

Climate Change, Individual Emissions, and Foreseeing Harm

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Abstract

There are a number of cases where, collectively, groups cause harm, and yet no single individual's contribution to the collective makes any difference to the amount of harm that is caused. For instance, though human activity is collectively causing climate change, my individual greenhouse gas emissions are neither necessary nor sufficient for any harm that results from climate change. Some (e.g., Sinnott-Armstrong) take this to indicate that there is no individual moral obligation to reduce emissions. There is a collective action problem here, to which I offer a solution. My solution rests on an argument for a (sometimes) bare moral difference between intending harm and foreseeing with near certainty that harm will result as an unintended side-effect of one's action. I conclude that we have a moral obligation to reduce our individual emissions, and, more broadly, an obligation to not participate in many other harmful group activities (e.g., factory-farming).

Keywords

climate change – collective action – individual emissions – intending harm – foreseeing harm

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1 Introduction

Given that human activity is causing our planet's climate to change, and that significant amounts of harm are resulting from this, the question arises: Do we, as individuals, have a moral obligation to reduce our greenhouse gas emissions? The standard environmentalist's position is that we do. For, it is said, we have a moral obligation to not cause harm; and, the emission of greenhouse gases *is* causing harm. Therefore, we have a moral obligation to reduce emissions. But, such reasoning makes an important mistake. On a plausible analysis of causation, an action causes harm if and only if it is either a necessary or a sufficient condition for that harm (or both). However, as Walter Sinnott-Armstrong (2005)¹ points out, your individual emissions are not *necessary* for any harm that results from climate change. For, if you stopped emitting altogether, the same amount of harm would still occur. But, neither are your emissions *sufficient* for any harm. For, if you were the only one emitting greenhouse gases, no harm would result from this. In short, your individual emissions are just a "drop in the bucket"² which ultimately make no difference to the amount of harm that occurs. The result is that it is difficult to justify the intuition that there is something morally problematic about individual emissions—even those that are seemingly frivolous or excessive, such as going for a Sunday joyride in a sports utility vehicle. For, such actions merely benefit some, and harm no one. Thus, the issue of climate change suffers from a *collective action problem*.

Thus far, there has been no satisfactory response to this problem. To my mind, the best reply on offer is that of Avram Hiller (2011). As he points out, if it were true that each individual contributes nothing to the total amount of harm, but harm is occurring, then the harm would have to be some sort of "metaphysically odd emergent entity" (349). Indeed, it does seem odd that zero plus zero plus zero plus zero plus ... adds up to some very large amount. There is something of a sorites paradox at work here.³ In light of this

1 See also Sandberg (2011).

2 Or, rather, they are just a "drop in the flood." For, a joyride which burns one gallon of gasoline contributes an amount of CO₂ to the atmosphere roughly equivalent to adding a single drop-let of water to a flood that is (on average) one meter deep and covers an area about 5.3 times the size of New York City's Central Park (or, 18.2 square kilometers). (Numbers used: There are roughly 3×10^{12} tons of CO₂ in the Earth's atmosphere; burning one gallon of gasoline releases about 9 kg of CO₂; one drop of water is .05 mL in volume.)

3 See also Kagan (2011), and Nefsky's (2011) reply. Nefsky rightly points out that collective action problems involve a *phenomenal* sorites paradox, where multiple non-perceptible changes add up to large perceptible ones.

troubling observation, Hiller suggests that we make a (dis)utility calculation, adding up the total amount of harm, and then dividing it up among the individual emitters, assigning a portion of that total harm to each of them. But, as Sinnott-Armstrong points out, being a *part of a cause* of some effect does not entail that one is therefore also a *cause of a part* of that effect. (For instance, though many neurons collectively cause a thought, it does not follow that each individual neuron causes a tiny part of that thought.) In short, it seems mistaken to claim that I am responsible for a portion of some harm if I did not cause it.⁴

Here, I offer a different line of response. In §2, I begin with an uncontroversial case where it is clear that an agent acts wrongly by *intending* harm, even though her action is neither necessary nor sufficient for any harm. I then (in §3) show that, if an exception is made for such cases (of intending a harm as a means or an end), then one must also be made for cases of ‘strongly foreseeing’ harm (i.e., foreseeing with near certainty that harm will result from one’s action as an unintended side-effect). Such an admission commits us to the conclusion that individuals *do* have a moral obligation to reduce their greenhouse gas emissions, however. In §§4–5, I examine two potential objections. The first explores the possibility that my proposal would be far too demanding, while the second deals with the problem of ignorance (where an ignorant moral agent is one who fails to foresee that any harm will result from her actions). My immediate goal is to provide a solution to the collective action problem in the context of climate change. That solution generalizes, however, as a solution to a variety of other problematic instances where there is collectively caused harm, but individual causal inefficacy. In §6, I demonstrate the general applicability of my solution by applying it to one such instance, namely that of the causal inefficacy of our purchasing power with respect to factory-farmed meat.

2 Causal Inefficacy and Intended Harm

Consider the following harm principle: (1) An action is morally wrong iff it causes harm, and (2) An action causes a harm iff it is either a necessary or a sufficient condition for that harm (or both). There seem to be clear counterexamples to this proposal. For instance:

4 For another objection to this type of “moral mathematics,” see Parfit (1984, §25), who identifies several counter-intuitive implications of such a proposal.

Car Push: There is a car at the edge of a cliff, with someone trapped inside. It would take the strength of three people to push the car. You and four friends push the car together, sending the car over the edge of the cliff. The person inside dies.

In this case, your action is neither necessary for the harm (if you had refrained from pushing, your four friends would still have succeeded in sending it over the edge), nor sufficient (you would have been incapable of pushing the car by yourself). Yet, intuitively, you have still done something morally wrong by pushing the car.

Walter Sinnott-Armstrong proposes something like the harm principle stated above. However, in order to avoid the counter-intuitive conclusion that one does not act wrongly in cases like *Car Push*, he gestures at a modification of that principle as follows:

If I join and help them push, then my act of pushing is neither necessary nor sufficient to make the car go off the cliff. Nonetheless, my act of pushing is a cause (or part of the cause) of the harm to the passenger. Why? Because I intend to cause harm to the passenger, and because my act is unusual. (289)

Sinnott-Armstrong's strategy here is to make an exception for *intentions*; namely, even if one's action is neither necessary nor sufficient for any harm, it is nevertheless morally wrong if it is an action that *intends* harm (as a means or an end). This interpretation of Sinnott-Armstrong is supported by his discussion (in note 23) of Parfit's Torturer cases. Compare the following two cases (adapted from Parfit, 80):

Harmful Torturers: There are 1,000 torturers and 1,000 victims. Each victim is hooked up to an instrument, which shocks them with increasing amounts of electric current as a dial is turned. Turning the dial once increases the amount of current delivered to the victim by such a small amount that its effects are imperceptible (turning it 1,000 times, however, results in severe pain). Each torturer selects one victim and turns a single dial 1,000 times. The result is that the 1,000 victims suffer severe pain.

Harmless Torturers: The situation is the same as that of Harmful Torturers, except that, now, the 1,000 torturers do not restrict themselves to a single dial. Rather, they go to *each* of the 1,000 dials and turn each dial only once. Since all 1,000 torturers do this, the result is still that all 1,000 victims suffer severe pain.

If one were only responsible for causing a harm when one's action was either a necessary or sufficient condition for that harm, then the Harmful Torturers could avoid causal (and therefore moral) responsibility by adopting the strategy used in Harmless Torturers (i.e., by dividing up the work between them). But, surely the Harmless Torturers are still acting wrongly. So, again (like Car Push) we have reason to think that an action can be morally wrong without being either necessary or sufficient for any harm. Sinnott-Armstrong has the following to say about these cases:

Parfit (1984, pp. 67–86) is famous for arguing that an individual act is immoral if it falls in a group of acts that collectively cause harm. To support his claim Parfit uses examples like the Harmless Torturers (p. 80). But torturers intend to cause harm. That's what makes them torturers. Hence, Parfit's cases cannot show anything wrong with wasteful driving, where there is no intention to cause any harm.

Once again, Sinnott-Armstrong seems willing to grant that intent to harm makes a moral difference—even in cases where an action is causally inefficacious with respect to that harm. Though he does not explicitly formalize it, Sinnott-Armstrong seems to amend our original harm principle in something like the following way:

Modified Harm Principle (1): An action is morally wrong if and only if it causes harm. Furthermore, an action is a cause (or part of a cause) of a harm if and only if:

- (i) it is either a necessary or a sufficient condition (or both) for that harm, or
- (ii) the action is neither necessary nor sufficient for any harm, but is an action that makes one a member of a group whose actions together cause harm, and (a) the agent acts with the intent to harm (as a means or an end), and (b) the act is unusual.

I will now suggest four plausible modifications of this principle. (1) First, I suggest that we replace 'morally wrong' with '*prima facie* morally wrong' (where *prima facie* wrongness indicates that the moral reasons against performing an action can be overridden by stronger, competing moral reasons). Surely, harming others is sometimes all-things-considered morally permissible. For instance, though killing is *prima facie* morally wrong, this wrongness is plausibly overridden in cases where one kills in self-defense. (2) Second, we should replace 'if and only if' with, simply, 'if.' It is plausible that one can act wrongly without causing harm. For instance, plausibly a peeping Tom acts wrongly even

if his victim never discovers his transgression (e.g., perhaps Tom acts wrongly because he violates his victim's right to privacy). We should not, I think, rule out by definition the possibility that some harmless actions are morally wrong.

(3) I also recommend that we remain agnostic about whether or not actions meeting criterion (ii) should be considered to be *causes*. For instance, consider the popular counterfactual analysis of causation (e.g., that of David Lewis, 1973). On that analysis, it seems that your action would *not* be counted as a cause of the harm, since the proposition <If you had not pushed the car, then the harm would not have occurred> is *false* in the Car Push case.⁵ On the other hand, perhaps it *would* be counted as a cause (or at least a *part of* the cause), since the proposition <If you and your four friends had not pushed the car, then the harm would not have occurred> is *true*. The problem is that the situation in Car Push is a special case of overdetermination, which has been the source of considerable controversy.⁶ But, surely it would remain true that one acts wrongly in Car Push, regardless of the final verdict reached in the causation literature.

(4) Finally, I recommend that criterion (ii.b) be removed from this proposal, as it is wildly implausible. Why does Sinnott-Armstrong include this clause? He writes, “when my act is unusual in the sense that most people would not act that way, that also provides a reason to pick out my act and call it a cause” (289–90). But, this has unacceptably counter-intuitive implications. First, imagine that I am witnessing the events in Car Push, and I ask you whether or not your pushing of the car should be considered a cause of the death of the person trapped inside. On Sinnott-Armstrong's proposal, you ought to reply,

5 It also seems that your action does not count as what John Mackie (1965) calls an ‘INUS condition’ for the harm (i.e., an insufficient but necessary component of a collection of factors that are themselves unnecessary but sufficient for the harm), since your action is *not* a necessary component of the collection of five people who cause the harm. On the other hand, if we ignore the *five* individuals and instead consider only yourself and two others, your action *is* an INUS condition for the harm, since (though your action alone is insufficient for the harm) it is a necessary component of a collection of three individuals pushing the car, and the pushing by these three individuals is unnecessary but sufficient for the harm. In short, here we have another account of causation which is ill-equipped to deliver a clear verdict in cases of overdetermination.

6 For instance, if you and a friend simultaneously throw rocks at a window and it shatters, it is unclear what we should say about your causal role in breaking the window. After all, if you had refrained from throwing a rock, the window would still have shattered. But, things are even worse in the Car Push example. For, unlike the window case—where your act alone would at least have been *sufficient* for its shattering—your action alone in Car Push is *not* sufficient for the death of the victim.

“I’m not sure. How many others are pushing other cars off of cliffs elsewhere?” If it turns out that (to use Sinnott-Armstrong’s words) “most people would act that way,” then we must conclude that your action is *not* a cause (or part of a cause) of the harm (and is therefore not morally wrong). But, surely, whether or not one acts wrongly in Car Push has nothing to do with whether or not such an action is “unusual” in this way. In short, relativizing an agent’s causal and/or moral responsibility to what others are doing is unacceptable.

In sum, I propose that we formalize Sinnott-Armstrong’s proposal in the following way:

Modified Harm Principle (2): An action is prima facie morally wrong if:

- (i) it is a cause (or part of a cause) of a harm; i.e., if it is either a necessary or a sufficient condition (or both) for that harm, or
- (ii) the action is neither necessary nor sufficient for any harm, but is an action that makes one a member of a group whose actions collectively cause harm, and the agent acts with the intent to produce harm (as a means or end).⁷

My aim here has been to provide a formalization of Sinnott-Armstrong’s position which preserves, in the most plausible way possible, all of its central features. Modified Harm Principle (2), I think, achieves this goal. Most importantly, it entails that one acts wrongly in Car Push, without entailing that one *also* acts wrongly by going for a Sunday joyride in an SUV. For, regarding Modified Harm Principle (2), he would simply point out the following:⁸

This principle fails to apply to my Sunday driving both because my driving does not cause harm to anyone and because I do not intend harm to anyone. I would succeed in doing everything I intended to do if I enjoyed my drive but magically my car gave off no greenhouse gases and no global warming occurred. (ibid., 295)

7 Some may be inclined to say that one’s action is *blameworthy* in Car Push, but not *wrong*. To those readers, I would simply suggest replacing all instances in my argument of the word ‘wrong’ with ‘blameworthy’. My final conclusion will still be an important one: Many of our individual emissions are morally blameworthy.

8 Note that my final conclusion will not rest upon any of these modifications (I discuss this in more detail in note 13). I do not include them in order to guarantee my conclusion, but rather to strengthen Sinnott-Armstrong’s position.

3 Individual Emissions and Strongly Foreseeing Harm

I will now show that, if it is morally wrong to make an individually causally inefficacious contribution to a collective harm when one *intends* the harm, then it is also wrong to do so in certain instances where the harm is merely *foreseen* as an unintended side-effect of the group's action. To begin, first consider the following pair of cases:

Toxic Dump: Smith enjoys poisoning people. One afternoon, he dumps several barrels of toxic waste into the local water supply, with the intention of killing the locals. Many people die as a result.

Jones enjoys looking at colorful things. One afternoon, he dumps several barrels of toxic waste into the local water supply, with the intention of seeing the waste swirl around in the water, making beautiful colors. He foresees with near certainty that doing so will kill everyone who drinks from the water supply, but these deaths are not his intent. Indeed, he would be happy if no one died. However, many people die as a result.

It is overwhelmingly plausible that, in Toxic Dump, both Smith *and* Jones have acted wrongly. Indeed, the two actions seem morally on a par.⁹ Likely, the reader will have noticed the parallels between my Toxic Dump cases and James Rachels' famous (1975) Bathtub cases (where Smith actively drowns his nephew, and Jones watches his nephew drown without intervening), except that, whereas Rachels' cases were designed to reveal the bare moral difference between doing and allowing harm, my cases are designed to reveal the bare moral difference between intending harm as a means to an end and foreseeing with near certainty (henceforth, 'strongly foreseeing')¹⁰ that harm will result as an unintended side-effect of one's action.

9 At least, that is my intuition. But, perhaps the reader intuitively otherwise, believing that what Jones does is *less* wrong than what Smith does. No matter. My conclusion here will only require the verdict that, in Toxic Dump, both Smith and Jones at least act *wrongly*.

10 The idea here is that foresight regarding the outcome of one's actions comes in *degrees* (of probability). For instance, if I practice my knife throwing safely in an empty forest, I foresee that I *might* harm someone as an unintended side-effect of my action. However, the probability that I will do so is quite low. On the other hand, if I practice my knife throwing in a crowded arena, I also foresee that I "might" harm someone—but here, the probability that I will do so is very high. I will use 'weakly foreseeing' to refer to instances where one foresees that there is a negligible or near-zero probability that her action will produce harm as an unintended side-effect; and 'strongly foreseeing' will refer to instances where one foresees that there is a very high or near-certain probability that her action

Now, it is commonly held that intending and merely foreseeing harm are *not* morally on a par. The popular Doctrine of Double Effect states that the former is much worse, morally, than the latter. The following sorts of cases are regularly given in support of this claim:¹¹

Strategic Bomber: A pilot bombs a depot containing the enemy's store of munitions, and thus shortens the war, saving 50,000 lives. Unfortunately, 10,000 innocent civilians living next to the depot are caught in the blast.

Terror Bomber: A pilot deliberately bombs 10,000 innocent civilians as a means to demoralizing the enemy into surrendering, thus shortening the war and saving 50,000 lives.

Most have the intuition that the strategic bomber's action is permissible, while the terror bomber's is not. (In the former, the harm is thought of as unfortunate but morally acceptable "collateral damage," while the latter is considered an act of terrorism.) However, note that in both cases, while each action causes some harm, it also brings about a much greater good. I suggest that the difference between intending and foreseeing harm only constitutes a moral difference (if it ever does) in such circumstances. In other words, bringing about a greater good overrides the *prima facie* wrongness of foreseeing harm more easily than it does that of intending harm. The distinction fails to yield a moral difference, though, in cases where the harm is great, and the value of the benefit is minor or non-existent (as is evidenced by the pair of cases in *Toxic Dump*).¹²

Note that a similar observation is to be made of Rachels' Bathtub cases. In that pair of cases, it *does* seem that doing harm and allowing harm are morally on a par. However, as many have pointed out, this does not entail that the distinction between doing and allowing harm *never* makes a moral difference. For instance, consider the following pair of cases (adapted from Fiona Woollard, 2012, and Frances Kamm, 2007).

will produce harm as a side-effect. I will not assign a label to middling cases where one's degree of foresight falls between these two extremes.

11 These two cases are originally found in Quinn (1989, 336).

12 In their discussion of the typical formulations of the Doctrine of Double-Effect, both Warren Quinn and Jonathan Bennett endorse something like this claim (namely, that foreseen harm is morally impermissible if it brings about no overriding benefit). As Bennett notes (197), merely foreseen harm is permissible only when "The good is good enough, compared with the bad, and there is no better route to the former." Or, as Quinn puts it (334n), "the good end must be proportionate to the bad upshot (that is, it must be important enough to justify the bad upshot)."

Hospital Drive (Allowing): You are driving three severely injured people to the hospital. On your drive, you notice someone on the side of the road who is about to be crushed by a boulder. Unfortunately, time is short: If you stop to help the victim, your passengers will die before you reach the hospital. You continue driving, without stopping. Your passengers live, and the person on the road is killed by the boulder.

Hospital Drive (Doing): You are driving three severely injured people to the hospital. On your drive, you find that the road is blocked by a large boulder, which you must push onto someone on the side of the road in order to get to the hospital in time to save your passengers' lives. You push the boulder with your vehicle, and drive on to the hospital. The bystander is killed. Your passengers live.

Even if the distinction between doing and allowing harm makes no moral difference in Rachels' Bathtub cases, many have the intuition that it *does* make a moral difference here; that is, in Hospital Drive, it seems permissible to *allow* the death of one in order to save three, but morally wrong to *kill* one to save three. In short, our assessment of the doing-allowing distinction is exactly parallel to our assessment of the intend-foresee distinction, namely, bringing about a greater good overrides the prima facie wrongness of allowing harm more easily than it does that of doing harm. The distinction fails to yield a moral difference, though, in cases where the harm is great, and the value of the benefit is minor or non-existent (as is evidenced by Rachels' pair of Bathtub cases).

But, then, if intended harm is morally on a par with strongly foreseen harm whenever the harm greatly outweighs the benefit, then this has significant implications for Sinnott-Armstrong's Car Push scenario, where the harm is significant and the benefit is minor or non-existent. Consider, for instance, the following variant of that case:

Car Push (Foreseeing Variant): There is a car at the edge of a cliff, with someone trapped inside. It would take the strength of three people to push the car. You join four friends in pushing the car, intending merely to get some good exercise for the day. However, you foresee with near certainty that, if your exercise takes the form of pushing the car, the person trapped inside will die. You push it anyway, and they die.

Note that, in this case, the benefit is minor (some light exercise) and the harm is significant (the death of one person). I suspect that the reader will agree with my claim that the action in the above variant of Car Push is morally wrong—and similarly, for a foreseeing variant of the Harmless Torturers:

Harmless Torturers (Foreseeing Variant): The situation is the same as that in Harmless Torturers, except that, here, the torturers do not intend harm to their victims. The torturers simply turn the dials because they love the satisfying clicking sound that the dials make when they are turned. However, the torturers foresee with near certainty that the group collectively causes severe pain. Again, since all 1,000 torturers participate, the result is that the 1,000 victims suffer severe pain.

Though the harm is merely foreseen here rather than intended, it is clear that the torturers are still acting wrongly. For, the benefit (a pleasurable sound) is greatly outweighed by the harm (the suffering of 1,000 victims). In order to account for the preceding considerations, I propose that we must accept one final modification of the Harm Principle:

Modified Harm Principle (3): An action is *prima facie* morally wrong if:

- (i) it is a cause (or part of a cause) of a harm, i.e., if it is either a necessary or a sufficient condition (or both) for that harm, or
- (ii) the action is neither necessary nor sufficient for any harm, but is an action that makes one a member of a group whose actions collectively cause harm, and the agent either (a) acts with the intent to produce harm (as a means or end), or (b) does not intend harm, but strongly foresees that harm will result from the group's action.

This principle delivers the intuitive verdict that the agents act wrongly in the Foreseeing Variants of Car Push and Harmless Torturers. However, if modified in this way, the principle no longer fails to deliver the verdict that we have no moral obligation to reduce our individual greenhouse gas emissions. For, emitting such gases makes one a member of a group whose actions are together causing harm (namely, the harms that result from climate change). Furthermore, though, e.g., a Sunday joyrider does not *intend* harm by driving, it is foreseen with near certainty that harm will occur as a result of the group's emissions. In short, according to Modified Harm Principle (3), it is morally wrong to go for a Sunday joyride in an SUV.

I have just argued for the following:

1. When an agent's action is individually causally inefficacious, but contributes to a collective action that causes harm, that action is *prima facie* morally wrong if the agent *intends* the harm.
2. If premise 1 is true, then an individually causally inefficacious action which contributes to a collective action that causes harm is also *prima*

- facie morally wrong if that agent *strongly foresees* (i.e., foresees with near certainty) that harm will result from the group's action.
3. Individual greenhouse gas emissions are causally inefficacious (i.e., they are neither necessary nor sufficient for any harm), but contribute to a collective action that causes harm (namely, those harms that result from climate change); and any informed agent strongly foresees that harm will result from the group's action.
 4. Therefore, the individual emission of greenhouse gases (in a situation where our collective emissions are causing harm) is prima facie morally wrong.¹³

Alternatively, if one prefers arguments by analogy, I would advance the following:

1. It is prima facie morally wrong to push the car in Car Push.
2. Pushing the car in Car Push is morally equivalent to pushing the car in the Foreseeing Variant of Car Push.
3. Pushing the car in the Foreseeing Variant of Car Push is morally equivalent to going for a joyride in an SUV (for, both are cases where the harm caused by the group is strongly foreseen but not intended, the benefit is minor, and the harm is significant).
4. Therefore, going for a joyride in an SUV is prima facie morally wrong.

13 Note that this conclusion would still have followed had we continued to speak in terms of *causes* rather than *wrongness*. Sinnott-Armstrong's initial claim was that, because one's push in Car Push was both *unusual* and *intended harm*, this "provides a reason to pick my act out of all the other background circumstances and identify it as a cause" (289). Now, I believe Sinnott-Armstrong is guilty of some confusion regarding what role "unusualness" is supposed to play in causation. Consider, for instance: It is sometimes said that the striking of a match causes a flame, but the presence of oxygen does not. For, oxygen is just *always around* (i.e., its presence is not "unusual"), and so it is considered to be a part of the background conditions, rather than a (part of the) cause. So, in Car Push, it seems to me that what is not "unusual" with respect to the harm (i.e., the background conditions) should merely include factors such as the presence of gravity. But, that criticism aside, let us assume, as Sinnott-Armstrong does, that "unusual" just means that "most people would not act that way" (290). One's push in the Foreseeing Variant of Car Push is still "unusual", even in this sense. Furthermore, if intent to harm provides a reason to pick out an action as causally relevant, then so does strong foresight of a harm (since, as I have argued here, there is no morally relevant difference between the two). So, apparently one's push is still a cause of the harm in the latter case, according to Sinnott-Armstrong's criteria; and, since both of these features are also present in instances of frivolous emission (e.g., SUV joyrides), we have a reason to pick out those actions as causes too (namely, as causes of climate change).

Now, one could avoid this conclusion by rejecting premise 1 of each argument, claiming that causally inefficacious cases of intended harm are *not* morally wrong (and therefore, that one does *not* act wrongly in the original Car Push example). The philosopher who has this intuition will not be persuaded by my thesis. However, I suspect that most do not have it. Furthermore, Sinnott-Armstrong readily admits that one *does* act wrongly in Car Push; so, I will not address this criticism here. Alternatively, one might reject premise 2, claiming that, while intending harm *is* a wrong-making feature of an action, strongly foreseeing harm *is not* (and therefore one does *not* act wrongly in the Foreseeing Variant of Car Push). Or, one might instead resist premise 3 by identifying a morally relevant difference between one's actions in the SUV joyriding and Car Push Foreseeing Variant cases (namely, one which makes it the case that the former action is permissible while the latter is not). These potential criticisms will be the topic of the next two sections.

4 Rejecting Premise 2: Proving Too Much

It is overwhelmingly plausible that one acts wrongly in the Foreseeing Variants of the Car Push and Harmless Torturer cases. If that is right, then we have strong intuitive evidence in favor of my final modification of the Harm Principle, which rendered cases of strongly foreseeing harm as (prima facie) morally wrong, even when the individual's action is neither necessary nor sufficient for any harm. However, Sinnott-Armstrong will likely reject this claim, since it seems to have unacceptably strong implications elsewhere. Consider this case:

Noisy Airport: Suppose that everyone in an airport is talking loudly. If only a few people were talking, there would be no problem. But the collective effect of so many people talking makes it hard to hear announcements, so some people miss their flights. Suppose, in these circumstances, I say loudly (but not too loudly), "I wish everyone would be quiet." (298)

Here, you do not *intend* harm, though you do (I will assume) foresee with some non-negligible degree of probability that harm will result from the group's action. Furthermore, the benefit is minor (complaining to your friend), while the harm is not (passengers missing flights). The principle that I have advanced seems to deliver the verdict that one acts wrongly in this case. However, Sinnott-Armstrong explicitly rejects this conclusion, writing,

My speech does not seem immoral, since it alone does not harm anyone. Maybe there should be a rule (or law) against such loud speech in this setting (as in a library), but if there is not (as I am assuming), then it does not seem immoral to do what others do, as long as they are going to do it anyway, so the harm is going to occur anyway. (298)

I take issue with this verdict, however. For, if the case were described such that the benefit was truly minor or non-existent, the harm was truly significant, and the degree to which one foresaw that significant harm would occur was truly near certainty (in short, if Noisy Airport was like the Foreseeing Variants of Car Push and the Harmless Torturers in all of the morally relevant respects), then we should easily agree with the verdict that one acts wrongly in Noisy Airport. To illustrate, let us fill in some of the details so that Noisy Airport clearly has these features:

Noisy Airport (With Further Details): You are in a crowded airport, where everyone is talking. It is so loud that attempts by airport staff to page one of the passengers on the intercom cannot be heard. As it turns out, the passenger being paged is trying to deliver a life-saving kidney to an individual in need of a transplant. If she fails to hear the page, the deliverer will miss an important announcement about a gate change. This in turn will result in her missing her flight, and the kidney recipient will die. Airport staff have handed out fliers, which inform members of the crowd that harm will likely result from their noise. You read the flier, and, amidst the noise, say loudly to your friend, "I wish everyone would be quiet!" The deliverer misses her flight, and the recipient dies while awaiting transplantation.

My proposal clearly delivers the verdict that one acts wrongly in this case—but, I think, rightly so. When the benefit is negligible, the harm is significant (someone's death, in this case), and it is foreseen with near certainty that the group will cause harm, it seems morally wrong to participate in the harmful collective action, even when one's individual contribution is neither necessary nor sufficient for that harm. In Sinnott-Armstrong's original case, we are likely imagining a scenario which lacks these important features. Catching or missing a flight is not usually a life or death situation—not to mention, airports typically announce gate changes on screens found throughout the airport, rather than over intercoms. Therefore, we typically have little reason to believe that a group's noise will cause significant harm (i.e., we reasonably foresee with near-zero probability that harm will result from the collective noise of many

voices). For this reason, it remains unclear whether one acts wrongly in Noisy Airport until further details are supplied.¹⁴

Nevertheless, a problem remains. For, even if the reader is happy to accept that one acts wrongly in Noisy Airport (With Further Details), other cases seem to remain problematic. Consider the act of driving, for instance: worries about greenhouse gas emissions aside, when one drives a car, she likely foresees with near certainty that the collection of drivers will cause thousands of traffic fatalities each year. Furthermore, the benefit is minor, and the harm is significant. Therefore, my proposal seems to entail that, even if I were driving an *emissionless* car (if there were such a thing), this act would *still* be morally wrong, due to the existence of traffic fatalities.¹⁵ If that is right, then my proposal clearly proves too much.

In reply to this accusation, first recall that performing an action that results in merely foreseen harm is at least permissible when the benefit greatly outweighs the harm (for instance, many will say that the Strategic Bomber's action is permissible for this reason). But, I will now suggest that, even when the harm is significant (e.g., loss of life) and the benefits are minor (e.g., getting to work more quickly and easily), the *prima facie* wrongness of foreseeing harm can still be overridden, so long as certain other features are present. For instance, consider the following features, which are present in the case of driving a vehicle:

- (a) The majority of the harm caused by the group activity falls to those who are also benefited by the group activity (i.e., most of the traffic fatalities are drivers or passengers of vehicles).
- (b) Those participating in the activity of driving (or riding in) an automobile are aware of the risks, as are those who are *not* participating in the activity (i.e., pedestrians, who are aware of the risks of, say, crossing a busy street). Furthermore, in most cases there are reasonable alternatives to these activities, or at least reasonable precautions that one may take in order to minimize the risk of harm (e.g., wearing seatbelts, having airbags, driving carefully, etc., or, in the case of pedestrians,

14 Note that this is an admission of the presence of some vagueness. I am claiming here that the less severe the harm is, and the less reasonably certain one is that harm will occur, the weaker one's duty to refrain from the action (and therefore, the more easily this wrongness is overridden, even by minor benefits). But, that seems right. Such vagueness is to be expected, since both foresight and the severity of a harm come in *degrees*.

15 And this would still be the case, even if it were guaranteed that my individual acts of driving would be neither necessary nor sufficient for any harm.

avoiding busy streets, using crosswalks, looking both ways before crossing, etc.). Thus, since those at risk are both aware of the risks, and have access to either reasonable alternatives or reasonable precautions, they implicitly consent to taking on these risks when they participate in the activity anyway.

- (c) There is a system of regulation in place which individual drivers explicitly agree to obey. These regulations are designed to minimize the amount of harm (e.g., traffic laws, driving tests, etc.), such that, if everyone were to obey them (e.g., by not texting while driving, driving while intoxicated, running red lights, jaywalking, etc.), then the probability of foreseen harm would be zero, or near zero.

I contend that it is all-things-considered permissible to participate in a collective action that will inevitably result in certain harms whenever the system of the collective action has these features (i.e., the group that is harmed is primarily the same group that is benefited by the activity, implicit consent to risk is present, and safety regulations are in place). Therefore, even though, when one chooses to drive a vehicle, one foresees with near certainty that the collective of drivers will cause harm (in the U.S., about 30,000 people die in traffic accidents each year), this action is not all-things-considered morally wrong, since any *prima facie* wrongness that attaches to the action is nullified by the presence of the features above.

Now, contrast this picture with that of climate change. It is generally recognized that presently existing, affluent individuals are reaping nearly all of the benefits of greenhouse gas emissions, while the poor (as well as non-existent future individuals) will suffer nearly all of the harms (see, e.g., Singer, 2002, ch.2; Broome, 2012, 58).¹⁶ In short, as Broome notes (58), “the harms done by the emissions of the rich are not fully reciprocated.” For specific examples, see Broome’s discussion of the Inuits and the Tuvaluans. In each of these two cases, an entire society is endangered by a threat which they had little or no part

¹⁶ Obviously, the non-identity problem is relevant here. Perhaps a wasteful depletion of resources would actually *benefit* rather than harm future people (since they would not have otherwise existed, had we conserved). I do not require a solution to the non-identity problem for the purposes of my thesis here, however. For, many of the harms that will result from climate change will be suffered by people who have *already* been born. As such, it seems uncontroversial that our collective emissions will harm many individuals. If it turns out that we find an acceptable solution to the non-identity problem, such that our emissions *also* harm future people (despite the fact that they would not have existed had we conserved resources), then this would just serve to strengthen my conclusion that we presently have a moral obligation to reduce emissions.

in creating: “The danger to the Inuit has been imposed by the greenhouse gas emission of the developed world, in which they scarcely participate” (5). Likewise, though the island nation of Tuvalu “will become uninhabitable within a few decades ... the Tuvaluans have contributed virtually nothing to climate change” (49). In light of these observations, it is evident that the following features are present in the case of climate change:

- (a) The majority of the harm caused by the group activity does *not* fall to those who are also benefited by the group activity (i.e., the worst of the harms caused by climate change will be suffered by those who contributed almost nothing to the amount of the greenhouse gases in the atmosphere).
- (b) Those *not* performing the collective action (i.e., over-emitting) are largely unaware of the risks (e.g., of living in a region that will suffer intense drought, flooding, etc.). Indeed, many who will suffer do not even exist yet. Furthermore, the risks themselves are the sort that *cannot* be easily avoided or minimized (e.g., by moving to a different region, or taking expensive precautionary measures to mitigate harm). Thus, those who will be harmed have *not* implicitly consented to the risk of harm.
- (c) There is *not* a system in place designed to minimize the amount of harm (e.g., emission laws, licensing and testing, etc.), i.e., the probability of foreseen harm if everyone were to obey the present rules and regulations is *not* zero, or near zero.

Thus, emitting while certain that harms will result from climate change seems importantly different, morally, than driving while certain that harms will result from traffic accidents. For, the latter case involves a system that is regulated in order to minimize harm, where the harms and benefits are reciprocal, and participants implicitly consent to the risk of harm. These features, I contend, override any *prima facie* wrongness associated with participating in a group activity which one foresees with near certainty will result in significant harm. None of these features are present in the case of climate change, however. Therefore, we may consistently condemn frivolous emissions such as joyriding in an SUV, while maintaining that driving to work is morally acceptable.¹⁷

17 Here is a related worry: my focus in this paper has been on so-called “frivolous” emissions (such as SUV joyrides), but might we also condemn *non*-frivolous emissions? If so, then driving to work turns out to be all-things-considered morally wrong after all (on the grounds that it contributes to harmful collective emissions).

5 Rejecting Premise 3: Ignorance and Foreseeing Harm

Consider the Car Push (Foreseeing Variant) case once more. I have said that your action in this case is (*prima facie*) morally wrong because the harm is *strongly* foreseen, i.e., you foresee with near certainty that harm will occur as a result of the group's action. Though I have not said so explicitly, one might think that this entails that such an action would cease to be wrong if the harm was only *weakly* foreseen (i.e., foreseen with near-zero probability). For instance, imagine in the case above that you are pushing the car for some light exercise, but mistakenly believe that the person trapped inside will not be harmed. Nothing I have said so far entails that such an action is morally wrong. But, then, regarding the case of climate change, if someone believes that human activity is not the cause of climate change (as many do), then she will *not* strongly foresee that the collective human emission of greenhouse gases will cause any harm—rather, she will only *weakly* foresee this. In short, nothing I have said so far entails that climate change deniers have a moral obligation to reduce emissions.

Admittedly, it does seem to me that ignorance of the repercussions of one's actions can sometimes absolve one of blame (and perhaps even of moral obligation). For instance, when Lennie in the novel *Of Mice and Men* pets the mice, his intention is merely to touch them, and to feel the softness of their fur.

In reply: first, it is fairly uncontroversial that each individual has at least a right to *subsistence* emissions, such that it is permissible to emit the minimum amount required in order to stay alive (see, e.g., Shue, 1993). Any *prima facie* wrongness that attaches to such emissions is thought to be overridden in this case (in his 2004, Traxler likens such emissions to harming in self-defense). The idea is that one is not morally obligated to avoid unintentional harm to others when doing so is considerably costly to oneself. Now, my argument in this paper entails that *all* emissions are *prima facie* morally wrong. Plausibly, this wrongness *is* overridden in the case of subsistence emissions, and *is not* overridden in the case of luxury emissions. A verdict for in-between cases is not so easily obtained, however, and I do not pretend to settle such a difficult question here—but allow me to suggest a reason to think that the wrongness of such emissions *might* be overridden:

Plausibly, in carbon-dependent societies, emissions resulting from activities such as driving to work, using electricity for cooking, heating, lighting, and so on might count as “subsistence emissions” in some extended sense—or at least, it would be considerably costly to forego such emissions if one's society is structured in such a way that reasonable alternatives are not readily available. In short, it is plausible that, in addition to subsistence emissions, certain emissions falling somewhere in between luxury and subsistence might *also* be all-things-considered permissible. See: Traxler, who expresses sympathy for this line of reasoning, and Baatz, who explicitly argues for it (2014), as well as Budolfson's clarification and extension of Baatz's proposal (2014).

Unfortunately, an unintended side-effect of this is that by doing so he also kills them. This harmful side-effect is not only unintended, *it is not even foreseen*. Lennie simply seems *unaware* of the fact that handling mice in a certain way will result in their deaths. As readers, we are sympathetic to Lennie's predicament, and (if you share my intuition) hesitate to conclude that he has done anything wrong (or at least, we hesitate to say that he is blameworthy). So, at first glance, performing an action with only a *weakly* foreseen harmful outcome *does* seem blameless (and perhaps even permissible). But, let us consider the following two cases:

Bedroom Exercise: George is alone in his room and begins to exercise. His arms occasionally fly outward. Unbeknownst to George, his roommate walks into the room during his exercise routine, and George accidentally strikes him.

Bus Exercise: George is on a crowded bus and begins to exercise. His arms occasionally fly outward. His arms immediately strike a nearby passenger.

In both cases, the harm is accidental. In Bedroom Exercise, it should be clear that George has not acted wrongly. He harms his roommate, but he did not foresee with any non-negligible degree of probability that this would happen—nor should he have. He was alone when he began to exercise. But, in Bus Exercise, even if George claims that he did not foresee that harm would occur if he began exercising, his action still seems wrong. If he were to make such a claim, we would likely reply that *he ought to have known better*. After all, the bus was crowded with passengers, and any reasonable person should have foreseen that flinging one's arms around would almost certainly result in someone getting struck. In short, in the second case, it seems that George has failed to fulfill some minimal duty to consider the likely consequences of his actions—and, for this reason, has acted wrongly.

I propose that we handle cases of ignorance by appealing to a basic *duty to become informed*. Here, I am in agreement with Avram Hiller, who writes, “even if some individuals are ignorant of the expected effects of their actions, individuals ought not be ignorant” (353). If that is true (as I maintain), then the presence of ignorance in the weak-foreseeing versions of the Car Push and SUV joyride examples are easily handled. For then, in those cases, even if the agents do not *expect* pushing a car off a cliff or collective human emission of greenhouse gases to result in any harm, *they ought to have expected it*. Furthermore, since ‘ought’ implies ‘can,’ this separates Lennie as importantly different from the agents in Car Push and Sunday Joyride. For, given Lennie's cognitive

disability, it seems that Lennie is *not capable* of becoming informed. But, then, we must not say that “he *ought* to have known better” if he *could not* have known better. Thus, the moral duty to become informed (at least, to some minimal degree) applies only to those individuals who are *capable* of becoming informed. But, clearly such a duty applies to anyone capable of going for a Sunday joyride. In short, if one goes on a Sunday joyride in an SUV with the intention of feeling the wind in their hair, while simultaneously believing that there is a near-zero probability that human activity is causing the climate to change, it is simply the case that this individual *should have known better*.¹⁸

6 Application: Causal Inefficacy and Factory Farming

If all that I have said thus far is correct, then we appear to have a solution not only to the collective action problem for climate change, but to collective action problems in general. To demonstrate, I will now apply the present proposal in order to solve a similar problem that appears in the literature on animal ethics. I have no individual moral obligation to refrain from consuming factory-farmed meat (so the objection goes) because my purchases have no impact on the meat industry one way or the other. My purchases are not *necessary* for any amount of harm that is occurring (if I stopped purchasing factory-farmed meat, exactly the same number of animals would be cruelly raised and slaughtered); nor are they *sufficient* for any harm (while purchasing meat may be

18 Now, most matters are so complicated that becoming *fully* informed would be very difficult or even unachievable within a human lifetime. Clearly, then, our duty is not to become *fully* informed. However, if one claims ignorance in Car Push (e.g., by claiming not to be aware of the fact that pushing a car off of a cliff with someone trapped inside will result in harm), surely we rightly conclude that *they* ought to have known better. The duty to become informed, then, however weak or strong, includes at least *this* much.

There is obviously some vagueness surrounding the matter. But, a fuller exploration of the strength of this duty is best saved for another time. Regarding climate change, it seems to me that, even for those who doubt that human activity is the cause of climate change, surely no one can reasonably assign a near-zero probability to the claim that human activity is (at least a partial) cause of climate change. For, there is near-unanimous testimony to the contrary among climate experts. Perhaps *some* degree of doubt is reasonable, despite the scientific consensus—but this would not reduce the probability that climate change is caused by human activity to near zero; and even a low but non-negligible probability-assignment seems enough to condemn an action (for instance, imagine that, in Toxic Dump, Jones only believes it to be 20% likely that, by dumping the chemicals into the water supply in order to see the pretty colors, many will die; it is reasonable to conclude that he has still acted wrongly in this case).

sufficient for animal *death*, it is not sufficient for *factory-farming* related harm; if I were the only one eating meat, this would not generate enough demand to justify the system of factory-farming that is presently in place—one which is a response to the high demand for plentiful, cheap meat). In short, my purchases make no difference. This is the problem of individual causal inefficacy with respect to factory-farmed meat.

As with climate change, some have proposed to solve the problem by making a (dis)utility calculation here as well (e.g., Norcross, 2004). But, the proposal that I have argued for here generates the conclusion that it is morally wrong to purchase factory-farmed meat without making the controversial appeal to such “moral mathematics.” For, even if my meat purchases are neither necessary nor sufficient for any harm, I still foresee with near certainty that the group’s purchases of factory-farmed meat are causing a great amount of animal suffering. Furthermore, the benefit is minor (gustatory pleasure), the harm is significant (intense animal suffering), and the situation lacks (to the most extreme extent possible) all of those features identified in §4 which might justify such harms. For, it is such that:

- (a) The group of individuals who are benefited by the collective action is *wholly* distinct from the group of individuals who incur the harms (i.e., *all* of the harms are suffered by the animals, and *none* of them are suffered by the meat-eaters). So, the harms and benefits are not reciprocal.
- (b) Those who are at risk of harm (i.e., the animals) are *entirely* unaware of the risks (e.g., of existing on a factory farm). Furthermore, these harms cannot be avoided at all (the animal has *no* ability to remove itself from its situation). Therefore, animals on factory farms have not implicitly consented to the harms in any way whatsoever.
- (c) Present regulations which the meat industry has explicitly agreed to obey are *not* such that, if followed, factory-harming would result in no (or very little) harm.

Thus, my proposal delivers the verdict that the purchase of factory-farmed meat is *prima facie* morally wrong, and, furthermore, that this wrongness is not overridden. Therefore, we are individually morally obligated to refrain from purchasing factory-farmed meat. In short, my argument here may be applied as a solution not only to the collective action problem for climate change, but to collective action problems more generally. Though, it should come as no surprise, I think, that a proposal which dissolves the problem of causal inefficacy for one issue should also dissolve that same problem elsewhere.

Nevertheless, this is an important upshot of the present proposal worth noting—and one which gives us an independent reason to adopt it.

7 Conclusion

It seems obvious in certain collective action cases (e.g., Car Push and Harmless Torturers) that one acts wrongly, despite the fact that one's individual action is neither necessary nor sufficient for any harm. What makes such actions (*prima facie*) morally wrong is that the collective action *does* cause harm, and the individual agent acts with the intent to harm. But, I have argued, if one acts wrongly in the above cases, then one *also* acts wrongly in cases that are exactly parallel, but where the individual agent does not intend the harm, but only foresees (with a high degree of probability) that harm will occur as an unintended side-effect of the group's action. (This was the purpose of my Foreseeing Variants of Car Push and Harmless Torturers.) Furthermore, the *prima facie* wrongness of such an action is not overridden when the benefit is minor, the harm is significant, the harms and benefits are not reciprocal, and those who are harmed do not consent to the risk of harm. If correct, then this thesis entails that there is an individual moral obligation to refrain from the frivolous or excessive emission of greenhouse gases, however (such as going for a joyride in an SUV). An independent upshot of this proposal is that it may also be applied as a solution to similar problems elsewhere. For instance, I have shown that my thesis also secures a moral duty to refrain from purchasing factory-farmed meat, even if our individual purchases are neither necessary nor sufficient for any harm that results from factory-farming. Thus, the proposal that I have offered here serves as a solution not only to the collective action problem for climate change, but to (a certain variety of) collective actions problems more generally.

References

- Baatz, Christian (2014). Climate Change and Individual Duties to Reduce Emissions. *Ethics, Policy & Environment* 17(1), 1–19.
- Bennett, Jonathan (1995). *The Act Itself*. Oxford: Clarendon Press.
- Broome, John (2012). *Climate Matters: Ethics in a Warming World*. New York: W. W. Norton & Company, Inc.
- Budolfson, Mark Bryant (2014). Self-Defense, Harm to Others, and Reasons for Action in Collective Action Problems. *Ethics, Policy & Environment* 17(1), 31–34.

- Hiller, Avram (2011). Climate Change and Individual Responsibility. *The Monist* 94(3), 349–368.
- Kagan, Shelly (2011). Do I Make a Difference? *Philosophy & Public Affairs* 39(2), 105–141.
- Kamm, F.M. (2007). *Intricate Ethics: Rights, Responsibilities, and Permissible Harm*. Oxford: Oxford University Press.
- Lewis, David (1973). Causation. *Journal of Philosophy* 70, 556–567.
- Mackie, John (1965). Causes and Conditions. *American Philosophical Quarterly* 2(5), 245–264.
- Nefsky, Julia (2011). Consequentialism and the Problem of Collective Harm: A Reply to Kagan. *Philosophy & Public Affairs* 39(4), 364–395.
- Norcross, Alastair (2004). Puppies, Pigs, and People: Eating Meat and Marginal Cases. *Philosophical Perspectives* 18(1), 229–245.
- Parfit, Derek (1984). *Reasons and Persons*. Oxford: Clarendon Press.
- Quinn, Warren (1989). Actions, Intentions, and Consequences: The Doctrine of Double Effect. *Philosophy & Public Affairs* 18(4), 334–351.
- Rachels, James (1975). Active and Passive Euthanasia. *The New England Journal of Medicine* 292, 78–80.
- Sandberg, Joakim (2011). My Emissions Make No Difference: Climate Change and the Argument From Inconsequentialism. *Environmental Ethics* 33(3), 229–248.
- Shue, Henry (1993). Subsistence Emissions and Luxury Emissions. *Law & Policy* 15(1), 39–60.
- Singer, Peter (2002). *One World: The Ethics of Globalization*. New Haven: Yale University Press.
- Sinnott-Armstrong (2005). It's Not My Fault: Global Warming and Individual Moral Obligations. In Walter Sinnott-Armstrong and Richard B. Howarth (eds.), *Perspectives on Climate Change: Science, Economics, Politics, Ethics*, 285–307. Amsterdam: Elsevier.
- Traxler, Martino (2004). Fair Chore Division for Climate Change. *Social Theory and Practice* 28(1), 101–134.
- Woollard, Fiona (2012). The Doctrine of Doing and Allowing I: Analysis of the Doing/Allowing Distinction. *Philosophy Compass* 7(7), 448–458.