

SYMPOSIUM
A CHANGING MORAL CLIMATE



THE INTERGENERATIONAL STORM:
DILEMMA OR DOMINATION

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The Intergenerational Storm: Dilemma or Domination

Patrick Taylor Smith

Abstract. This paper is both a critical engagement and expansion of Stephen Gardiner’s analysis of the intergenerational storm in *The Perfect Moral Storm* and other works. In particular, this paper focuses on the Pure Intergenerational Problem (PIP). It follows Gardiner in treating the PIP as a paradigm case in the analysis of intergenerational justice but rejects Gardiner’s claim that the best way to view the PIP is as a *coordination problem* akin to the Prisoner’s Dilemma or Tragedy of the Commons. Rather, the very elements of the PIP that, according to Gardiner, make it such a pernicious coordination problem—that is, the asymmetric positioning of power and vulnerability between the present and the future—point to an intergenerational *domination* analysis rather than one of coordination. The paper then goes on to show that a domination analysis has several advantages over one that focuses on coordination, cooperation, and reciprocity. The final section of the paper discusses the objection that domination is an otiose moral concept in intergenerational contexts because it is inescapable. In order to respond to this worry, the paper suggests a variety of institutional reforms that can help alleviate the problem of intergenerational domination.

I

Introduction

Stephen Gardiner, in *The Perfect Moral Storm*, argues that anthropocentric climate change represents an especially pernicious admixture of three particularly intractable problems: the global storm, the theoretical storm, and the intergenerational storm.¹ My paper concerns the last and may help address the second. In his discussion of the intergenerational storm and in previous works, Gardiner draws an analogy between coordination problems like the Prisoner's Dilemma and what he calls the Pure Intergenerational Problem (PIP). On Gardiner's view, the PIP—while being akin to other coordination problems—is actually far worse and much less solvable because the future is asymmetrically disadvantaged with respect to the present. The severity of the PIP motivates a particularly deep pessimism about the prospect of any generation acting decisively to prevent the negative consequences of climate change for future generations. My paper evaluates and extends that claim in three sections. The first section argues that the extremity of the asymmetry between generations decisively undermines the claim that the PIP represents a coordination problem at all. This has two surprising consequences. First, the asymmetry of the PIP undermines *structural* pessimism, based on the intergenerational storm, about the likelihood that generations will act to block the serious consequences of climate change. Second, the asymmetry of the PIP makes it unlikely that concepts like 'reciprocity' or 'cooperation' will be especially useful in guiding our accounts of intergenerational justice. So, in the second section, I suggest that what the PIP shows is that our accounts of intergenerational justice ought to be more responsive to the concern that the

¹ Stephen Gardiner, *A Perfect Moral Storm* (Oxford: Oxford University Press 2011).

present *dominates* the future. Finally, I respond to the most serious objection to the domination-oriented analysis of intergenerational justice: that the asymmetric position of the present and future makes the concept otiose.

II

Gardiner's Account of the Pure Intergenerational Problem

The key element of Gardiner's 'intergenerational storm' is what he names the Pure Intergenerational Problem (PIP). The PIP serves several purposes. It is supposed to show that, even if we came to substantial agreement about what intergenerational justice demanded, each generation would be faced with a 'collective action problem' akin to a Prisoner's Dilemma or the Tragedy of the Commons and that the intergenerational structure of the problems makes it much worse than those more familiar problems. Finally, Gardiner is quite pessimistic about the prospects that generations will coordinate on climate change as a result of this intergenerational dynamic. What's more, Gardiner is *structurally* pessimistic; the badness and injustice of climate change are the result of a predictably rational response to the incentive structures the present generation faces. Yet, I will argue that the very asymmetry that makes the intergenerational dynamic so inescapable has the surprising effect of *freeing* each generation from the structural constraints that might prevent them from effectively responding to global warming.

The foundation of Gardiner's analysis is that the preference dynamic facing the present generation—in the context of the Pure Intergenerational Problem—is similar to that facing players in 'standard' game-theoretic collective action problems like the

Prisoner's Dilemma (PD). I plan to show that despite the surface similarities between the PIP and the PD, the normative foundations of these two problems are actually quite different. To illustrate this point, we need to look at why the PIP is worse than the PD. When we do so, two things will become clear. First, we should not be *structurally* pessimistic with regards to the intergenerational storm, though we might want to be pessimistic for other reasons. Second, notions of 'reciprocity' and 'coordination' are not going to be particularly helpful in describing the requirements of intergenerational justice.

Let's begin with the Prisoner's Dilemma.² Imagine two individuals have been arrested for a crime. In separate rooms, the prosecutor offers each a deal. If both individuals stay quiet (they cooperate with each other), the prosecutor will only be able to convict the two arrested individuals with a lesser crime, so each person gets one year. If one person confesses and implicates the other, that confessor will go free (zero years) and the person who stays quiet will receive the entire ten-year sentence. If both people confess, they will each receive half of the sentence for the crime (five years apiece).

Here is a diagram of the incentive structure, with years and preference rating:

2 This description of the Prisoner's Dilemma is adopted from Stephen Gardiner, "The Real Tragedy of the Commons," *Philosophy and Public Affairs* 30 (2001), 387-416, at 391-393.

		A	
		Don't confess	Confess
B	Don't confess	1, 1 (2 nd , 2 nd)	10, 0 (4 th , 1 st)
	Confess	0, 10 (1 st , 4 th)	5, 5 (3 rd , 3 rd)

Fig. 1: diagram of the incentive structure

Now, it looks like the preference ordering of each player is this:

- 1) I confess while the other person stays silent. (Zero years)
- 2) Neither of us confess. (One year)
- 3) Both of us confess. (Five years)
- 4) I remain silent, but the other person confesses. (Ten years)

The reason this is described as a dilemma and a coordination problem is that, in the absence of any assurance of cooperation from the other person, it looks like the thing to do is to confess. After all, no matter what the other person does, the player minimizes their jail time by confessing. In other words, if the opposing player will remain silent, then you can avoid a year in jail. But if your compatriot *fails* to stay silent, then your

confession serves a protective role since you get only five years as opposed to ten. Importantly, cooperating with your confederate *exposes* you to additional danger since the confederate's lack of cooperation will make your outcome much worse. Unfortunately, the players are symmetrically and equally situated, so they both will come to the conclusion that the best thing to do is to confess. But this leads to a suboptimal result: both players will end up with their third preference (both confess) *despite* the fact that they would both prefer that they both stay silent. So, as Gardiner says:

PD1: It is *collectively rational* to cooperate: each agent prefers the outcome produced by everyone cooperating over the outcome produced by no one cooperating.

PD2: It is *individually rational* not to cooperate: when each individual has the power to decide whether or not she will cooperate, each person (rationally) prefers not to cooperate, whatever the others do.³

So, every person in the game acts rationally, yet these players produce an equilibrium that they themselves recognize as sub-optimal and this is a result of the *incentive structure* within the game.

The incentive structure of the PIP is somewhat akin to the PD. Here is how Gardiner describes the PIP:

Suppose that we are dealing with front-loaded goods of a particular kind. They give modest benefits to the group that consumes them (and only to them), but impose very high costs on all later groups. Under the conditions of the pure scenario—where each group is only concerned with what happens while it is around—consumption of these goods is to be expected. We would predict that earlier groups will choose to consume the modest benefits available to them and thereby impose very high (and uncompensated) costs on later groups. We might also expect that those further along in the sequence would receive escalating burdens, since the costs will be compounded over time. Later generations bear the costs

³ S. Gardiner, *A Perfect Moral Storm*, 26.

passed on to them by each one of their predecessors, and the later a generation is, the more predecessors it has.⁴

The key elements are as follows. First, in the PIP generations are non-overlapping.⁵ Second, each generation's choices can influence future generations but not the past. Third, there exist goods—temporally diffuse goods—that can be either consumed or conserved. If consumed, they benefit the present consumer while imposing substantial costs on the future. If conserved, the present will be somewhat less well-off and the future will not have to pay those substantial costs. So let's compare the PIP preference ordering to the PD. Each generation has the following priorities:

- 1) The present generation consumes the temporally diffuse good while all other generations conserve.
- 2) Each generation conserves.

⁴ Ibid., 151.

⁵ This simplifies the model, and I will use an account of 'generation' that assumes very little overlap. In any case, Gardiner is not optimistic that the overlapping nature of familial generations (grandparents, parents, and children) will do much to change the dynamic of the PIP and is skeptical that 'chains' of overlapping generations will do so either. See Stephen Gardiner, "A Contract on Future Generations," in *Intergenerational Justice*, edited by Axel Gosseries and Lukas Meyer (Oxford: Oxford University Press 2009) at 97-114 for details, Hugh McCormick, "Intergenerational Justice and the Non-Reciprocity Problem," *Political Studies* 57 (2009), 451-458; and Joseph Heath, "The Structure of Intergenerational Cooperation," *Philosophy and Public Affairs* 41, (2013), 31-66 for the opposing view. I share Gardiner's skepticism. The most important reason for using a model with non-overlapping generations is that it brings out the most serious problem of intergenerational ethics: how should we treat people that we have no significant or reciprocal connection? What's more, we shall see that concentrating our attention on those with whom we have no connection and do not interact helps bring the problem of domination into sharp relief.

- 3) Everyone consumes.
- 4) The present generation conserves while all other generations consume.

This recapitulates the PD incentive structure at the intergenerational level. Each generation will consume since they will have ‘no control’ over whether future generations cooperate. Why risk being exploited by conserving when a future generation may simply take that as a reason to consume? So, if other generations consume, the current generation should also take a share of the goods and gain some benefits to outweigh the costs of other generations’ consumption. And if other generations conserve, then one can gain the benefits of consumption at no cost. Yet, when every generation reasons similarly, what we have is a catastrophic equilibrium where all generations consume, inflicting severe costs on the future.

But this undersells the problem; the PIP is actually *worse* than the PD. There are two general reasons for this, but both are based on the fact that players in the PIP are not symmetrically positioned. Rather, generations are organized sequentially. So, this means that the *first* generation in the PIP has no incentive to cooperate.⁶ After all, since they are first, they do not gain through a general policy of conservation as there are no costs that would otherwise be imposed on them to be prevented. So, unlike the PD, where everyone does have *some* incentive to do the collectively rational thing (it is, after all, their second preference), in the PIP, the first generation lacks that incentive, and, as a consequence, each subsequent generation lacks that incentive as they face the choice to cooperate or defect. Second, each

⁶ The first generation is really the first generation to be in a technological position to exploit the temporally diffuse goods.

generation is in a dominant position to determine their policy with regard to future generations. Gardiner argues that there are six features that place the contemporary in such a superior position, but the overall point is this: the present generation is in a position to influence future generations, but not vice versa, and the future is dependent upon the past and present for the protection and maintenance of its interests. As a consequence, the standard solutions to the PD do not apply to the PIP. There can be no external, third party coercer that assures compliance since there is no obvious way to construct a transgenerational sovereign.⁷ Further, since generations occur sequentially and don't interact, then standard tit-for-tat strategies that can resolve iterated PDs are inapplicable. Finally, strategies that depend upon either affection or a sense of fair play seem unpromising because generations do not regularly interact and individuals suffer from motivational limitations. In other words, the vastly superior position of the contemporary and the relative distance between the present generation and future generations undermine various strategies for resolving the dilemma.

So, unlike the arrestee in a prisoner's dilemma or a polluter in a tragedy of the commons, the generation that is deciding whether to consume a temporally diffuse good and thus impose significant, unjustified costs on the future is *not* symmetrically positioned with regard to the other players. The current generation determines its policy, but the next player in the game (the next generation) is not then symmetrically determining its policy with regards to the prior generation. That's impossible; the sequence goes in only one direction. The current generation or the influenced future generations cannot—even in principle—

⁷ This is, famously, Hobbes's solution. See Thomas Hobbes, *Leviathan*, edited by A.P. Martinich, (Peterborough, Canada: Broadview Press 2002) 125-129.

signal their desire to cooperate or create a reputation for cooperation.

In fact, the position of the present generation in the PIP is so dominant that it changes the moral dynamic of the problem when compared to the PD. In the PD, an important element of the dilemma is the sense of *mutual vulnerability*. The individuals in the PD become worse off if they stay silent while the other agent confesses. By cooperating with her confederate, the cooperator exposes herself to significant costs. It is this interaction with another player that gives the PD its strategic character. Similarly, let's consider Tragedies of the Commons (essentially, multi-player versions of the PD). Suppose we are looking at multiple widget-producing firms that are deciding whether to emit pollution into a shared, unregulated river. Each firm might wish to preserve the river unpolluted over every firm polluting and thereby spoiling the river. But if any individual firm can pollute without consequence (suppose that no individual firm's pollution will spoil the river) and no firm can afford to forego the competitive market advantage provided by fobbing the negative externalities of widget production onto the commons, the individually rational thing for each firm to do is to pollute. That is, if some firms can manufacture their widgets more cheaply by polluting, then the decision of other firms not to pollute will expose them to a significant cost (they will lose market share, assuming that consumers don't actively favor environmentally-minded firms) while not gaining them any significant benefit as the river becomes polluted. In 'standard' collective action problems, those trapped in the tragedy or the dilemma are so ensnared because any attempt to cooperate exposes them to exploitation by their fellow players.

This element of exposure and vulnerability is one reason why PDs are morally complex. The reciprocal vulnerability plays a bit

of an exculpatory role in our moral evaluation of those who defect. We might admire those who expose themselves by cooperating, but defection at least seems *reasonable* when one has no assurance that others will cooperate.⁸ We are tempted to think that people are not required to be suckers. The vulnerability thus strengthens our structural pessimism: it not only, as an empirical matter, increases the likelihood of defection, but we think that defection is an understandable and rational response to the incentives the players are faced with. However, when one removes that vulnerability, then the demand to do the ‘right’ thing and cooperate seems much less problematic. Imagine a polluting firm with such a dominant market position that they can use a cleaner, more expensive widget manufacturing process without risk of being out-competed. It seems right to say that this firm has a stronger moral obligation to stop polluting than one small firm among many that risks destruction through unilateral action. Similarly, Hobbes argues that the reduction of mutual vulnerability makes the international state of nature quite different from the domestic:

[...] yet in all times, kings, and persons of sovereign authority, because of their independency, are in continual jealousies, and in the state and posture of gladiators; having their weapons pointing, and their eyes fixed on one another; that is, their forts, garrisons, and guns upon the frontiers of their kingdoms; and continual spies upon their neighbors; which is a posture of war. But because they uphold thereby, the industry of their subjects; there does not follow from, that misery, which accompanies the liberty of particular men.⁹

⁸ There might be cases where this isn’t true if the consequences of defection are relatively minor and the benefits of cooperation are large, but generally I take one of the reasons the prisoner’s dilemma is a *dilemma* is partly because the person who defects has good reasons for doing so.

⁹ T. Hobbes, Thomas, *Leviathan*, 96-97.

States can cooperate and act internationally in a way that is less driven by the dynamics of the PD because the greater, corporate capacities of the state make them less vulnerable to defection by the other actors in the system. In other words, it appears that the more immune the player is from retribution in these kinds of strategic games, the less the game looks like a dilemma and the stronger the obligation to cooperate.

Yet, the PIP lacks this element of mutual vulnerability. The features that make the PIP so apparently intractable are the very features that eliminate the exposure of the cooperators. Let's consider the decision to consume or conserve from the standpoint of the current generation. The extent to which previous generations have conserved or consumed the relevant resources is now fixed.¹⁰ This generation must then decide whether to consume the temporally diffuse goods to an unreasonable extent and thus whether to 'cooperate' with future generations. It might be true that any generation would like to consume resources and impose the costs of that consumption on others, but that self-interested motivation is insufficient to generate a dilemma. As we saw above, it is the element of *exposure*

¹⁰ The *fully* sequential nature of these interactions is what creates a disanalogy between the PIP and cooperative endeavors like, say, retirement insurance, *pace* Joseph Heath ("Review of Intergenerational Justice," edited by Axel Gosseries and Lukas Meyer, *Ethics*: 120 (2010), 851-855). If the costs of temporally diffuse goods are sufficiently in the future, then no person we interact with will need to pay for the consequences of *our* consumption of the good, though we may very well see the effects of consumption that came before us. In a retirement insurance scheme, we regularly interact with the individuals we support and then regularly interact with individuals that support us. We *can* be punished by later individuals if we defect and refuse to support those dependent upon us. In the *PIP*, we quite literally *cannot* be punished for defection. This is why tit-for-tat strategies are not applicable: PIP-generations do not interact in the kind of way that allows these sorts of iterative strategies to succeed.

that generates the moral complexity in standard coordination problems. In the classic examples, players must worry that when cooperating they will be disadvantaged or harmed by the defection of other players. They might spend more time in jail or lose market share. But in the intergenerational case, there does not appear to be any relevant disadvantage. The cooperate/defect dyad is not worse than cooperate/cooperate for the first player. It is true that the first or present generation will need to forego the benefits of the temporally diffuse goods, but this would be true *regardless* of what future generations do. The superior, temporal position of the present immunizes it from the claims of the future, but it also means that they can cooperate without risk of costs greater than whatever benefits they give up by cooperating. On this view, the present generation is like the dominant firm deciding whether to pollute, more or less entirely free to conserve without risking any negative consequences.

Now, one might wish to argue that if the present conserves and the future consumes, then the present's conservation is 'wasted' and that this represents a 'cost' akin to the cost paid by spurned cooperators in PDs. But this kind of cost seems fundamentally different than that facing those who find themselves in the PD or Tragedy of the Commons. In the latter cases, the preference appears to be undergirded by significant material penalties: spending one year in jail as opposed to ten years is a strong foundation for preferring defensive defection over risky cooperation. But in the PIP, what founds the preference is an anticipatory desire not to have one's cooperation wasted. Yet the current generation will never be even made *aware* of whether their cooperation is 'rewarded' and will not suffer any negative consequences for the future's potential defection. In the PIP, the current generation does not expose itself; there is—quite

literally—no difference to the current generation between a future generation’s cooperation and its defection.¹¹

This feature seems to undermine the ways in which the PIP leads to a ‘structural’ pessimism concerning the possibility of generational action on climate change. Consider the following case:

COMATOSE VICTIM: Catherine comes across the trapped, comatose body of James and she notices that he has a locked suitcase full of valuables handcuffed to his forearm. It would be easy to remove the briefcase but this would cause considerable harm to James. Catherine has no means of helping James and she has decisive moral reasons to continue on her journey. Thus, she has a choice of leaving James alone or taking his briefcase. Catherine does know, however, that other people will be travelling along this path, including less obviously virtuous individuals like Isabella.

¹¹ There are at least two ways to resist this conclusion that I don’t have time to discuss in detail. First, there might be *intergenerational* projects that later generations can undermine as a way of punishing the present generation’s defection. Similarly, we could adopt a *preference-satisfaction* account of welfare. Then, the failure of the future to act to satisfy the present’s preference that their cooperation not be wasted would make the present generation worse off even after every member died. In the first case, I do not find it likely that our intergenerational projects, especially when it comes to projects that motivate us multiple non-overlapping generations into the future, will be sufficiently robust as to derail these dynamics. Second, setting aside the obvious problems with the idea that preferences satisfied or unsatisfied could affect my welfare after I die, I am left wondering why it matters *to the present* that this *particular* preference goes unsatisfied. After all, it makes no material difference in terms of the resources available to them to lead decent lives. I don’t deny that individuals have these preferences, but I deny that the preferences in the PIP and those in the PD are of equal normative importance.

Like the PIP, this is a sequential problem; Catherine can do little to influence Isabella and Isabella can operate, essentially, with impunity. Should we describe COMATOSE VICTIM as a ‘collective action’ problem between Isabella, James, and Catherine, with similar exculpatory consequences if either Catherine or Isabella refuses to cooperate? Surely not. Rather, the real question is whether Isabella or Catherine will take advantage of their position to harm James. Of course, Catherine might *prefer* that she get the suitcase over Isabella and might prefer that both refrain from taking the suitcase above all, but it would be stretching the notion of reciprocity or coordination to say that the real issue between the two of them is whether they can form a cooperative equilibrium around taking the briefcase. After all, Catherine can refrain from violating the rights of James *without* any cost to herself. Obviously, there is the ‘risk’ that her restraint will be ‘wasted’ if Isabella does decide to take James’ suitcase, but this is not the same kind of cost facing players in standard coordination games. Isabella might be less virtuous than Catherine, and, as a result, may simply act badly. We can say the same thing about the PIP. If there is some level or rate of carbon emission that does not produce especially dangerous consequences for future generations¹², then we could say that the present generation is faced with a relatively simple choice. The next generation is prostrate before them: the contemporary may take advantage of their superior position or they may not. What the next generation might do should not concern them.¹³

¹² On the issues surrounding the idea of just emissions, see Simon Caney, “Just Emissions,” *Philosophy and Public Affairs* 40 (2012), 255-300, and Megan Blomfield, “Global Common Resources and the Just Distribution of Emission Shares,” *Journal of Political Philosophy* 21 (2013), 283-304.

¹³ This is restricted to the *intergenerational* problem; the current generation does face a substantial *intragenerational* prisoner’s dilemma when it comes to global cooperation in the face of climate change (S. Gardiner, “The Real Tragedy of

Similarly, COMATOSE VICTIM is similar to the PIP in the sense that no person has a *self-regarding* interest in cooperating. Both Catherine and Isabella can defect without suffering any negative consequences; defection by either player does not make the other player worse off, except insofar as the later player will not be able to take the valuables. In other words, the only reason for Catherine to refrain is her other-regarding preference to James well and the same is true for Isabella.

In light of this analysis, it is not clear that we should be *structurally* pessimistic in the way that Gardiner describes, at least with regards to the intergenerational case. When it comes to these collective action problems, structural pessimism is motivated by two factors. These two factors represent, at least in part, the reasons why Garrett Hardin—in his description of the tragedy of the commons—argues that these problems cannot be solved ‘technically,’ they can only be solved by changing the incentive structure each agent faces. First, as was discussed above, it seems to be quite unreasonable to demand that people be altruistic and signal their cooperation when doing so exposes them to significant cost and little potential benefit. The second reason for structural pessimism is the *selection effect* of collective action problems. The basic idea is that, in systems with a particular incentive structure, agents who act ‘irrationally’ in that context

the Commons,” 407ff and *A Perfect Moral Storm*, 104-114). The one intergenerational exception might be that if we knew for certain the future would not cooperate, there was no way to convince them otherwise, and our cooperation would make no difference to any subsequent generations beyond the second.

will be outcompeted and eventually disappear. Hardin suggests that this effect applies in the case of overpopulation:¹⁴

People vary. Confronted with appeals to limit breeding, some people will undoubtedly respond to the plea more than others. Those who have more children will produce a larger fraction of the next generation than those with more susceptible consciences. The difference will be accentuated, generation by generation.¹⁵

So, one reason we should not expect cooperation in Tragedies of the Commons is that those who do cooperate will eventually cease to populate the game as they lose out in comparison to those who act individually rationally. And this is, at least partly, why we shouldn't expect the players in the game to act differently; those that do so end up disappearing. For example, one might argue that polluting firms are selected for in our tragedy of the commons since those firms that act individually irrationally by not polluting will lose market share and eventually go bankrupt.¹⁶

Neither reason for structural pessimism applies in the PIP. The present is not vulnerable to the future. Furthermore, just as the PIP lacks the possibility of reciprocal interaction, selection is also foreclosed. All 'present' generations will possess these advantages and be in a position to decide whether to consume or

¹⁴ S. Gardiner ("The Real Tragedy of the Commons") has convincingly argued that Hardin is not correct about overpopulation in particular. I am simply using Hardin to illustrate the structure of the effect.

¹⁵ Garrett Hardin, "The Tragedy of Commons," *Science* 162 (1968), 1243-1248, at 1247.

¹⁶ Robert Nozick (*Anarchy, State, and Utopia*, (Oxford: Blackwell 1974), 18-22) describes explanations of this kind as 'invisible hand' explanations. Using his terminology, the structural pessimism in a collective action problem is based on a combination of both equilibrium and fitting processes: rational agents are likely to respond to the incentives to defect (equilibrium) and those that cooperate are likely to be removed from the dynamic over time (fitting).

conserve. Conservation does not expose the present to the possibility of losing, bankruptcy, reproductive failure, or any of the selection forces that work in these other models. So, it is not obvious that we have reason to be structurally pessimistic in the context of the intergenerational storm.¹⁷ But perhaps we should be pessimistic regardless. Perhaps it is simply too much to demand that human beings refrain from benefitting themselves when they are in such an easy position to do so; we may not be able to rely on the *other-regarding* preferences of Catherine and Isabella to not take advantage of James. And so, perhaps we should be skeptical that any generation will be so virtuous as to refrain from exploiting those subject to their power just out of the goodness of their hearts. But this is a skepticism brought about by the ability of human beings to refrain from abusing essentially absolute power; we may not be able to resist James's briefcase, but we shouldn't pretend that taking the briefcase is anything but the powerful taking what they will.

III

¹⁷ There are, at least, two sources of structural pessimism in the context of the 'The Perfect Moral Storm' of climate change that these argument leaves untouched. First, there is the problem of the *intra*-generational coordination created by the multiplicity of political actors who have strong incentives to free-ride and defect from any regime to reduce emissions. Second, even if a generation were to have a decisive preference to reduce emissions, it might still be rational to *delay* that emissions policy along the lines of the self-torturer paradox (see Chrisoula Andreou, "Environmental Damage and the Puzzle of the Self-Torturer," *Philosophy and Public Affairs* 34 (2006), 95-108). My argument is only about whether the intergenerational storm as described by the PIP should be a source of structural pessimism. I thank an anonymous reviewer for forcing me to be clearer on this point.

The Domination of Future Generations

The previous section, I suggest, motivates a *domination*-oriented account of intergenerational justice. As I suggested above, the best way to characterize the PIP is not as a collective action problem but rather as a problem of getting the present—which exists in a commanding position to do what it wishes—to stop abusing the future with its over-consumption of temporally diffuse goods. The moral imperative to avoid domination, rather than reciprocity, seems to be a more appropriate normative concept when we are dealing with the unilateral relationship between the present and the future, with the former being much more powerful than the latter. In this section, I outline a theory of intergenerational domination and argue that this is a better foundation for the analysis of intergenerational justice than reciprocity and cooperation.

‘Domination’ is a fairly flexible concept. It is often used descriptively. A game theoretic strategy is ‘strategically dominant’ when it produces a better outcome regardless of what your opponent does. On a variety of measures, a firm might achieve ‘dominance’ when it has a large enough share and influence within its market. Max Weber defined domination as the high likelihood that one’s commands will be obeyed, and feminist theorists have often equated domination to the possession of social, political, and economic power.¹⁸

However, I will use ‘domination’ to refer to a particular type of political injustice. Thus, to claim that a person has been dominated is to claim that they have been wrongfully subject to a particular kind of political power, a subjugation that is intrinsically

¹⁸ Frank Lovett (*A General Theory of Domination and Justice*, (Oxford: Oxford University Press, 2010), 1-10) has a nice introduction to the concept of domination and various theoretical attempts to grapple with it.

inimical to that individual's autonomy, freedom, or status as citizen.¹⁹ Of course, this normative sense is not unrelated to the descriptive senses mentioned above as all of the latter have in common their reliance on the idea of a superior power or superior position. Domination, on my view, occurs when an agent possesses superior power over another *and* is in a position to use that power arbitrarily. This 'arbitrariness' is *not* merely a function of the ends to which that power is put or what principle the powerful agent adopts. Rather, an agent is in a position to exercise power arbitrarily when there are no external and public mechanisms that require the powerful agent to be accountable to those over whom they wield power.²⁰ An important consequence of this view is that a dictator who is in a position to issue whatever commands they wish and see those orders carried out *necessarily* dominates regardless of whether their commands are wise or foolish, compassionate or vicious. After all, whether the common good is served depends upon the whims of a political agent with absolute power. Of course, it is, in some sense, *better* to live under the heel of a benevolent despot rather than a cruel one,

¹⁹ There is a long political and philosophical tradition of arguing that domination is the central example of political unfreedom (Philip Pettit, *Republicanism: A Theory of Freedom and Government*, (Oxford: Oxford University Press, 1997), 17-41). My view is that domination is inherently inimical to *relational-egalitarianism*; it represents a morally problematic relationship between superior and subordinate *even if* that relationship is used to benefit the subordinate (for more, see Elizabeth Anderson, "What is the Point of Equality?," *Ethics* 109 (1999): 287-337, at 312-315).

²⁰ I intend to be fairly ecumenical with this definition of 'domination,' endeavoring to remain agnostic between, for example, Pettit (*Republicanism: A Theory of Freedom and Government*, 52-58) and Bohman (James Bohman, "Children and the Rights of Citizens: Non-domination and Intergenerational Justice," *The Annals of the American Academy of Political and Social Science* 633 (2011), 128-140, at 134-135) as well as others. These disagreements about the nature of domination are important, but nothing I say in the rest of the paper depends upon adopting one conception rather than the other.

but it remains the case that no one should live under anyone's heel.

There are, ultimately, two strategies for resolving the problem of domination in a particular political context. First, one can increase the power of the subordinate or decrease the power of the superior so that there is no asymmetry; without superior power, there is no domination. The second strategy is to structure the superior power so that it is non-arbitrary. Usually, this is achieved by the development of a constitutional order that possesses significant safeguards, checks and balances, and meaningful avenues of contestation and accountability. Completely describing the various constitutional mechanisms that can be used to tame political power is beyond the scope of this essay, but I'd like to describe a particular case: the regulation of police power. In a modern constitutional democracy, law enforcement personnel have considerable power. Indeed, the modern state both came to populate the political landscape because of, and is legally defined by, its possession of essentially irresistible, superior power over its citizenry.²¹ This power has many sources: equipment, training, social status, and institutional organization. Nonetheless, law enforcement agencies do not dominate if they are reliably constrained and publicly accountable. This can be accomplished in numerous ways, but here are some

²¹ Charles Tilly (*Coercion, Capital, and European States, AD 990–1992*, (Cambridge: Wiley-Blackwell, 1992), 14-16) has argued that the reason the modern state came to achieve its primacy in the global political landscape because it was the most effective political formation for the organization of collective violence. The Montevideo Convention defines statehood in terms of the ability of a government to wield power effectively over a defined territory (Thomas Grant, "Defining Statehood: The Montevideo Convention and its Discontents," *Columbia Journal of Transnational Law* 37 (1998), 403-457, at 413-414). Iris Marion Young (*Inclusion and Democracy* (Oxford: Oxford University Press, 2000), 1-3) uses civilian review boards to demonstrate ways in which arbitrary power can be effectively restrained.

specific mechanisms: public laws that delineate the appropriate scope of police power, citizen review boards with the power to discipline police officers, an independent judiciary that can exclude evidence illegally obtained, videotaped confessions that can be evaluated by a jury, internal affairs investigators, and civil liability for wrongful death in the event of unjustified shootings. In each case, these institutions can ensure that the police serve the common good as well as setting out publicly the appropriate uses of police power and the means for addressing the abuse of that power. On this view, these safeguards and constraints are not *simply* instrumentally useful in getting police to behave properly; being subject *only* to power that is meaningfully accountable and contestable is an ineliminable element that partly *constitutes* what is to be free, to be autonomous, or to be part of a minimally just polity.

Gardiner has effectively demonstrated that the present is in a position of vastly superior power when compared to the future. The asymmetries of causal influence and dependence of interests make the future dependent on the present and give the present immense power to structure the choices available to the future. Furthermore, technological and economic developments have undermined the few *internal* checks constraining the present generation while at the same increasing their power to shape the future. In the pre-industrial past, the present generation had to be concerned with the future because caring about the future was an important way of helping the present.²² There was a convergence

²² In other words, the economic production was structured in such a way that hurting the future required hurting the present and that policies that benefitted the future benefitted the present. See my “Domination and the Ethics of Solar Radiation Management,” in *Engineering the Climate: The Ethics of Solar radiation Management*, edited by Christopher Preston (Plymouth: Lexington Books, 2012) for a more detailed discussion of this dynamic. This is similar, in certain ways, to making police officers civilly liable for the consequences of firing their

of interests. If the present ceased to care for their children, they wouldn't have caregivers when they ceased to be productive. If the present refused to care for agricultural infrastructure or burned their fields, then they would starve themselves²³. This does not mean that pre-industrial societies never exploited natural resources in a way that harmed the interests of the future, it is rather that they were more constrained by their own technological limitations and self-interest than industrial societies are. Industrialization in general and the burning of fossil fuels in particular have made two things possible. First, they have vastly increased the scope, scale, and speed of the sorts of activity that will influence the future. Second, they have made possible the exploitation of temporally diffuse goods which benefit the future by imposing costs that won't be immediately felt. As a consequence, the constraints founded on technological limitations and self-interest have been worn away. The lack of intergenerational interaction makes it impossible for there to be *external* checks on the behavior of the present. Now that these internal checks have been substantially reduced, the present is in a position to act unchecked, especially when it comes to the consumption of temporally diffuse goods. The present is now in a position to enrich themselves by causing extensive environmental damage in a sufficiently distant future that is relatively easy for them to ignore.

weapon. If every police officer faced the possibility of torts based upon wrongful death for unjustified killing, this would provide a powerful disincentive for using a weapon negligently or excessively. I have been told personally by police officers that this helps explain why some jurisdictions have larger numbers of questionable uses of force than others.

²³ These distinctions probably help partly explain why some types of environmental degradation are more easily responded to than others. Ozone layer depletion was sufficiently rapid that it directly affected the generation that began using CFCs. So, the present had a strong incentive to deal with the issue, it acted, and the ozone layer has stabilized.

Furthermore, it is clear that this power is being deployed arbitrarily. There is no constitutional order that is shared by both the present and future that could reliably constrain the power of the present. And it is equally clear that the current actions of the present—burning fossil fuels and generating climate change—will impose significant costs on the future.²⁴ What’s more, it seems that whether the present decides to do so is entirely up to the present generation, and it is hard to see how the future could demand accountability or contest the decisions of the present. In fact, the very same causal dynamics that make *reciprocity* impossible seem to make the domination especially intractable and invidious. As a result, we must conclude that the present dominates the future and then uses that dominating position to unjustly benefit itself at substantial cost to the future.²⁵

²⁴ For a thorough discussion of the implications and effects of climate change, see the Working Group II contribution to the Fourth Assessment Report of the IPCC (2007). An updated Working Group II Report will be published in March 2014:

http://www.ipcc-wg2.gov/AR5/AR5_provisional_schedule.html.

²⁵ John Nolt (“Greenhouse Gas Emission and the Domination of Posterity,” in *The Ethics of Global Climate Change*, edited by Denis Arnold, (Cambridge: Cambridge University Press, 2010) has argued that the domination of posterity is, for a variety of reasons, *especially* bad. While Nolt is interested in the domination of posterity, there are key differences between his analysis and mine. The most important of which is that Nolt argues that only domination that results in *harm* is morally problematic. As a consequence, Nolt suggests that what the present must do is to cease harming the future. Of course, I agree that the present should take steps to guarantee that future generations can lead decent lives, but I disagree that benevolent yet dominating power is morally acceptable. A benevolent despot remains a despot. As a consequence, I think a focus on *harmful* domination is much too narrow and exaggerates the moral attractiveness of policy responses like solar radiation management that block the effects of climate change without dealing with the underlying political and economic power structures (see my “Domination and the Ethics of Solar Radiation Management,” for a longer argument to that conclusion). So

Before I turn to potential objections to a domination-oriented account, I would like to present a few reasons why it is superior to accounts of intergenerational justice based upon reciprocity and cooperation. There are many such views. Some argue that we should conceive of intergenerational justice through an intergenerational veil of ignorance designed to fairly distribute the benefits of intergenerational cooperation.²⁶ Others argue that a generation that over-consumes should be conceived as ‘exploiting’ later generations as they take more than their ‘fair share’ of the collective surplus produced by intergenerational cooperation.²⁷ These views share a common notion: we should conceive of generations that are related sequentially or diachronically as a set of cooperators that are engaging in productive activity synchronically. But as Gardiner has shown, generations are *never* in a position to reciprocate the conservationist activity of the previous generation and generations simply don’t interact. Of course, it might nonetheless be true that the best way to conceptualize just relations between generations is as reciprocal cooperators despite the fact they are not, but I would like to spend the rest of this section describing a few reasons why, at the very least, reciprocity views need to be supplemented (and perhaps supplanted) by a domination-oriented view.

unlike Nolt, I am arguing the present should take steps to avoid domination regardless of whether they are using their superior power to harm the future or not. I do think, but cannot argue fully here, that only a non-dominating order will be a reliably non-harmful one.

²⁶ See David Heyd, “A Value or an Obligation? Rawls on Justice to Future Generations,” in *Intergenerational Justice*, edited by Axel Gosseries and Lukas Meyer (Oxford: Oxford University Press 2009).

²⁷ See Christopher Bertram, “Exploitation and Intergenerational Justice,” in *Intergenerational Justice*, edited by Axel Gosseries and Lukas Meyer, and Matthew Rendall, “Non-identity, Sufficiency, and Exploitation,” *Journal of Political Philosophy* 19 (2011), 229-247.

First, while the obligations of cooperation and reciprocity seem to become more specific and concrete as the level and nature of the interactions becomes more robust, domination can become more salient the ‘thinner’ the interactions between subordinate and superior. As there is less and less actual cooperation and less and less reciprocity, then our intuitive sense of what constitutes a ‘fair portion’ becomes more contested since the actual details of the interaction provide less of a guide. As a consequence, our judgments about ‘reciprocity’ become based on more abstract moral considerations and cease to be a meaningful independent guide to how we ought to act. On the other hand, as individuals interact less frequently, the risk of domination increases and the need to avoid domination becomes more urgent. The reason for this is that as individuals interact, the mechanisms for reciprocal checks and mutual negotiation grow in frequency and power. Consider two political and economic relationships.

Posca the Slave: Posca is the household servant of a rich Roman consul. He is involved in the most intimate affairs of the family. He tutors young children, manages household finances, and advises his master. He serves at the pleasure of his *dominus* and may be ordered about, sold, and disciplined at the whim of his master.

Norman the Serf: Norman owes fealty to Henry II of England, owing his land to a kingly grant. However, Norman lives in a distant part of Normandy and, for the most part, lives his life almost entirely independent of any authority except for the local manorial lord.

In both cases, the dominating agent has the ability or capacity to exercise considerable power over the person subject to them,

but Posca's closeness to his master affords him opportunities to become relatively 'indispensable' (by developing irreplaceable skills and knowledge) or to negotiate relationships that check each other (for example, making use of the affection of the son he tutored in order to protect his family from the depredations of a valued free client of the master family). These robust interactions provide opportunities for Posca to increase the costs of exercising power in ways detrimental to his interests, but they also make the exploitation of the slave's labor and skills much more intense²⁸ (that is, the more frequent and closer interactions help masters expropriate the economic product of their slaves; Posca's master gets a lot more from Posca than Henry II gets from Norman). In the king-serf case, the opposite dynamic applies. Henry II is probably not going to expropriate Norman's labor and economic product as easily and intensely as that of those with whom he regularly interacts (in fact, we could imagine certain scenarios where the king receives essentially none of the agricultural production of Norman). But nonetheless, the king is certainly in a deeply problematic political relationship with the serf even if no property is expropriated or is likely to be. And if the king *should* decide to exercise his power against the serf, the lack of prior interaction will deprive Norman of even the small possibilities of negotiation available to Posca. Given this analysis, it would seem that domination would be especially useful when discussing intergenerational justice, which represents the limit case of causal influence without reciprocity.

²⁸ It is important to note two things. First, both Posca and Norman are dominated and subject to severe injustice. Second, I am not claiming that we should *prefer* Posca's situation to Norman's. Rather, I claim that domination is an appropriate and action-guiding moral concept even in cases where infrequent economic interactions make considerations of 'reciprocity,' 'exploitation,' or 'fairness' less relevant and concrete.

Second, a domination-based analysis is oriented towards the *capabilities* of the present that make it possible for them to undermine the interests or life chances of future generations and not simply the *results* of the actions of present and past generations. In other words, if we focus fairly narrowly on the fact of cooperation or non-cooperation between generations, then we can be lulled into concluding that there is nothing morally problematic about the relationship between the generations simply because we happen to (finally) cooperate with the future by conserving temporally diffuse goods.

For example, if we focus on exploitation—defined in terms of taking more than your fair share—then one could conclude that as long as the present generation develops some mechanism for ensuring the future *receives* their fair share, the present has satisfied its obligation to the future. That is, suppose the present engages in a crash program of economic investment so that the future is sufficiently wealthy to effectively adapt to the consequences of unabated global warming: the economic investment could ensure that the future receives an equivalent compensation for the costs of consumption.²⁹ Or suppose the present deploys a series of geoengineering technologies that reduce or eliminate the costs to the future associated with the consumption of temporally diffuse goods. In those cases, it is plausible that, characterized entirely in terms of the distribution of material goods, the present has made its consumption behavior non-exploitative. But, in both cases, the relationship of domination is unresolved. Domination-oriented analyses force us to consider *why* the present is, currently, in a position to unilaterally condition the lives of the future and

29 The point is that domination provides us with a principled reason for rejecting compensatory schemes; there may be others. Compensatory strategies might depend on assumptions about the commensurability of various goods that are implausible (e.g., can we ‘compensate’ future generations being unable to observe polar bears by providing them with additional income per capita?).

motivate us to resolve or change that dynamic as much as possible. On a domination oriented account, a relationship can be morally problematic *even if* the victim benefits from it. We can readily imagine kind slaveowners and benevolent despots, and the largesse of their beneficence does not justify their dominating relationship over their slaves or subjects. So, there are two reasons why we might think that a focus on fair burden-sharing is inadequate. First, as a practical matter, it seems like that even initially fair setups will be unstable if they depend on individual virtue and ignore large power differentials. Second, it seems plausible that dominating relationships are intrinsically problematic political relationships that the provision of adequate distributive shares does not resolve. As a result, certain public policy responses to climate change might be more expensive or difficult but be morally required because they reduce intergenerational domination. Domination-oriented analyses provide principled reasons for rejecting various kinds of economic or technological responses to climate change that represent attempts by the present to rationalize or justify consumption but fail to deal with the underlying power dynamics between the present and future.³⁰

To summarize this section, I have argued that it is better to conceptualize the fundamental³¹ problem of intergenerational

³⁰ See my “Domination and the Ethics of Solar Radiation Management” on geo-engineering as an example of how domination can inform our judgments about the appropriate responses to climate change.

³¹ By ‘fundamental,’ I do not mean to say that only domination matters to intergenerational justice. It could very well be the case that a nondominating order could nonetheless impose unfair burdens and thus could be subject to moral criticism, though it is difficult to imagine a nondominating political system that was characterized by robust institutional protections of the future that then allowed systematic and egregiously unfair burden sharing. Still, a system can be nondominating yet imperfect. Rather, I mean to suggest that the elimination of domination is a necessary component of any account of

justice as the avoidance of domination of the future by the present than as intergenerational cooperation or reciprocity. There are three reasons for this. First, domination captures the dynamics of the PIP, which is marked by a distinct lack of reciprocity or cooperation. Second, while the moral relevance of cooperation and reciprocity becomes less relevant as interactions between agents become less robust, domination retains its significance even when interactions are thin, weak, and infrequent. Third, a focus on domination properly orients our concern towards the power dynamics between generations that allow for the possibility of abuse and exploitation. In the final section, I will consider what I take to be the most important objection to the view.

IV

Objections and Solutions

There appears to be an obvious problem with a domination-oriented analysis. If we conceive of intergenerational justice as cooperation and reciprocity and we understand ‘cooperation’ in terms of simply ensuring that future generations have their fair share of goods or an adequate environment, then the appropriate moral response is easy to describe. We can ‘cooperate’ by refraining from overconsumption or effectively compensating the future for our actions. In the previous section, we criticized the cooperation/reciprocity/exploitation views as being insufficient because they ignore the political relationship of domination that makes cooperation on unfair or one-sided terms possible, but

intergenerational justice and that domination plays a key material role in making other kinds of injustice feasible.

cooperation/reciprocity/exploitation views do have the advantage of providing clear and achievable prescriptions for the present. Yet, if we use a domination analysis, compensating or conserving is, by itself, insufficient. We are also required to *repair* the dominating relationship.

Unfortunately, it is not clear that it is even *possible* to structure the relationship between the present and future so that it is non-dominating. Phillip Pettit describes two basic strategies for resolving problems of political dominations but neither is obviously available in the intergenerational context. First, you can eliminate the superior position of the dominator by equalizing power between the agents. Unfortunately, this seems to be impossible in the intergenerational context. After all, as long as time travels in one direction, the present is always going to possess a superior position over the future. The causal influence and the asymmetric dependence of interests that make the future so vulnerable seem to be necessary and ineliminable features of the intergenerational context.

The second strategy seems no more promising. Pettit has argued that, even if we cannot or should not equalize power, we can reduce or eliminate domination by using a constitutional order of checks and balances to make that power non-arbitrary and accountable.³² Of course, there is no such constitutional order that mutually constrains the present and future generations. But more importantly, it does not seem even *possible* for there to be a common constitutional order between the present generation and those that come after it. Generations, I have assumed, do not robustly overlap. We can readily conceive of a constitutional order that mutually constrains agents that exist together, but it is hard to imagine an order that works for agents oriented diachronically. After all, whatever constraints we build

³² P. Pettit, *Republicanism: A Theory of Freedom and Government*, 67-68.

into a constitutional order must ultimately be adopted *by* the present generation without any interaction or accountability. How are we supposed to design institutions that make the present accountable to the future if the future will never be in a position to interact with the present? If *accountability* and *contestation* are significant elements of political non-domination, then it seems like intergenerational domination is unavoidable; the future cannot contest the actions of the present and, similarly, the present and the future cannot both exist in a shared order of accountability.³³ So, if domination is unavoidable *no matter what we do*, then it appears to be irrelevant in our practical deliberations. To put it another way, if we are necessarily despots, then we ought to concern ourselves with being *benevolent* despots rather than cruel ones. If we must dominate, then we can at least act *as if* we are engaging in reciprocal cooperation with the future even though we really are not.

This is a serious worry and, in many ways, it is similar to the objection I have laid against the cooperation/reciprocity views. Domination looks to be an inappropriate concept to apply to intergenerational justice because intergenerational relations are simply too one-sided for a focus on domination to be helpful.

Before I provide a full response, I want to point out two features of the intergenerational situation that open up the possibility of non-domination in the intergenerational context. First, we need to see that there is a distinction between *formal* power and *substantive* power. Formal power is the kind that that has been and always will be possessed by the present generation in virtue of its relationship to the future: time and causal influence flows in one direction. Formal power, then, is reflected in a kind of bare feasibility. This formal power remains constant while the present's substantive power waxes and wanes. So, it is always

³³ *Ibid.*, 61-63.

within the power of currently existing people to, for example, burn all their crops and act in ways that make the lives of future people worse off without any response from the future. Their formal power is always present, but the technological, economic, and social dimensions of the power of present people have increased in scope, magnitude, and speed while dramatically decreasing in cost. The substantive power of the present has grown because now the present's interventions often have a global effect, have more significant immediate consequences, occur more quickly and cheaply, and can often be accomplished in ways that benefit the present. As an agents *substantive* power increases, so does the intensity of the domination, but if that power decreases, so does the domination. The second element of the response is to realize that generations are, unlike states or corporations, not really agential entities. Throughout this paper, I have discussed what a 'generation' will do in the face of some incentive structure, but this is only a useful shorthand. Theorizing in terms of generations is useful because they describe a certain context and relationship that *a group* of agents, both corporate and individual, share, but we should not let that deceive into thinking that each generation is *itself* a corporate agent. This means that we can use different agents *within* a generation to check each other and develop 'pre-commitment' strategies by which those checks are structured to block harmful or unjust behavior.

With these two elements in mind, there are at least three ways we can reduce domination between generations. Combined, these three mechanisms represent the beginnings of a strategy for producing just, non-dominating relations between the present and the future. First, Pettit has argued that virtue can play a role in reducing domination as long as it takes a particular form. He says:

Does this point mean that no difference is made by the fact, if it is a fact, that the power-bearer is benign or saintly? That depends. If being benign

or saintly means that the person acknowledges that they are subject to challenge and rebuke [...] then that entails that they cannot interfere with complete impunity; they can be quoted, as it were, against themselves [...] If, on the other hand, being benign or saintly simply means that the person happens to have inclinations that do no harm to anyone else [...] then it will not entail a reduction in the domination of those who are under this person's power.³⁴

Not all personal virtues reduce domination. A political agent that is simply nice or kind or compassionate can still nonetheless be dominating since those virtues are, or can be, almost entirely private. However, if one makes a *public* commitment that serves as a vehicle of criticism and contestation, then the virtue of having a kind of integrity, of being bound to match one's behavior to one's public pronouncements can have a robust effect in reducing domination even if it is insufficient on its own. This kind of constraint or cost *is* something that can be applied to the present even if there is no interaction with the future. In other words, if the agents—corporate or individual—of the present generation can make a truly public commitment to treating the future well (perhaps through law) and if those agents either have or can be made to have the virtue of integrity, then that would go some way towards reducing domination.³⁵ By setting a public commitment, one increases the costs of working against the interests of the future, and one also provides a legal and political standard by which those who represent the future achieve uptake in the political and legal systems.

³⁴ *Ibid.*, 64.

³⁵ One possible mechanism for this kind of public commitment, though perhaps not sufficient on its own, is to incorporate counter-majoritarian environmental and fiscal protections into national constitutions. See Joerg Chet Tremmel, "Establishing Intergenerational Justice in National Constitutions," in *Handbook of Intergenerational Justice*, edited by Joerg Chet Tremmel (Cheltenham: Edward Elgar Publishing, 2006).

Second, the fact that generations are not a single agent but are rather composed of many agents provides an opportunity for these agents to check each other even if the future cannot. It is not a necessary feature of domination-oriented analyses of political liberty that the person subject to a superior power be able to *personally* contest the exercise of power as long as someone who can be reasonably construed as representing their interests does have that ability. For example, the political domination of children can be reduced by creating legal mechanisms for the protection of their interests even though children are not, even in principle, in a position to effectively contest the power of their parents.³⁶ Modern states can appoint *guardians ad litem* and have created positions within the political and legal bureaucracies that are empowered to protect children from the depredations of abusive parents. And at a more fundamental level, the very fact that the law—enforced by domestic police and paramilitary organizations—covers children and does not treat the domestic arena of the family as immune from state interference plays an important role in constraining parents, though we might think that such protections are still insufficiently robust. Similarly, we could create legal, political, and bureaucratic regimes that protect the future—and create institutional representation—that contest current policy on behalf of future generations. For example, we could require new projects and developments to file intergenerational impact reports much like we do for the environment. We could create positions where individuals would

³⁶ I am not the first to draw an analogy between the non-domination of children and the non-domination of future generations (see James Bohman, “Children and the Rights of Citizens: Non-domination and Intergenerational Justice,”), but I deploy the analogy differently. Bohman argues that the domination of children and future generations are of one piece while I want suggest that we can use the institutions we have developed to resolve our domination of children as a model for resolving our domination of the future.

be tasked with advocating for future generations in a variety of legal and political contexts.³⁷ In any case, we should be clear not to demand that responses to intergenerational domination be subject to constraints we do not accept in the intragenerational context: contestation and accountability does not need to be *personal* contestation and accountability. Police officers can protect the persons and property of individuals who are not well positioned to protect themselves, and social workers in child services can represent the interests of children who are incapable of representing themselves. Similarly, we can construct institutional mechanisms that can effectively represent the interests of the future even if the future is unable to participate. By serving as an external check and as a mechanism of contestation, these representatives and institutions help generate a kind of legal and political status for those people (i.e., future

³⁷ On the creation of environmental ombudsman, see Benedek Javor, “Institutional Protection of Succeeding Generations – Ombudsman for Future Generations in Hungary,” In *Handbook of Intergenerational Justice*, edited by Joerg Chet Tremmel. On the creation of regulatory commissions dedicated to protecting a sustainable environment, see Shlomo Shoham and Nira Lamay “Commission for Future Generations in the Knesset: Lessons Learnt,” in *Handbook of Intergenerational Justice*, edited by Joerg Chet Tremmel. Andrew Dobson (“Representative Democracy and the Environment,” in *Democracy and the Environment*, edited by William Lafferty and James Meadowcraft (Cheltenham: Edward Elgar 1996)) has argued for the creation of special parliamentary seats where environmental organizations can represent the future, while others have argued for various reforms to either strengthen the voice of the young or weaken that of the old (Philippe Van Parijs, “The Disenfranchisement of the Elderly and Other Attempts to Secure Intergenerational Justice” *Philosophy and Public Affairs* 27 (1998), 292-333). Ludvig Beckman (“Do global climate change and the interest of future generations have implications for democracy?” *Environmental Politics* 17 (2008), 610-624) presents a good summary of the various proposals. My account here has two benefits. First, it can provide a criteria for evaluating these proposals and provide a principled response for why we might constrain the democratic prerogatives of future generations, thus answering Beckman’s worry.

generations) that had previously lacked that status. And insofar as that status leads to more effective guarantees of consideration and contestability, the exercise of the power *by* the present *over* the future becomes less arbitrary.

Finally, the present generation can act to bind itself by *reducing* its substantive power over the future, thus reducing the intensity of their domination over the future. Recall that the growth of the present's substantive power is a consequence of certain developments in technology and economic organization. It is possible to decrease the domination of the future by decreasing the substantive power of the present, at least partly undoing the developments of the past few hundred years. Of course, it is vanishingly unlikely that the present generation will simply forget how to make and use industrial and postindustrial technology, but we can reduce the substantive power of the present by reducing the ease and increasing the cost of deploying particular technologies.³⁸ For example, as I have argued,³⁹ one reason to favor mitigation and adaptation strategies which attempt to reduce emissions and global warming effects over geoengineering strategies that block the effects of those emissions is that the former reduce the substantive power of the present while the latter increases it. In other words, certain kinds of economic organization rely upon, encourage, and perpetuate the over-consumption of fossil fuels. As modern economies have sunk more and more capital into the creation of transportation and production networks that rely on these fuels, a path-dependent dynamic in favor of the rapid and cheap consumption of fossil

³⁸ Rasmus Karlsson ("Reducing Asymmetries in Intergenerational Justice: Descent from Modernity or Space Industrialization?", *Organization and Environment* 19 (2006), 233-250) describes two other strategies for reducing the substantive power of the present: space exploration and colonization, and de-industrialization.

³⁹ See my "Domination and the Ethics of Solar Radiation Management."

fuels and the extensive emission of carbon has deepened and hardened. However, careful intervention into the economy in ways that favor the use of sustainable and renewable energy as well as capital investments in adaptation of the global economy in general and the developing world in particular have the potential to arrest and reverse that dynamic. If it does and transportation, production, and consumption come to rely on the provision of *sustainable* energy and practices, then capital investment and the institutional stickiness of economic organizations will work to *increase* the cost of returning to a cheap emissions equilibrium. This would reduce the substantive power of the present by increasing the costs and difficulties of using high emissions technologies. As substantive power decreases, so does the intensity and urgency of the domination.

In sum, domination-oriented analyses of intergenerational justice can provide meaningful practical advice in the reform of our political, legal, and economic institutions. In order to reduce intergenerational domination, the present will need to make a public commitment to structuring their political and legal institutions in a way that provides for the meaningful representation of the interests of the future. Furthermore, the agents of the present generation will need to restructure their economic and social institutions so that the substantive power of the present is meaningfully constrained and structured in a more sustainable direction.⁴⁰

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