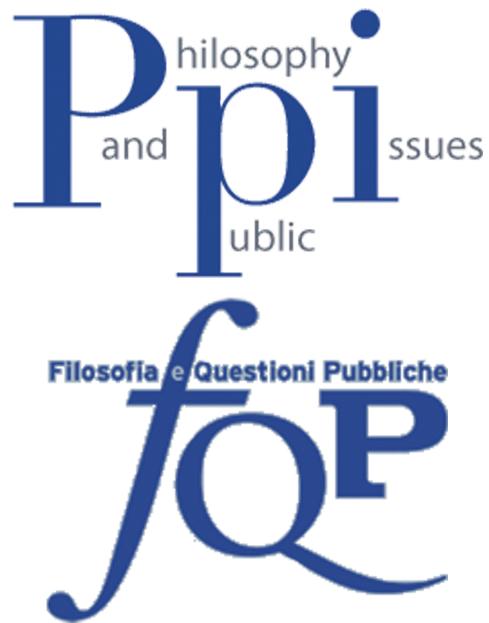


SYMPORIUM
A CHANGING MORAL CLIMATE



GLOBAL WARMING AND THE PROBLEM OF
FAILED INTENTIONS

BY EVELYN BRISTER

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Global Warming and the Problem of Failed Intentions

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Abstract. Effective solutions to global warming will likely require coordinated national and international policies. But in the short term, individuals might choose to take actions or not take actions which will reduce their own contribution to global warming. Philosophers have argued that individual action to curb climate emissions is not morally inconsequential. A strong case can be made for individual causal responsibility for the production of the moral harms which would result from climate change.

However, the nature of human moral psychology is such that we can expect a lack of moral motivation to assume responsibility at the crucial moment of action. That is, moral agents face “the problem of failed intentions.” This paper assesses the moral value of specific techniques and technologies which promise to increase the ability of moral agents to fulfill their moral intentions. For instance, since individuals typically evaluate others’ actions as less moral than their own, social norming techniques which provide objective information about how one’s climate emissions compare to others can be an effective means of supporting moral action.

I

Introduction

Like many people—like you—I am concerned about the threat posed by global climate change to future societies and people. I hope that the harms which threaten to kill individual people, destroy cultural artifacts, extinguish animal and plant species, make people hot, thirsty, hungry, and miserable, and decrease global economic prosperity never come to pass. The evidence is strong that if business continues as usual and fossil fuel emissions, methane emissions, and deforestation are not reined in, human suffering, cultural devastation, and lasting environmental damage are bound to happen. I really wish—don’t you?—that the governments of the world would do something.

While I bemoan political inaction, I am sitting by a portable heater, wearing a comfortable but lightweight shirt, looking at a bright screen, and wondering if, perhaps, I should also be directing blame at my own actions. What exactly are my options as an individual when it comes to reducing greenhouse gases? On the one hand, I feel that I have no options: flying to distant conferences is something I do for my work, the amount of driving I do is dictated in large part by the design of the city I live in, and were I to conserve energy and consumption as much as I possibly could, I would not then be able to invest my time in writing about climate ethics.

But I do have good intentions, of course. Like most of us, I want to act ethically and do my part to reduce climate emissions. However, I have other obligations and concerns as well, and I am not certain that living my life differently would have a meaningful effect on the total impact of climate change. What if I made a sacrifice in the name of the well-being of others, but in the complex causal chain of markets and politics and energy use, my

efforts made no difference whatsoever? And if I do have suspicions that a change in my lifestyle would cost me something meaningful but would not materially reduce future human suffering, then I am unlikely to feel the moral motivation to live my life differently. Not only that, but the intuitive moral calculus used by so many of us—professional philosophers and laypeople alike—might not reckon up so that future, distant, uncertain harms weigh more heavily in the moral balance than current discomfort and sacrifice. If I turn off the heater, I will be cold; if I turn off the computer, my work will not be completed; if I don't drive my child to swimming lessons, then that is one less life skill he will possess. It is reasonable to doubt whether these sacrifices, *my* sacrifices, are necessary, or even contributory, toward reducing global climate change

In the end, if I have reasonable doubts about the existence of my personal ethical duty to combat climate change, am unable to figure out how to fulfill the obligation (assuming it exists), or am unable to carry out this obligation when I have so many others which are more pressing, then that obligation's hold on me is quite limited. The basic ethical principle that 'ought implies can' means that I am blameworthy only if I am actually capable, given my real-life situation, of taking actions which would reduce the harms of climate change. In the case of global climate change it just isn't clear—at least to many of us—that solo, individual actions are anything more than tilting at windmills.

This common question—whether my lifestyle changes will really make a difference when the problem is global or whether, on the other hand, my efforts are too inconsequential to matter—is one that has recently received philosophical attention. If my contributions cannot be expected to make a difference, then that absolves me of the consequentialist duty to do my part toward curbing greenhouse gas emissions. In what follows, I examine this

debate and side with others who have argued that while we don't have duties as lone individuals, due to the inconsequentialist argument (taken together with practical and political realities), we do have a collective duty. The collective duty to action is usually placed onto government. While my lifestyle changes may be too inconsequential to matter, if I and my fellow citizens are successful at influencing the government to enact a policy change, the resulting drop in climate emissions would be consequential. Thus, my ethical duty to address climate change can best be fulfilled by directing my energies toward influencing my government. Unfortunately, given the political cynicism of many Americans today about the responsiveness of government to citizen demands, this tack can quickly give way to fatalism about the coming climate catastrophe. Compared to the political power of the oil and gas industries, my political powerlessness again makes my efforts seem inconsequential.

In the second half of this paper I argue that we are not in fact trapped in this double bind between inconsequentialism and cynicism. This is because there are other means of engaging in collective action. Instead of identifying the government as the sole or primary agent of collective action, I explore another way of identifying a relevant collectivity, such that the inconsequentialist conclusion need not shut down the possibility of extra-political change. I argue that, instead, we identify social networks as collectivities. Through social action (even if it is not centrally organized), communities can successfully execute actions which would be defeated by inconsequentialism if it were up to lone individuals to carry them out. Moreover, recognizing the *social* nature of our moral psychology is necessary to help us achieve such collective action. A few examples illustrate some techniques which support moral intentions by taking moral psychology and behavioral ethics into account. I conclude that when it comes to our duties with regard to reducing emissions,

the duty of educators is to educate well, the duty of policy-makers is to make effective and well-informed policy, and the duty of all individuals is to avoid moral hypocrisy as best we can. I also consider the special responsibilities philosophers, in particular, bear.

II

Inconsequentialism, Moral Mathematics, and Cynicism

The scientific evidence predicting widespread harms to people, to ecosystems, and to the built environment as a result of anthropogenic climate change is indubitable. Although we are past the point at which future harms can be avoided entirely, the degree of future harm depends on how much and how fast global warming can be controlled and the rate of climate change slowed. The more greenhouse gas emissions are reduced, the less harm will be caused,¹ and the entities which apparently possess the power to enact this sort of global change are nations. But nations have been slow to adopt policies which would reduce emissions. Despite this inaction, public awareness and concern about global warming has grown, and the rhetoric of making a “personal difference” to the problem of global warming is common in the marketing of new products and in the media. So, even if the United States, for instance, is unwilling to act, the citizens of the United States might be willing to take action as individuals. This raises two questions: can the immediate actions of individuals to curb personal greenhouse gas emissions make a difference in

¹ The effect is not linear. Feedback loops are likely to have strong effects, so quicker action will be more effective than the same action taken at a later date.

reducing future harms? And if so, do individuals therefore have a duty to act, even while the government fiddles?

Walter Sinnott-Armstrong, John Nolt, and Avram Hiller have debated whether it is morally legitimate to treat curbing emissions as the personal duty of individuals. Sinnott-Armstrong makes an argument from inconsequentialism. I am just one of billions of individuals, he argues, and my activities contribute to global greenhouse gas emissions in a thousand different ways. Out of seven billion people, the food I consume, the products I use, the miles I drive, the bulbs I burn, and the degrees I heat or cool my house have virtually no effect on the global climate. Each action I choose is *so inconsequential*, he argues, that I can't possibly be a less moral person for having decided to take a leisure drive when I might have just stayed home. To think that my own contributions, taken in isolation, can have any sort of impact is to misunderstand the scale of the problem.²

Sinnott-Armstrong has a point. For instance, just in the years since he wrote that paper, the state of North Dakota has developed new oil and gas fields using horizontal fracking techniques. These oil fields are so rich that capturing all of the natural gas they produce is not economical. As a result, 30% of the natural gas which is extracted is flared off—enough gas burnt off every day to heat half a million homes.³ Lowering the thermostat in my home by a couple of degrees accomplishes extraordinarily little compared to what would be accomplished by preventing the release of even a small percentage of the

² Walter Sinnott-Armstrong, “It’s Not My Fault: Global Warming and Individual Moral Obligations,” in *Perspectives on Climate Change: Science, Economics, Politics, Ethics*, edited by Walter Sinnott-Armstrong and Richard B. Howarth, (Amsterdam: Elsevier, 2005), 285-307.

³ Clifford Krauss, “In North Dakota, Flames of Wasted Natural Gas Light the Prairie,” *New York Times* (Sept. 26, 2011)

greenhouse gases released in North Dakota oil fields. In this way, when we compare the real impact of various possible actions, Sinnott-Armstrong points out that it would be “better to enjoy your Sunday driving while working to change the law so as to make it illegal for you to enjoy your Sunday driving.”⁴ Thus, Sinnott-Armstrong concludes that the greatest chance of successfully controlling the rate of climate change requires us to meet our collective duty to act as a nation. Compared to what can be achieved through changes in government policies, the lone actions of individuals are too inconsequential to make a difference.⁵

John Nolt objects to Sinnott-Armstrong’s classification of personal actions as inconsequential. He uses moral mathematics to determine that, given the number of people likely to be harmed in the future by climate change, and given the number of people who benefit the most from greenhouse-causing emissions, the average American’s lifetime emissions will be responsible for the suffering or even death of a couple of people. According to his calculation, a typical American’s lifetime emissions equal, on average, one two-billionth of current and near-term emissions, and these current emissions, on one projection, could harm four billion people. Thus, a typical American harms (given averages and best estimates) the lives of one or two people.⁶ We will never

⁴ Walter Sinnott-Armstrong, “It’s Not My Fault: Global Warming and Individual Moral Obligations,” 304. Even changing the law so that the cost of Sunday driving reflected the real environmental cost would be worthwhile.

⁵ Steve Vanderheiden (*Atmospheric Justice: A Political Theory of Climate Change* (New York: Oxford University Press, 2008)) also argues that while governments have a responsibility to mitigate the harms of climate change, and while we have a duty to influence our democratic governments, we do not have an obligation to act as individuals as a substitute for government action.

⁶ John Nolt, “How Harmful Are the Average American’s Greenhouse Gas Emissions?”, *Ethics, Policy, and Environment* 14 (2011), 3-10.

know which people are harmed by our individual greenhouse-causing emissions, and these people may live in the future and in distant lands, but regardless of their distance from us, this harm is significant indeed. It is not a harm which I, as a decent person, would intentionally commit.

In addition, though it risks oversimplifying the moral mathematics, Avram Hiller takes this line of argument one step further: my seemingly inconsequential decision to spend an afternoon behind the wheel amounts to ruining someone's afternoon.⁷ That, too, carries moral weight.

There is at least one problem, though, with using moral mathematics to analyze individual contributions to climate change. The argument relies on an appeal to the marginal effects of my actions: on the assumption that it is *specifically* the actions which I have taken which are causally connected with harm to others. In other words, the negative outcome depends specifically on my having taken a certain action, so that if I did not perform the action, the harm would not occur. In response, Joakim Sandberg argues persuasively that the appeal to inconsequentialism on both sides of this debate, though intuitively appealing, does not accurately track moral causation.⁸ Following Sandberg's observation, if I were to take some

⁷ Avram Hiller, "Climate Change and Individual Responsibility," *The Monist* 94 (2011), 349-368.

⁸ Joakim Sandberg, "'My Emissions Make No Difference': Climate Change and the Argument from Inconsequentialism," *Environmental Ethics* 33 (2011), 229-248. Sandberg's central argument is that there is something misleading about using moral mathematics in this way. He builds on Parfit's thousand-torturer example to show that the appeal of connecting my actions with concrete harm to two future humans depends crucially on how the example is constructed. It risks committing a fallacy of division, since our intuitions would swing in a different way if we weigh the import of our contributions spread over the lives of 4 billion people.

individual actions to combat climate change—even actions that come at quite some cost to my own happiness and comfort—the causal structure of the climate change problem does not mean that I will therefore be making such an impact that some future life is incrementally better than it would otherwise be.

Sandberg shows that one problem with attempting to calculate that my actions will harm or not harm someone in the future is that in some cases my decision to reduce my carbon footprint does not wind up affecting the total amount of emissions produced. For example, when I use one of the many carbon footprint calculators available online, I find that airplane flights account for the largest percentage of my emissions. However, should I decide not to buy a ticket, the flight will take off whether I am on it or not. If I do not fly, then the emissions, though not *my* emissions, will still be put into the atmosphere.

This result can be expanded further. The greatest percentage of the emissions which are part of the calculation of future harm are not emitted by individuals at all. They are the result of government and corporate decisions and actions taken on behalf of many others. Consider the methane being burned at the site of North Dakota oil wells. If I were in a position to influence a policy which would prevent the production of this huge amount of greenhouse gas as a by-product of oil-drilling, then I would be morally blameworthy for failing to use that influence. However, once the oil is produced, and the greenhouse gases are emitted at the drilling site, someone will buy and use that oil. My participation *as a lone individual* in an economy that depends on the use of oil has little—and most likely, no—effect on the production of those molecules of gas. At best, my disengagement from the fuel economy would affect the price of oil in an infinitesimal way, but this will not necessarily reduce overall

consumption.⁹ An examination of the causal relationships which produce the greenhouse gases thus destroys the intuition about the marginal harms of emissions on which the mathematical argument depends. As Sandberg explains,

we have a *collective* obligation to change *our* ways, and this collective obligation may be partly separate from the obligations of individuals. While my own flying makes no difference, it should be noted, climate change could be averted if we all changed our ways. But then it seems plausible to say that we act wrongly as a *collective*, even though no individual driver or flyer may be doing anything wrong.¹⁰

The conclusion which proceeds from this analysis of moral causation and individual responsibility is that when our actions are considered in isolation from the actions of others, there is not a compelling argument in support of our having a moral duty to curb personal greenhouse gas emissions. At the same time, national governments, our representatives for organizing collective action, do seem to have such a duty but are not making rapid progress toward addressing the problem. The cynical result is a rationale for diffusion of responsibility and moral disengagement. That's not a desirable conclusion to reach.

⁹ If I stop driving for leisure but others do not, then my action decreases demand (an infinitesimal amount) and, in theory, affects price by making gas cheaper. Unless others are acting alongside me to change their driving habits, too, someone else will buy the gas I'm not using for the better price. Thus, there is no reason to think that total emissions will decrease just because I halt my Sunday drives. Only the collective actions of many would have the desired effect on future harms.

¹⁰ J. Sandberg, “*My Emissions Make No Difference?*: Climate Change and the Argument from Inconsequentialism,” 241.

III

Moral Psychology and The Problem of Failed Intentions

At this point, it is tempting to fire up the gas-guzzler and head out for some fresh air and a long drive in the countryside. Instead, in the remainder of this paper I will identify another place to look, in addition to national governments, for motivating collective action. While I disagree with Avram Hiller that an argument can be made to support the responsibility of isolated individuals, his conclusion provides a clue for how to avoid the cynical turn. “First,” he says, “if many individuals become aware of their daily impacts and because of that awareness make changes in their practices, the benefits may add up to a very significant extent” (2011, 365). Hiller seems to have individual actions in mind here which, when taken together, produce an additive result. He is holding a model of shared responsibility for achieving our individual duties to attack this moral problem. Namely, he holds that since the responsibility for ruining a future person’s afternoon can be pinned on my present use of fossil fuels, I have a duty to avoid that moral harm by curbing my fuel use. Since we all have this duty, we should all act this responsibly, and by sharing this duty, we can avoid those future harms. However, there are problems with construing this duty as one that falls on individuals: first, because the actual causal relationships (of markets and of global warming itself) cannot be so simplified that future harms can be pinned on individual actions, and, second, because individual actions are so inconsequential that if one person, acting alone, were to make a significant lifestyle change, it would be unlikely to alter future events. Making a difference in mitigating climate change requires

not individual action but collective action, of which government action on policy is the most typical example.¹¹

However, research on the psychology of acting together with others should lead us to treat other social groups as collectivities for the sake of coordinating action to mitigate climate change. For instance, whether signing up to join a virtual community which logs carbon emissions, taking part in organized campaigns to promote mitigation actions and lobby for policy change, working with neighborhood groups and employers to devise transportation alternatives, or exchanging advice and support on social media, people with common goals are already sharing information and knowledge, monitoring each others' actions, coordinating what they do with others, and supporting each others' moral motivation. Sufficient cohesiveness to produce group action and the motivation to act with others toward emissions reductions is to be found in the fluid social interactions of everyday life. While we wait for national governments to stop fiddling and take up their clear moral duty to reduce greenhouse gas emissions, we can act collectively *with the people we know* to reduce *our* contributions to climate change. This is collective action at the scale of local communities and informal social networks.

Insights from moral psychology and the findings of behavioral ethics demonstrate that it would be very difficult indeed for

¹¹ Specific analysis of collective responsibility and climate change can be found in Tracy Isaacs, *Moral Responsibility in Collective Contexts* (New York: Oxford University Press 2011). The thesis of collective responsibility (as opposed to individual responsibility) exists in several forms. Though it continues to be contested, it solves several puzzles such as the one presented here. Frameworks for shared agency and collective responsibility can be found in Margaret Gilbert, *Sociality and Responsibility* (Lanham, MD: Rowman and Littlefield 2000) and Larry May, *Sharing Responsibility* (Chicago: University of Chicago Press 1992).

individuals, acting all alone, to meet a posited individual moral duty to reduce climate emissions. Human moral psychology tempers the degree and manner in which we could reasonably be expected to fulfill the duty that Nolt and Hiller propose. According to moral psychologists, it appears to be a fact of human moral psychology that we perceive duties to be less urgent when there is a lack of immediate perception of harm, when the harm is to people with whom we are not familiar, when there is a delay before the harm occurs, and when a change in action would not necessarily prevent the harm from occurring. In the case of greenhouse gas emissions, all of these conditions are met: the harm’s causal influence is imperceptible because of the complex physical systems involved, the harm is more likely to affect people in developing countries than those in our own neighborhoods, the harm will not reach its zenith for decades, and I cannot connect with certainty any of my choices or actions, one way or another, with specific outcomes.

Thus, whatever my good intentions to pursue a conjectured duty with regard to addressing climate change, I would likely encounter what I’ll call ‘the problem of failed intentions.’ Indeed, I *have* encountered it. For the reasons given above, I believe that we have a (collective) duty to reduce climate emissions, and one way to pursue that duty is to make lifestyle changes and to reduce our ‘carbon footprint.’ Try Googling “ways to go green,” and you’re likely to find lists of 8, 10, 11, 22, 40, or even 150 “simple,” “easy,” or “tiny” steps you can take to lessen your climate impact. But I will admit that after “eating smart” and “skipping the bottled water,” I grow fatigued. Today the wind chill is below freezing where I live, and I don’t have it in me to bike to work. Given the normal limitations in human cognitive and perceptual abilities, people are unlikely to live up to their own moral standards with regard to reducing greenhouse gas emissions. If we take these characteristics of human moral

psychology to be inevitable, or typical, or excusable, then we will conclude that, if ought implies can, and if humans cannot be expected to overcome their psychological limitations, then we need not feel the force of an “ought” when it comes to taking the trouble to address climate change.

Thus, there are two significant problems that arise for ordinary people who are wondering about their role in protecting the future of our planet—maybe not you, but surely some people you know—people who are basically good but are a little cynical, a little jaded, and leading lives full of various commitments. First, individual actions to counter global warming appear to be inconsequential. Second, our government, which could be effective, fails to act, so that cynicism and pessimism are reinforced. Moreover, any lingering hesitation people might have must overcome the realization that, among the many pressing concerns they face, this one would likely lose to competing motivations.

However, this double dose of cynicism and pessimism is unwarranted; it can be resolved by facing the challenge of climate change *together*, with our friends and acquaintances, to create communities of action. Not only is individual action on climate change inconsequential, attempting to address the problem as a lone individual ignores the social psychological mechanisms which support resolve and, through social interaction, collective action. While I can’t do much, if anything, *by myself* to counteract global warming, I can do something positive, together with others, to organize collective endeavors, lobby for local policy changes, create and adopt well-designed technologies, and anticipate the support that we must give each other in order to make changes which will, collectively, be consequential. While there are many guides about how to reduce energy use, less emphasis is placed on the social support that is required to

provide the moral motivation to use those guides. Many of us do not realize that the support we need is at this higher level—the level of building supportive communities and developing approaches to form collectivities—rather than at the level of knowing how to install a smart thermostat. An awareness of the problem of failed intentions and an understanding of the specific cognitive limitations of human psychology can allow us to design technologies, policies, and pedagogies of moral education to help us avoid that problem and *collectively* achieve our best moral intentions. The role of educators and philosophers is not limited to the highest level of elucidating normative frameworks; it is also instrumental at the intermediate level of providing moral strategies to achieve our good intentions.

Social-psychological research has revealed the mechanisms which generate the problem of failed intentions and which pave the way for moral hypocrisy. First, when we predict how we will react in the face of a difficult moral decision, we make predictions which line up with our highest moral aspirations. We routinely forecast that we will act boldly, driven by principled, selfless reasons. Numerous experiments in social psychology show, however, that in the moment we are less likely to take a morally principled stand than we predict. In a morally challenging situation where a stand for the greater good requires a degree of self-sacrifice, most people will find a way to rationalize ignoring their principles.¹² In making a prediction about the morality of

¹² Max Bazerman and Ann Tenbrunsel, *Blind Spots: Why We Fail to Do What's Right and What to Do about It* (Princeton: Princeton University Press 2011), ch. 4. Like the social psychologists who perform the experimental work, I am not here passing judgment on the weakness of the human moral will. This description of predictable human behavior can be used to judge what can be expected of human behavior, to justify realistic expectations on moral behavior, to shape moral education, and to inform designs for social situations that will be more likely to counteract the problem of failed intentions.

our behavior, we are also likely to underestimate competing commitments and to underestimate the time and resources that moral action will require. For instance, I have agreed to attend a meeting tonight to decide on the annual goals for a park restoration project, a cause to which I am strongly committed. However, in making that commitment I did not take into account that I would have very little time with my infant daughter during the day today, or that my spouse has a project due tomorrow and will require assistance with childcare. I have good intentions to participate on the conservation project, but I also have good intentions to provide care and support for my family. Moreover, when it comes to acting to fulfill long-term goals, we often experience “ethical fading.” In the moment of action, the pressure of an earlier decision to do some unpleasant but important task can seem considerably less urgent than hunger, fatigue, simpler but less important projects, or the need to simply finish the work at hand, whether it meets our earlier standards or not.¹³

Second, social psychologists have shown that although the morality of our actions is unlikely to line up with our principled predictions, we are unlikely to notice or be bothered by our own moral failings. This tendency preserves self-respect but makes hypocrisy more likely. Valdesolo and DeSteno showed that experimental subjects pass moral judgment equally on themselves and others when their minds are otherwise occupied.¹⁴ That is, under conditions of “cognitive loading” while being kept busy by a difficult mental task, we pass judgment fairly on ourselves and others. The cognitive effort prevents revisionary judgment of our

¹³ Ibid.

¹⁴ Piercarlo Valdesolo and David DeSteno, “The Duality of Virtue: Deconstructing the Moral Hypocrite,” *Journal of Experimental Psychology* 44 (2008), 1334-1338.

own actions. However, given time to formulate additional rationalizations, subjects develop harsher judgments of others' moral actions and generate justifications for moderating their own self-judgments. Although this mechanism may protect the ego from paralyzing self-criticism, it skews moral judgment and diminishes motivation to achieve intended moral goals.

These psychological tendencies do not show that it is impossible to live up to moral intentions; they do show how difficult it is. They also provide clues for improving our self-understanding and anticipating the conditions under which we have a stronger or weaker will. In order to achieve the greatest impact through non-governmental collective actions, we should be prepared to study and utilize every available trick to methodically support each other.

IV

Behavioral Ethics and Collective Action

Fortunately, in addition to these observations about moral psychology which might make us cynical about human moral capacities, behavioral ethics reveals forms of moral reasoning which counteract this tendency toward failed intentions and that can therefore be exploited to reinforce our will to achieve moral goals. Because most of these techniques operate by triggering social impulses, they can be viewed as ways to enhance the moral behavior of communities. Even though we suffer from the problem of failed intentions as individuals, we may be better able to achieve our moral goals by acting in concert with others.

This paper began with a series of common complaints (excuses, perhaps?) for inaction in the face of global warming. We

suffer from uncertainty about what to do, uncertainty about whether what we do matters, and uncertainty about how it matters. We feel unprepared to answer these questions on our own, and this uncertainty can provide exactly the conditions under which moral hypocrisy and failed intentions occur. Research in behavioral ethics has begun to illuminate the conditions in which good intentions can be triggered and weakness of will overcome. Broadly speaking, there are three ways in which we can make use of findings in moral psychology and behavioral ethics to act collectively toward emissions reductions and attempt to overcome the phenomenon of failed intentions. *Intentional technologies* may be designed to make use of moral techniques to increase compliance with emissions reduction goals. *Moral education* may enhance awareness of moral commitments and techniques for achieving them. *Moral research* by philosophers, psychologists, and other social scientists and humanists may help us to overcome moral timidity, avoid hypocritical judgments, and accurately evaluate the weight of our moral duties. I will discuss each of these in turn. Though none of these techniques is new, research which combines ethical and philosophical engagement with social scientific evaluation of empirical results promises to increase these techniques' effectiveness at producing moral motivation.

The category of *intentional technologies* encompasses devices, architectures, practices, policies, and means of communication which can enable us to align how we *intend* to behave with how we *actually* behave when confronted with moral choices. Technologies can function by helping us to anticipate and prepare for ethical fading. That is, they can help us keep our moral commitments in mind even while confronting other pressures. Research has shown that these technologies can provide us with exactly the information we need to make a choice which will achieve a moral goal, thereby avoiding the paralyzing resignation

that is common when we are daunted by having too much or too little information.¹⁵

For instance, smart meters provide residential electricity consumers with better information about their energy usage, allowing people the opportunity to better control the amount of energy they use. One of the ways that smart meters are most effective is in reinforcing the idea that consumers have control over their energy use, and thus can be conscious of the choices they make. The Energy Orb, a sphere which glows different colors based on the variable price of electricity, provides real-time information about the cost of electricity to residential consumers in an intuitive and accessible form. One study of users of this technology found that they reduced their electricity consumption during peak periods by 40%.¹⁶ Likewise, cars such as the Toyota Prius provide drivers with information about their gas consumption so that they have the information they need to drive more efficiently. Although drivers may already know that driving slower is more efficient, the visible display acts as a reminder of that goal during the time when they are able to act on it, thus counteracting ethical fading.

Intentional technologies can also function by preventing the asymmetrical judgments about others' moral failings and our own moral justifications which give rise to hypocrisy. For instance, websites and apps can make use of social norming, which allows users to compare their own lifestyle choices or energy consumption to others like themselves. Social norming campaigns have been useful in counteracting misperceptions about others'

¹⁵ Richard Thaler and Cass Sunstein, *Nudge: Improving Decisions about Health, Wealth, and Happiness* (New Haven: Yale University Press, 2008).

¹⁶ Clive Thompson, "Desktop Orb Could Reform Energy Hogs," *Wired* 15 (2008), http://www.wired.com/techbiz/people/magazine/15-08/st_thompson.

behavior and can thus lead to more accurate assessments of one's own behavior relative to a social norm. The social media which are currently popular tools for generating social support for goals such as weight loss (the so-called "Twitter diet") could also be directed at a goal such as emissions reductions. When people make a public pledge, they are more likely to keep their goal in mind at the time of action or to take the viewpoint of an external observer who would judge them for moral hypocrisy. Communication technologies can exert an effect on the last stage of moral action, when actors look back at what they have done and recollect their actions with an unrealistic rosy glow. We misremember our actions as having met our moral goals and selectively forget cases of failed intentions. This selective memory phenomenon can be countered using data tracking to show people exactly how their own actions compare with others or with their own expressed intentions.

Moral education is a classic means of counteracting moral hypocrisy. In its contemporary form, moral education includes critical thinking and ethical reasoning techniques and curricula as well as education in moral psychology. Moral education, and ethics education, is a particular area where the training and tools of philosophers can make a difference in supporting collective action to curb climate change. One arena for ethics education is the college classroom and the university lecture hall. While scientists are accustomed to the idea of outreach activities, such as speaking to middle school students about the value of studying science, or speaking to various academic and non-academic audiences about the soundness of evolutionary theory or the empirical support for climate change, philosophers and ethicists are not as aware of opportunities to bring their areas of expertise into the public eye. In addition, ethical relativism (perhaps as a remnant of postmodernism) can be surprisingly common on university campuses. I found myself in such a situation not too

long ago, when a committee containing representatives from across campus organized a day of classes and public lectures on the topic of global warming. After inviting several keynote speakers, someone on the committee suggested that education about global warming would be incomplete without providing equal representation to climate skeptics. Only I and one other professor opposed this on the grounds that it misrepresented knowledge and that it appealed to a warped sense of ethical fairness. Discussions with committee members after this episode demonstrated to me that even though most agreed that the scientific evidence left no room for skepticism and that a climate change denier could only make a case based on false representation of scientific findings, they nonetheless believed that the open-minded thing to do was to include all views in this campus forum. However, when the issue was framed in moral and social terms, such as whether it would be acceptable to invite a racist to share the stage during a Martin Luther King, Jr. day program or a Holocaust denier to speak at a Holocaust memorial event, no one would acknowledge that this would be acceptable. Moral education and increased visibility for ethical reasoning on college campuses can help counteract moral timidity and provide opportunities to practice moral reasoning.

Philosophers are accustomed to thinking of their work as excavating difficult insights and constructing intricate, precise arguments regarding normative duties, metaphysics, causation, and so on. Communicating with our fellow philosophers about these topics is certainly a central task for the profession. While continuing with that work, we should not lose sight of our public role supporting critical thinking among non-philosophers. To that end, it is important to be sufficiently aware of moral psychology to understand how people excuse themselves from participating in ethical action and why people resist the more technical arguments that philosophers devise concerning the nature of our

moral responsibilities. The public is eager for philosophical reflection but often find philosophical research inaccessible; the public philosophy movement has accomplished much in devising suggestions for philosophical outreach.¹⁷

Finally, *research* in ethics, moral psychology, social psychology, and sociology can support collective action to counteract global warming. Research in behavioral ethics can evaluate whether the technologies listed earlier can maintain long-term effectiveness. Unfortunately, even when a technology seems justified by a good rationale, it can fail to achieve its purpose in practice. An example of a paradoxical result in behavioral ethics is the finding that under some circumstances, explicit incentives for a desired ethical behavior can actually inhibit that behavior. For instance, if a financial incentive is coupled with a desired behavior, then the financial incentive can displace the internal desire to act out of a sense of what is right, and the behavior, which may have been justified by an ethical calculation, may not seem as justified when assessed by a cost-benefit calculation.

Research in social psychology has also found that in some contexts people attempt to maintain a moral equilibrium, so that if they have acted in a way that counts as especially virtuous, they will grant themselves license to act less virtuously in a corresponding situation. This finding deserves special attention when it comes to implementing intentional technologies because it threatens to undermine the overall beneficial effects of personal reductions in climate emissions. For instance, someone might believe that turning down the thermostat a degree has produced an overall reduction in climate emissions, thus offering a moral license to indulge in a hot bath. One perceived sacrifice can seem to justify another indulgence, but this diminishes the effectiveness

¹⁷ The American Philosophical Association convenes a Committee on Public Philosophy, <http://www.publicphilosophy.org>.

of the initial sacrifice. Psychological research suggests that there are ways to counteract this tendency, for instance by adjusting moral expectations upwards over time. Social interactions can support gradually raising standards by allowing comparisons with what other people are doing. Thus, rather than comparing what we are doing now with what we used to do, by getting a realistic picture of social norms, we can find out that our sacrifice is not out of line with what others do. If we are engaged in a community of like-minded people, all of us committed to reducing global warming, then social norms can support a community which is changing its lifestyle over time.

Finally, philosophers can contribute to the social endeavor to address climate change by developing research projects which are tied to resolving the real aspects of this global problem. Ethics research, for example, can point to effective arguments and normative frameworks for evaluating actions with regard to climate change.¹⁸ We should also question whether the incentives in our profession are arranged so as to produce research that is effective in achieving insights into the moral aspects of climate change. How do we judge research that has practical implications, such as research in applied ethics? Is it judged as highly as more theoretical papers, such as in contemporary metaphysics? Are we rewarded for taking unexpected and less supportable positions—playing the climate change skeptic, for example—because they are philosophically interesting and because we value the challenge of playing devil’s advocate? Do we hold ourselves to a standard of sincerity and of responsible inquiry? Do we value taking

¹⁸ Sandler’s article (Ronald Sandler, “Ethical Theory and the Problem of Inconsequentialism: Why Environmental Ethicists Should be Virtue-Oriented Ethicists.” *Journal of Agricultural and Environmental Ethics* 23 (2010), 167-183.) is one such example of an approach which addresses the problem of inconsequentialism by outlining how virtue ethics can respond to it. There are many, many others.

intellectual risks? Do we form collaborations with researchers outside of philosophy to make better use of our intellectual capital?

Several arguments undermine the existence of individual moral duties to address climate change. But there is a collective duty that nations have not been willing to shoulder, thus prompting the challenge to conceive of social collectives and to analyze how people can act together to shoulder collective responsibilities in a way that encompasses rather loose forms of social cohesion. In the absence of an organizing authority, rather than succumb to cynicism we can learn from moral psychology how to spur collective action in informal communities in order to counteract the problem of failed intentions. (We can further hope that in democratic nations with representative governments, the initiation of widespread social action to mitigate greenhouse gas production might contribute to national policy action.) Research in moral psychology can provide the theoretical foundation for strategies and concrete steps that both allow us to shoulder our collective duty and, given what we know about social psychology, have a good shot at success. For instance, behavioral ethics reveals that humans are influenced by social factors such as how they appear to others when making moral decisions. Knowing this, we can make our decisions public in ways that will support our good intentions and help us achieve moral consistency and integrity. Further, in our professional role as educators and scholars, philosophers are well-positioned to raise moral awareness of climate change in the communities where we live, work, and teach. In sum, findings in moral psychology can be paired with techniques for enhancing the achievement of moral goals when, as in the case of curbing greenhouse gas emissions, the outcomes of moral decision-making are abstract and distant.

from the perception of individuals, but are urgent and compelling nonetheless.¹⁹

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¹⁹ I profited from numerous conversations with Melissa Ziankoski, who provided the initial motivation to explore this topic. David Suits and two anonymous reviewers helped me to refine, focus, and better express the ideas presented in this article.

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