she carried out the promise. Cf. Gosseries, *Penser la justice*, p. 86.

⁴⁸ Woodward, "The Non-Identity Problem," pp. 813-14.

⁴⁹ Smolkin, "Toward A Rights-Based Solution," p. 204.

⁵⁰ *Ibid.*, p. 203.

⁵¹ Kavka, "Paradox of Future Individuals," p. 100.

⁵² Parfit. "Future Generations: Further Problems." pp. 131-32.

⁵³ Wertheimer, *Exploitation*, p. 290-91.

⁵⁴ *Ibid.*, p. 291.

⁵⁵ Parfit, "Future Generations: Further Problems," p. 131.

⁵⁶ Wertheimer, *Exploitation*, p. 232. Emphasis in original.

⁵⁷ *Ibid.*, pp. 110-11.

⁵⁸ Matthew Hanser, "Harming Future People," *Philosophy & Public Affairs* 19 (1990), 47-70 at pp. 60-61.

⁵⁹ Kavka, "Paradox of Future Individuals," pp. 109-10. Emphasis in original.

⁶⁰ Cf. David Miller, "Exploitation in the Market," *Modern Theories of Exploitation*, ed. Andrew Reeve (London: Sage, 1987), pp. 149-65 at pp. 159-61.

⁶¹ Thanks to an anonymous referee for making this point.

⁶² Robert E. Goodin, "Exploiting a Situation and Exploiting a Person," Reeve, *Modern Theories of Exploitation*, pp. 166-200.

⁶³ Cf. Denis G. Arnold, "Exploitation and the Sweatshop Quandary," *Business Ethics Quarterly* 13 (2003), 243-56 at pp. 252-53.

⁶⁴ Sample, *Exploitation*, pp. 17-26.

⁶⁵ Richard Arneson, "What's Wrong With Exploitation?" *Ethics* 91 (1981), 202-27 at p. 212; Miller, "Exploitation in the Market," p. 156; cf. Justin Schwartz, "What's Wrong With Exploitation?" *Noûs* 29 (1995), 158-88.

⁶⁶ This assumes that privilege at one stage of life can balance disadvantage at another. For a discussion, see Larry Temkin, "Intergenerational Inequality," *Justice between Age Groups and Generations*, ed. Peter Laslett and James F. Fishkin (New Haven: Yale University Press, 1992), 169-205 at pp. 190-98.

⁶⁷ Wertheimer, Exploitation, pp. 25-26; cf. Mayer, "What's Wrong with Exploitation?" p. 141.

⁶⁸ Cf. Gosseries, *Penser la justice*, pp. 166-68.

⁶⁹ Christopher Bertram, "Exploitation and Intergenerational Justice," *Imprints* 10 (2007), 69-92, quotation at p. 81.

⁷⁰ By reproducing and thus perpetuating our species, we do produce a social surplus not only for our children but also for our distant descendants. But while creating children is costly and we may expect something in return, our distant descendants are a byproduct that does not add to the cost. *Anybody* would be willing to have great-great grandchildren if it did not require having sons and daughters first. There is thus no market rate. Analogously, the descendants of workers may benefit from their wages, but employers may not demand additional labor from the heirs.

⁷¹ Thanks to an anonymous referee for pointing this out.

⁷² Robert Elliot, "Future Generations, Locke's Proviso and Libertarian Justice," *Journal of Applied Philosophy* 3 (1986), 217-27; Gosseries and Meyer, *Intergenerational Justice*.

- ⁷⁵ Brian Barry, "Intergenerational Justice in Energy Policy," *Energy and the Future*, ed. Douglas MacLean and Peter G. Brown (Totowa, NJ: Rowman and Littlefield, 1983), pp. 15-30.
- ⁷⁶ Cf. Melinda A. Roberts, "The Nonidentity Problem and the Two Envelope Problem: When is One Act Better for a Person than Another?" Roberts and Wasserman, *Harming Future Persons*, pp. 201-28.
- ⁷⁷ Jefferson McMahan, "Problems of Population Theory," *Ethics* 92 (1981), pp. 96-127, at p. 127.
- ⁷⁸ Jeffrey Reiman, "Being Fair to Future People: The Non-Identity Problem in the Original Position," *Philosophy & Public Affairs* 35 (2007), 69-92, quotation at p. 88.
- ⁷⁹ Since Reiman does seem to recognize this (*ibid.*, pp. 87-88), it is puzzling that he appeals primarily to the contractors' sense of justice, rather than simply to their self-interest.
- ⁸⁰ Arthur Kuflik, "The Utilitarian Logic of Inalienable Rights," *Ethics* 97 (1986), 75-87 at pp. 83-84.
- ⁸¹ Kuflik, "Utilitarian Logic of Inalienable Rights"; Wertheimer, *Exploitation*, pp. 72, 145, 156, 299-305.
- ⁸² Russell Hardin, "The Utilitarian Logic of Liberalism," *Ethics* 97 (1986), 47-74 at p. 59. Emphasis added.
- ⁸³ Joel Feinberg, *Harmless Wrongdoing* (Oxford: Oxford University Press, 1990), pp. 231-33, quotation at p. 233.
- ⁸⁴ William Nordhaus, *A Question of Balance: Weighing the Options on Global Warming Policies* (New Haven: Yale University Press, 2008), ch. 9.
- ⁸⁵ Tyler Cowen and Derek Parfit, "Against the Social Discount Rate," Laslett and Fishkin, *Justice* between Age Groups and Generations, pp. 144-61.
- Matthew Rendall, "Climate Change and the Risk of Disaster: The Case for Taking out Insurance at Our Grandchildren's Expense," unpublished manuscript, University of Nottingham, 2010; Page, Climate Change, p. 91; Dominic Roser, "The Discount Rate: A Small Number with a Big Impact," Applied Ethics: Life, Environment and Society (Sapporo: Center for Applied Ethics and Philosophy, Hokkaido University, 2009) pp. 10-25.
- ⁸⁷ Cf. Angelika Krebs, "Wieviel Natur schulden wir der Zukunft? Eine Kritik am zukunftsethischen Egalitarismus," *Zukunftsverantwortung und Generationensolidarität*, ed. Dieter Birnbacher and Gerd Brudermüller (Würzberg: Königshausen & Neumann, 2001), pp. 157-84, at pp. 157-58, 179.

⁷³ See Page, Climate Change, ch. 4.

⁷⁴ Mayer, "What's Wrong With Exploitation?" p. 143.

⁸⁸ Henry Shue, "Bequeathing Hazards: Security Rights and Property Rights of Future Humans," *Global Environmental Economics: Equity and the Limits to Markets*, ed. Mohammed H. I. Dore and Timothy D. Mount (Malden, MA: Blackwell, 1999), pp. 38-53 at p. 52 n. 21.

⁸⁹ Stephen M. Gardiner, "The Real Tragedy of the Commons," *Philosophy & Public Affairs* 30 (2001), 387-416; *idem*, "The Global Warming Tragedy and the Dangerous Illusion of the Kyoto Protocol," *Ethics and International Affairs* 18 (2004), 23-39.

⁹⁰ Rendall, "Climate Change and the Risk of Disaster."

⁹¹ Jonas, *Imperative of Responsibility*, p. 32.

⁹² See, for example, Gunnar Skirbekk, "Marxism and Ecology," *The Greening of Marxism*, ed. Ted Benton (New York: Guilford Press, 1996), pp. 129-36.

⁹³ Gardiner, "The Global Warming Tragedy."

⁹⁴ Cf. Robert E. Goodin, *Motivating Political Morality* (Cambridge, MA: Blackwell, 1992), ch. 4; Kimberly A. Wade-Benzoni, "Intergenerational Identification and Cooperation in Organizations and Society," *Identity Issues in Groups*, ed. Jeffrey T. Polzer (Amsterdam: JAI, 2003), 257-77.