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# What's the Harm in Climate Change?

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ABSTRACT *A popular argument against direct duties for individuals to address climate change holds that only states and other powerful collective agents must act. It excuses individual actions as harmless since they 1) are neither necessary nor sufficient to cause harm, 2) arise through normal activity, and 3) have no clear victims. Philosophers have challenged one or more of these assumptions; however, I show that this definition of harm also excuses states and other collective agents. I cite two examples of this in public discourse and suggest we reconsider the notion of harmful action in our discussions about climate change.*

Ethicists have encountered difficulties when thinking about the harms associated with a warming planet (Gardiner, 2011; Jamieson, 2014), though understanding climate change itself as harmful is not one of these difficulties. For instance, according to the latest report from the Intergovernmental Panel on Climate Change (IPCC), we can expect an increase in human death and suffering[1] because of storm surges, coastal flooding, sea-level rise, inland flooding, extreme periods of heat, breakdown of infrastructure networks and critical services, and the breakdown of food and water systems (2014a, p. 13). Scientists have already observed some of these effects (Fischer and Knutti, 2015), so it not merely a matter of risking harm.[2] Generally speaking, if we avoid these harms without causing others, the world would be better off. Rather, the difficult task is deciding *which* agents have moral responsibilities to address these harms. Climate data and scientific modeling confirm it is 'more likely than not' that we will see increases in intense tropical cyclone activity in the late 21st century (IPCC, 2013, p. 5), and with it, an increase in the harm such activity brings.[3] What data and modeling cannot pinpoint is which agents have a moral obligation to prevent future harms or to mitigate those we have already witnessed.

So, the question of who has moral responsibilities to help lessen or prevent the harms linked to climate change is an active and pressing one in recent literature on climate change ethics.[4] Many ethicists seem to agree that duties fall on collectives such as states and governing bodies (Brown,

1998; Caney, 2010; Gardiner, 2011; Maniates, 2001; Shue, 1993; Traxler, 2002). This is relatively non-controversial since these types of agents can most effectively regulate activities that affect our planet's climate systems.[5] Others have argued that individuals have some duties as well (Cripps, 2011; Jamieson, 2007; Singer, 2002, pp. 14–52) but there is disagreement over whether these are direct or indirect duties (Almassi, 2012; Baatz, 2014; Hale, 2011; Johnson, 2003; Schwenkenbecher, 2012; Sinnott-Armstrong, 2005). If duties are direct, individuals should reduce their activities linked to greenhouse gas (GHG) emissions—by driving and consuming less, conserving electricity, installing solar panels for their homes, and so on. On the other hand, indirect duties are fulfilled by pressuring collective agents to act—by protesting harmful policies and voting for environmentally-conscious leaders.[6]

This distinction is important because if duties are merely indirect, then individuals have no reason, for instance, to reduce their personal GHG emissions. I may continue to emit so long as I urge my government to make it illegal or more difficult for me to do so. Yet we could achieve the best results for the atmosphere if everyone decreased emissions as soon as possible. Additionally, our actions would be more consistent if we do what we believe everyone else ought to do (reduce their emissions) even if it is legal to emit as much as I wish. In other words, it seems best if individuals possess both direct and indirect duties: I should curb my pollution while asking my government to encourage others to curb theirs as well. Furthermore, we ought to consider whether individuals have direct duties to act when their governments are not acting quickly enough.[7] If individuals have no direct duties, and governments are not meeting theirs, then we are faced with a dangerous deficit of responsibility[8] while GHG emissions continue to rise.[9] Even if states are the most effective agents to address climate change, should not individuals find ways to reduce their impact in lieu of their slow or inactive governments? Or are such impacts too small to warrant any responsibilities?

In this essay, I critique a version of the argument against direct duties for individuals, which relies on a problematic notion of harmful action. It runs as follows:

> *Against direct duties (ADD)*: Individuals are not directly responsible to address climate change because their actions connected to it are not themselves harmful in a

morally significant way. Rather, such responsibilities only fall on government agents. Several recent thinkers have considered versions of this argument. Hale (2011) cites the technological and economic realities surrounding fossil fuels as evidence that their extraction is 'temporarily inevitable, at least from the standpoint of moral theory' (p. 369). Individual agents can do nothing to influence this outcome. However, rather than conclude that individuals have no responsibilities, he suggests we must abandon a consequentialist framework to locate them (Hale, 2011, p. 371). According to Johnson (2003), who remains committed to ADD and consequentialism, no individual has an obligation to make 'sacrifices' to avoid a tragedy of the commons—a framework often used to describe climate change—when 'unilateral action predictably has no reasonable expectations of success' (Johnson, 2003, p. 272).

Sinnott-Armstrong (2005) remains committed to both a consequentialist framework and a far more robust defense of ADD. It is with his work with which I am primarily concerned here. As I will show, he assumes that in order for harm to entail direct duties for individuals:

1. an agent's action must be a necessary and sufficient cause of harm;
2. the harm must be caused through unusual activity; and
3. the harm must have a clear effect on recognizable victims (Sinnott-Armstrong, 2005, p. 289–294).

Sinnott-Armstrong does not believe that no one is responsible. Rather, he claims that governments are responsible and ought to be doing more. While thinkers have argued for direct duties by attacking one or more of these three requirements for harm,[10] my critique takes a different approach. I show that if we grant the above definition of harm, then we are led to the unacceptable conclusion that state agents are also exculpated. The version of harm used in ADD cannot support indirect duties either. In fact, as I will show, although its robust version may not be widely held by philosophers, state and collective agents invoke ADD in public and political discourse. In order to avoid the counter-intuitive claim that neither individual nor collective agents must take responsibilities for climate change, we must locate an alternative notion of harmful action.

In the first section, I show that ADD is more widespread than it first appears by examining

two of its appearances in public discourse. Language found in a United States Department of State (USDS) Bureau of Oceans and International Environmental and Scientific Affairs report (2014) assessing the impact of the Keystone XL pipeline extension project appeals to ADD to conclude that the project would not be harmful. Likewise, university presidents have appealed to ADD when rebutting the fossil fuel divestment movement. In the second section, I give an overview of Sinnott-Armstrong's version of ADD and the conditions for harm upon which it relies. The argument has wide-appeal perhaps because it corresponds with so many of our common-sense moral intuitions, which may mislead us regarding issues that are global in scale (Scheffler, 2001, pp. 32–47). In the third section, I show how these assumptions also work to excuse state-level actors. In the fourth section, I conclude and outline the task of finding an alternative way of understanding the harms associated with climate change. While ADD assumes an atomistic notion of harmful action that solely arises from and affects isolated agents (for instance, a state agent or an individual agent), I argue that we should understand climate change as a form of structural injustice (Young 2011) that aggregates the actions of many agents to create harmful effects.

## I. ADD Beyond the Academy

The debates surrounding the Keystone XL project in the United States and Canada illustrate the temptation to isolate the actions of particular states as necessary or sufficient causes to harm, the push to continue business as usual, and the tendency to ignore the impacts felt by specific people. The construction aimed to expand a network of extant pipelines connecting the tar sands of Alberta with Gulf Coast refineries. If completed, it would have increased the capacity of the network, allowing it to transmit up to 830,000 barrels of crude oil per day. Environmentalists marked Keystone as a rally point on the grounds that the tar sands contain enough carbon to raise its atmospheric concentration by 120 parts per million (ppm) (Hansen, 2012).[11] Since we recently reached 400 ppm, and since the safely regarded target is 450 ppm, Keystone would take us well beyond what experts consider a maximally safe level of atmospheric carbon (IPCC, 2014b, p. 10).[12] The project was recently rejected after seven years of review and delay. It failed to receive approval

from the President of the United States, who has the ultimate authority to approve a pipeline crossing into another country.[13] While the USDS produced a report assessing the expansion's impact (USDS, 2014), politicians, economists, and scientists all offered different interpretations of its significance and whether it offered good reasons for approving it.

One of the major points of contention revolved around a single line in this three-volume report, which states 'significant impacts to most resources are not expected', including impact to atmospheric carbon concentration (USDS, 2014, p. chap. 4, sect. 16, p. 1). Reading further, however, the following caveat appears in the table 'Summary of Potential Impacts' under 'Climate Change and Greenhouse Gases':

> [A]pproval or denial of any one crude oil transport project, including the proposed [Keystone XL] Project, remains unlikely to significantly impact the rate of extraction in the oil sands, or the continued demand for heavy crude oil at refineries in the United States. (USDS, 2014, p. chap. 4, sect. 16, p. 7)

In other words, the report concludes that *there will be no significant impact on the atmosphere only if we assume that tar sand oil will be extracted and burned in either case*. Taken individually, 'any one' project makes no difference. The word 'impact' is used interchangeably with words such as 'influence' or 'effect', so it is safe to assume that any harmful effects should certainly register as a significant kind of impact. The upshot of the report is: *it would not be harmful for the United States to approve the pipeline extension*.

This presumes the same notion of harmful action that supports ADD for the following reasons. First and second, the report assumes that the United States is neither a necessary nor sufficient contributor to harmful activity because usual market behavior will lead to the oil being developed and burned regardless of the actions of any one state. Notice the number of interconnecting agents that must be involved for fossil fuel production. Canada owns the crude oil and permits companies to extract it. The United States transports the oil to plants that will refine it, making it consumable by any number of countries that might wish to import it. There is nothing unusual about international trade.

Third, in assessing the impact of climate change, consideration of those who will suffer its effects is conspicuously absent from the report. The authors of the impact statement do note that carbon dioxide is linked to climate change and that

> A warmer planet causes large-scale changes that reverberate throughout the Earth's climate system, including higher sea levels, changes in precipitation, and altered weather patterns (e.g., an increase in more extreme weather events). (USDS, 2014, p. chap. 4, sect. 14, p. 2)

Despite this, there is no mention of who will be affected by extreme weather and how. It is often the extreme poor (domestic and in the developing world) and racial minorities that bear the brunt of the impact. For instance, only six months after the USDS report was published, the United States announced plans to dedicate $10 million solely to Native American tribes to help them adapt to climate change (Thiele & Ruffo, 2014). Clearly, then, it is possible to identify groups of people who will be harmed by climate change if not individuals.

Critics of the international fossil fuel divestment movement offer another example of ADD's presence in public discourse. Modeled after the successful movement that helped end South African apartheid, 'Fossil Free' campaigns have taken root especially on college campuses across the world (Fossil Free). Those schools which oppose this strategy insist that divesting their relatively small portion of holdings in fossil fuel companies will not make a difference; and that since endowments are normally used to fund university operations, not to take political stances, there is nothing unusual about profiting from fossil fuel (Faust, 2013). Curiously, critics have also argued that *divesting* may actually harm people of the developing world since there are not alternatives to fossil fuels for many essential activities, thereby implying that there is no (or at least lesser) harm done to such people (Jeffrey, 2015), among the most vulnerable to climate change, by retaining their holdings. According to this line of reasoning, colleges who continue to profit from fossil fuels are not irresponsible; they have no direct duty to divest.

## II. Against Direct Duties for Individuals

The inability to link individual actions to clear effects is part of the reason that ADD seems so attractive.[14] Likewise, it is difficult to imagine how a relatively miniscule contribution to a sea of emissions, such as my hobby of joyriding in a large suburban utility vehicle (SUV),[15] can make matters any worse. Do I have a direct duty to give it up? Sinnott-Armstrong argues that individuals do not have moral obligations to abstain from such carbon-heavy leisure activities 'on sunny Sunday afternoons' (Sinnott-Armstrong, 2005, p. 288). The article in which he makes this argument is aptly titled 'It's Not *My* Fault' (emphasis original). Here he argues that individuals should petition their government to make activities such as joyriding illegal; whether they continue to joyride or not while doing so makes no significant moral difference.[16] He comes to this conclusion after surveying fifteen different principles, all of which he claims fail to show there is anything morally wrong with joyriding.

Harm plays a central role in Sinnott-Armstrong's survey. What he calls 'the harm principle' is the first of the fifteen principles that he discusses. It reads: 'We have a moral obligation not to perform an act that causes harm to others' (Sinnott-Armstrong, 2005, p. 289). He rejects this principle because he believes that joyriding does not 'cause harm' (I explain why below). Many of the subsequent fourteen principles, each of which he also rejects, appeal back to the harm principle, expanding what he means by harm. It serves as a keystone in his thoroughgoing rejection of direct duties for individuals.

In order to argue that joyriding does not cause harm, Sinnott-Armstrong insists on the three requirements I mention above. I discuss these in turn below, briefly considering some objections, however, my main challenge lies in showing these assumptions excuse both individuals and state agents.

### *A. Neither necessary nor sufficient actions*

Even if I do my best to reduce my carbon footprint—by retreating from civilization determined to reduce my impact to zero, or even by cultivating new forests to surround my hermitage so my GHG

contribution becomes negative—on my own, I cannot prevent global warming. It is questionable whether I alone can diminish it even by a miniscule degree.[17] This is not surprising given the scale and scope of the issue. No single individual is capable of causing or preventing the harms in question. Even with the best of intentions, individuals can only do so much.[18] In other words, 'my individual act [joyriding] is neither necessary nor sufficient for global warming' (Sinnott-Armstrong, 2005, p. 289). If I abstain from my hobby, many others will continue producing the emissions necessary for warming. Sinnott-Armstrong concludes from this that joyriding on its own is not harmful. It only becomes harmful when considered in light of all the other GHG-emitting activities in which humans participate.

Those familiar with Parfit might charge Sinnott-Armstrong with making a mistake in 'moral mathematics' by assuming that individuals are not responsible for overdetermined harms (Parfit, 1984, pp. 67–86). However, Sinnott-Armstrong notes that joyriders do not intend harm, and that this makes a difference. The same cannot be said for Parfit's torturers and simultaneous shooters.[19] Sinnott-Armstrong insists that it is 'not that my exhaust is overkill, like poisoning someone who is already dying from poison' (Sinnott-Armstrong, 2005, p. 291). Poisoning, torturing, or shooting someone are intrinsically harmful acts; I cannot perform them without having ill intentions.[20] Likewise, Sinnott-Armstrong includes an example in which five people push a car with someone locked inside off of a cliff. Although three people could have managed this on their own, the fourth and fifth members of the group are indeed harming the victim since it is difficult to argue that they are not intending to cause any harm (Sinnott-Armstrong, 2005, p. 289). Joyriding is different. No one intends droughts, floods, or intense storms when they joyride. They just want to enjoy the experience—'ah, the feeling of power!' (Sinnott-Armstrong, 2005, p. 288). Because an individual joyrider makes no measurable difference, enjoying that feeling of power does not conflict with any responsibilities for mitigating climate change.

*B. Not Unusual Activity*

Next, Sinnott-Armstrong suggests that joyriding is not harmful since morally significant harm must

arise from unusual activity. Driving a car, even for pleasure, is certainly not unusual in many parts of the world. He offers two reasons to hold this view. First, routine or common events are not morally significant causes. He uses an example of lighting a match. In order for a match to light there must be both oxygen and friction, and 'since oxygen is usually present…we say that the friction causes the match to light' (Sinnott-Armstrong, 2005, p. 290). Second, the assignation of moral praise and blame is often more effective when it is reserved for unusual matters: 'We should distribute blame (and praise) so as to give incentives for the worst offenders to get better' (Sinnott-Armstrong, 2005, p. 290). Otherwise we lose our ability to distinguish between morally average, better, and worse. Both of these arguments are focused on the effects of singling out unusual activities as harmful. We praise or blame the unusual since this is the most effective way to identify and affect behaviors that lead to harm.

I am not so concerned with a backward-looking concept of blame, but whether such activities can be contrary to our forward-looking responsibilities to confront climate change. What moral difference would it make if carbon-producing activities were not so common? Imagine a world in which fossil fuel use was not so integrated into our everyday activities. In this world a small group of one hundred extremely wealthy people enjoy joyriding in super-jets. Call this hobby *jetriding*—'ah, that feeling of power…in the sky!' These jets are so large that, collectively, the jetriders burn carbon equivalent to the amount that our world has burned, so these one hundred people are putting their world in the same kind of climate jeopardy that we face in our world. Imagine that one of the jetriders asks:

> Should I abstain from jetriding? Even if I do, I know ninety-nine others will continue, and what more, on account of the vacant airspace I leave, the others will jetride more. Therefore, the total amount of carbon released will be the same whether or not I abstain.

I think we are inclined to say that she should give up her hobby, and indeed that the others should do likewise. It is hard to imagine what kind of person would continue jetriding when the source of climate-related harms is so easily abandoned. By contrast, in the actual world, driving cars for fun is

perfectly usual, but so are most of the activities that create a demand for fossil fuels: flipping on the lights to read, refrigerating food to prevent spoilage, or charging a laptop to write a philosophical essay. Such activities are so thoroughly integrated into our daily routines that they are not easily avoided without sacrificing other connected goods:[21] we read books to educate ourselves and become more responsible citizens, we refrigerate our food so that we can feed ourselves and our families, and we write philosophy to contribute to the field and attempt to answer difficult moral questions. Here, 'usual activities' refers to those so commonly performed they do not require justification under normal circumstances. Once we begin demanding justification of each of our daily carbon-producing activities, we are quickly overwhelmed. Even the most conscientious among us would be hard pressed to justify each and every action. Questioning each step in our daily routines would require us to disentangle the complicated network of seemingly good activities supported by fossil fuel consumption—between 'reasonably necessary' (Baatz, 2014) and luxury emissions, which can lead to many complications (Duus-Otterström, 2014). Insofar as this is not possible, and insofar as my activities alone do not cause harms to clear victims, my carbon-producing activities are not harmful.

### *C. No Clear Victims*

Sinnott-Armstrong (2005) writes: 'There is no way to identify any particular victim of my wasteful driving in normal circumstances' (pp. 293–294). The actions of an uncoordinated collective of agents dispersed throughout the world culminate in climate change. The effects of these actions are equally diffused. Both the actor and the outcome of actions are impossible to trace with even an iota of precision. Though we can track groups, nations, and activities that produce more carbon than others, we cannot link individuals to specific harms. Likewise, we can identify groups of people who are more and less vulnerable to the effects of climate change.[22] In other words, we cannot say that because person A in affluent nation X drives to work every day rather than taking public transit, person B in developing nation Y will lose her home due to flooding. Even though we know that fossil fuel combustion leads to climate change, leading in turn to floods and freak storms, there are far too many complexities in the moral equation to discern a one-to-one, perpetrator-to-victim ratio.

**III. Government and Climate Change**

The conclusion of ADD is that the scope and scale of climate change excuses individuals from direct duties to address harms associated with a warming planet. Sinnott-Armstrong writes:

> [G]lobal warming is such a large problem that it is not individuals who cause it or who need to fix it.... Finding and implementing a real solution is the task of governments. Environmentalists should focus their efforts on those who are not doing their job rather than on those who take Sunday afternoon drives just for fun. (Sinnott-Armstrong, 2005, p. 304)

It's not *my* fault because it's not *my* job; my duties, at best, are indirect. This conclusion has its appeal. After all, climate change is a structural issue, resulting from the multitude of social structures—laws and policies, but also trends and widely distributed habits—that guide or encourage individuals to take certain actions over others. For instance, even a large group of committed environmental ethicists is unlikely to have the same range of influence as a law regulating GHG emissions. (Let us assume for the moment that the existence of strong public advocates and the existence of such laws are in no way connected, though I will return to this idea below.) If governments step up and do their job, they can affect the practices of individual citizens much faster and far more effectively than environmental ethicists, who attempt to convince people to take responsibility for their actions.

However, if we accept this conclusion, but do nothing to modify our conception of harm, then it is hard to see why any particular government would take responsibility for climate change. The same objections that apply to direct duties for individual agents also apply to individual state agents. No state alone is a necessary or sufficient cause of climate change, there is nothing unusual about a government protecting the interest of its own people, and no clear victims of harm can be identified because of government action or inaction. I will discuss each of these points in turn.

But I should first address a potential objection. It does not follow that the same standards of harm apply both to individual agents and governments. The specific role of state agents is to address

harms that arise from collective action, such as climate change. A government protects its citizenry by passing laws to curb or prevent the harmful effects that arise from many seemingly innocuous acts of individual citizens; or, to prevent tragedies of the commons (Hardin, 1968). Government-enacted laws ensure that no one dumps waste in rivers since any one dumper sees his action as incapable of making a difference in the health of the river. While this may be true, many dumpers can act under the same presumption and this results in a measurable effect. How is climate change any different?

States should certainly pass laws or enact policies to protect their citizens from the effects of climate change. Many major cities have now allocated funds to adaptation (Gregory & Santora, 2013). However, nothing I have discussed so far excuses states from considering measures such as building seawalls to reduce the fatalities from intensified storm surges. Rather, my claim is that by using the same notion of harmful action invoked by ADD, states can avoid taking actions themselves to reduce the emissions of those agents (corporations and citizens) over which they have power since a) they are neither a sufficient nor necessary cause of climate change, b) their carbon-emitting activities are not unusual, and c) there are no clear victims that suffer because of those particular emissions.

*A. Only Wide-Scale Cooperation Can Avert Climate Change*

Recall that according to ADD there is nothing wrong with individual joyriders, because taken one at a time their activities alone could not affect the climate. Rather it is the collective action of many individuals that results in a warming planet, and governments are best at directing or shaping the actions of citizens through laws and policy. Therefore governments, not individuals, have direct duties. Assume that the United States passes a nationwide cap and trade program that reduces all driving, including joyriding. Such an act on its own cannot stop climate change; other states would need to adopt similar measures. The joyriders (and other carbon-emitters) of each state would be upset by increased costs. A government may indulge its citizens and take the position that it makes no difference whether they pass the law or not since climate change is not caused by any one nation, asking in effect, why should one government risk becoming unpopular with its citizenry if such a law

will not prevent any measurable harm?

Confronting climate change requires global cooperation—not merely the coordinated cooperation of the citizens of one particular state, but those of all states. Since GHGs do not need a passport to cross political boundaries it does not matter how well any one state or region is able to curb its emissions. A state may stay under its 'fair share' (whatever this might be)[23] but the United States, China, or a number of other countries can take us beyond the two-degree limit without any contributions from other countries (Gardiner, 2011, pp. 95–98).[24] Additionally, basic supply and demand suggests that if affluent countries stop buying so many fossil fuels as they transition to cleaner alternatives, those fuels will become cheaper, and therefore more attractive to other countries.[25] So although key political players such as the United States may have a greater effect on which states cooperate, or may be able to significantly reduce their own emissions, lone agents cannot guarantee less harm; only through global collaboration can we avoid going over the 'carbon cliff'.

Despite meeting annually since 1995, the world's governments do not have a strong track record for cooperating. The United States infamously backed out of the Kyoto Protocol, which would have been a substantial first step toward coordinated international action to address climate change (Singer, 2002, pp. 22–26). The 2015 Paris Agreement is an important but belated first step to establish a framework which fosters such cooperation, though much depends on how closely individual states honor their contributions.[26] State agents and individual agents alike cite this lack of cooperation to absolve themselves from the responsibility for harms associated with climate change. Sans cooperation, individual actions will make no difference. Just as no individual agent can prevent warming on her own, no individual state can tackle climate change on its own. So long as we require harm to be traceable to single agents, a state on its own, like a single joyrider, can claim it will make no difference whether it curbs its emissions or not.

### *B. Results from Usual Government Activity*

Under the current global economic order, every state engages in international trade while attempting

to grow its economy and remain competitive with other states. There is nothing unusual about a state defining its own policies to regulate emissions in a manner fitting to its economic interest. Sans any global governance structure, states must have a strong reason to enter into international agreements that will limit their power and growth. And just as is the case with individual agents, a single state may have to choose between competing interests. Fossil fuel energy needs are tied to a number of other reasonable competing interests; for instance, weighing short-term economic gain from fossil fuel use against long-term costs associated with climate change.

### *C. No Clear Victims of Government Action or Inaction*

It is too difficult to calculate the effects of the miniscule levels of GHG emitted by isolated individuals (e.g., by my joyriding). Even though we are working with larger quantities of these gases when we consider those emitted by state actors, and even though we may be able to more accurately gauge the results of larger quantities of GHG emissions emitted by entire nations, there is still no way to link these emissions directly to harmful effects. We cannot say that it was the emissions of country X or Z that made the typhoon strong enough to devastate developing country Y. Again, state agents can appeal to the same notion of harmful action that ADD uses to absolve individual agents from responsibility.

## IV. Conclusion: Rethinking Harm

If we accept what I call the 'keystone' principle of ADD, the harm principle, there is nothing wrong with building the Keystone Pipeline. We are left with a deficit of responsibility in which no one is required to prevent further climate change. At best, states may have responsibilities to mitigate harms faced by their own citizens through adaptation projects such as seawalls. Such a gap reveals a conceptual deficiency and the need to reconsider the notion of harmful action we use when thinking about problems such as climate change. I can only here point to a few concerns I have with this task.

Proponents of ADD seem to correctly emphasize the need for cooperation and large scale action, but underestimate two things: first, the role that individual acts and initial gestures play in

fomenting such cooperation; and second, the power of individuals to act politically in ways that extend beyond merely petitioning their government leaders. A rethinking of harm should avoid repeating these mistakes. I think that Sinnott-Armstrong is right to point out that aggregate harms require structural change, but wrong to suggest that individuals do not have duties to help bring about this change, especially when governments are not acting.[27] For instance, to argue that responsibilities follow from the harms associated with unjust structural arrangements, Young (2011) examines how they arise:

> as a consequence of many individuals and institutions acting to pursue their particular goals and interests, for the most part within the limits of accepted rules and norms. (Young, 2011, p. 52)

She adds that this normal activity places people into relative positions of domination and privilege (Young, 2011, p. 52). Note how well this describes climate change. Different populations of the world occupy positions that are more or less vulnerable to the harms that result from climate change. Some even stand to benefit from these harms, especially those who hold fossil fuel stocks, or who enjoy inexpensive fuels for luxurious activities, such as joyriding, while being relatively insulated from the environmental costs. According to Young (2011), responsibility follows from our relationship to unjust structures and is relative to our position within them (pp. 95-122). We ought to act together to transform unjust structures, not just when there is a reasonable chance of success as Johnson suggests, and not merely to encourage government action as Sinnott-Armstrong suggests, but because these structures are reinforced and reproduced, by everyday individual actors. This form of responsibility involves calling attention to how these actions culminate in harms, and presenting and promoting feasible alternatives.

Structural change can be enacted by governments through new laws and policies, but it also requires imagining and experimenting with new ways of thinking and living, as well as attracting a critical mass of supporters for those innovations. Engaging in these practices should be thought of as a political act, and an empowering one at that since, although it can inspire government action, it does not rely upon it. A well-mobilized populace committed to divestment, for instance, may be all

that is needed to accelerate change when government has stalled on the idea that the harms linked to dirty energy are not its problem. When universities reject calls to divest because they do not believe that their individual fossil fuel profits cause harm, they reject an opportunity to take up responsibility to reimagine higher education so that it need not rely on the harmful structures that promote climate change; doing so protects their privileged position, a position that comes at a cost they do not have to bear.

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**Notes**

[1] In order to narrow my focus I will only consider the harms suffered by humans, not those by other living things or ecosystems.

[2] I do not here defend the connection between risk and harm. For more on this topic see Bell (2011).

[3] Technically it is possible that adaption efforts can reduce the harm climate change will bring about. But such efforts would need to be major and widespread. Thanks to an anonymous reviewer for this point.

[4] A distinction is sometimes made between backward-looking and forward-looking responsibilities or duties. While the former is primarily concern with finding guilt or fault in what was done in the past, the latter is concerned with correcting 'structural injustice that has existed recently, is ongoing, and is likely to persist' (Young, 2011, pp. 108–109). My concern in this paper is with forward-looking responsibility. Is it wrong to continue participating in activities that we know are linked with climate change without any attempt to alter or curb them?

[5] This claim quickly becomes controversial when we ask which states and corporations have duties. There is also some controversy about whether or not collective agents exist. For the sake of my argument here, I take for granted that they do exist insofar as states enact laws and policies, or enter into agreements that can mitigate the effects of climate change. They can also reject laws and policies and renege on international agreements.

[6] Although my conception of direct duties corresponds with that offered by Cripps (2013), my conception of indirect duties does not correspond with her 'promotional duties'. However, see my note 27 below.

[7] Scientists have determined that at our current rate of emissions we will burn enough carbon to warm the planet beyond the internationally agreed upon 2 degrees Celsius by 2024, 2027, or 2039 (with respectively 20%, 25%, and 50% probabilities). Our current oil and gas reserves allow us to 'vastly exceed' this budget (Meinshausen et al., 2009).

[8] I borrow this term from List and Pettit (2011, pp. 153–169). They claim that group agency is a useful concept in situations where no individuals can be held responsible (hence the deficit). I invert this to show that the worry

works both ways: if group agents fail to act, but individuals are excused, then we face a similar deficit.

[9] On May 9, 2013, the atmospheric carbon concentration surpassed 400 parts per million for the first time since records began in 1958, and perhaps since humans evolved three million years ago (Gillis, 2013).

[10] For instance, Almassi (2012) offers a threshold-contribution principle that attacks 1 and 3; Jamieson (2014) shows how virtue theory can reject 2 since virtues by definition stand out among usual activities; Schwenkenbecher (2012) responds to 1 and 3 by attacking the notion that individual actions alone do not cause harmful effects; and Baatz (2014) shows that all three are irrelevant since individuals should limit their emissions to their fair share, insofar as this can be 'reasonably demanded' of them.

[11] There was also concern that the proposed extension of the pipeline would cross the Ogallala Aquifer, jeopardizing that important water source for people and agriculturalists. In my discussion, I restrict my attention to those arguments that concern climate change.

[12] This target corresponds with one suggested by the previous Fourth Assessment Report. However, there is a growing movement to endorse a stricter target of 350 ppm, endorsed even by the lead scientist of the IPCC (McKibben, 2009).

[13] President Obama had promised to veto any attempts by Congress to bypass presidential authority (Davenport, 2015). On February 24, 2015, he was able to fulfill that promise (Eilperin & Zezima, 2015).

[14] A complex phenomenology of agency underwrites a common sense morality that privileges the proximate over the distant and the individual over the collective, contributing to our difficulties when thinking about global moral problems such as climate change (Scheffler, 2001, p. 39). Some cite evolution as the source of such common sense morality (Jamieson, 2014, pp. 102).

[15] In what follows, I continue to use joyriding as an example, but any leisurely, carbon-intensive activities in which individuals partake can easily take its place (for instance, jetting around the world for the joy of flying). For the purposes of this argument, I will only consider activities that can be understood as purely leisurely or luxurious rather than those that some might consider essential or everyday. I also grant that this standard can vary from place to place. For those who have relatively easy access to cars and electricity, driving to work or cooling a home on a hot day is understood as customary, rather than leisurely or luxurious. Noting that most of the world does not have access to carbon-heavy lifestyles, and that this makes a huge difference morally speaking, I wish to put that criticism aside to show that ADD fails even when we are extremely generous to it (by neglecting such difference between customary and luxurious).

[16] Perhaps a more accurate, less controversial version of Sinnott-Armstrong's conclusion is a fallibilistic one. He does not know if joyriding is morally wrong, since he can find no principles prohibiting it, though it is possible someone

will discover one (Sinnott-Armstrong, 2005, p. 303). What is important here is that he believes that if individuals must choose between either adopting direct duties or indirect duties, they ought to go with the latter. Of course, individuals can choose both, but Sinnott-Armstrong finds no compelling moral principle requiring them to do so.

[17] Nolt (2011) proposes a method for calculating harm and finds that the average American alive today will be responsible for the death or serious harm of at least two future persons. However, it is not clear if reducing my emissions would save even one person. It is also not clear how the effects of my abstention from using carbon resources will not encourage others to use more of them. My abstention might increase the supply and thereby deflate the price, making its consumption a more attractive alternative. At least, Gardiner (2011) thinks it might (p. 98n), but Baatz (2014) cites reasons to doubt it would (n. 9).

[18] Aufrecht (2011) argues that there are structural limitations to our minimum personal emissions.

[19] In these examples, multiple people torture or shoot at a victim, so the inaction of any one of these people would not have led to less harm (Sinnott-Armstrong, 2005, n. 23). Although Parfit's examples all involve actions that are intentionally harmful, some have suggested that this misinterprets the spirit of Parfit's argument, which could reject what I call condition one of ADD (for example, see Schwenkenbecher 2012, pp. 9–10).

[20] Though there may be room for special circumstances, such as mercy killings or torturing one to save many.

[21] This is truer of the affluent world, which is far more dependent on fossil fuel use than the many who live in poverty. Shue's distinction between luxury and subsistence emissions is helpful here (Shue, 1993).

[22] For instance, indigenous people, women and girls, urban poor people, and people in rural dry lands are all especially vulnerable to the effects of climate change (Mearns & Norton, 2010, pp. 18–23). The latest IPCC report emphasizes repeatedly that those who stand to suffer most from these changes are the world's poor, especially in developing countries where 95% of all natural disaster-related deaths occurred from 1970 to 2008 (IPCC, 2014a, p. 187; but see also pp. 6, 50, & 71)

[23] For a discussion of several methods for calculating this share, see Singer (2002, pp. 14–50). Baatz (2014) also works through some difficulties for calculating individual shares.

[24] Two degrees Celsius was the agreed upon upper limit for safe warming that came out of the 15th Conference of the Parties of the United Nations Framework Convention on Climate Change (UNFCC) in 2009 (UNFCCC, 2010). The most recent COP 2015 in Paris suggested moving this target to 1.5 degrees Celsius.

[25] See note 14 above.

[26] Despite Paris, the world is currently on track to miss its goal of avoiding more than two degrees of warming (Climate Action Tracker, 2016). Other criticisms of the agreement include the pace at which it allows countries to reduce emissions and the lack of funding guaranteed to developing nations, both of which disproportionately affect

the world's poor (Rowling, 2015).

[27] Although Cripps (2013) prioritizes what she calls 'promotional duties' of individuals to encourage collective action over their 'direct duties' to alleviate harm, she still avoids subscribing to ADD (pp. 140–142). Indeed, our positions are similar. Sinnott-Armstrong, she criticizes, 'glosses over the distinction between individuals in isolation and individuals in combination as collectivities or potential collectivities.... In many states, the government is *our* government' (pp. 141–142).