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E. Victor, L. K. Guidry-Grimes (eds.), *Applying Nonideal Theory to Bioethics, Philosophy and Medicine* 139

https://doi.org/10.1007/978-3-030-72503-7_7

7. Individual Moral Responsibility in the Anthropocene

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7.1 Introduction to the Problem 7.1.1 Environmental Justice as a Complex Moral Problem

Sarah is a conscientious environmentalist. She is an affluent, politically engaged, knowledgeable consumer, and her concerns are wide-ranging. She wants to make a difference in the real world, and she wants to avoid participation in injustice. She knows that large-scale human activities have degraded local and regional environments, and that the continuation of these activities, together with widespread reliance on fossil fuels, pose systemic threats to multiple Earth systems upon which all life depends (Steffen et al. 2015).

Many scientists and historians now refer to the current period of Earth's natural history as the Anthropocene. The label gets its name from the unprecedented extent to which

human activity has an outsized, detrimental impact upon the rest of nature. However, Sarah also knows that the underlying issues of justice are easily masked by references to the Anthropocene. The reality is that we are not all in this together, in terms of cause or consequence. Not all humans are equally responsible for the environmental damages and environmentally-mediated harms that are occurring, and not all humans have borne, or will bear comparable burdens, now and over the course of the next century. For Sarah, the combination of localized environmental devastation, natural resource depletion, and existential threats to the planet is different from a tragedy or natural disaster analogous to the harm produced by a massive typhoon or an approaching asteroid. Instead, she understands that the current condition of the planet and the fate of its most harshly affected populations raise troubling questions of justice. Specifically, she is vividly aware that the activities that make possible a variety of benefits she enjoys come at the expense of those who shoulder the disproportionate burdens associated with every stage in the production of the material basis of modern life for the world's most affluent persons (World Bank 2005). She also knows that the harms to which her actions contribute generally accrue only as a consequence of the fact that billions of individuals engage in production and consumption activities that, taken in isolation, do not produce the relevant harmful effects. Two examples vividly illustrate Sarah's concerns.

First, the evolving system of large-scale agricultural production results in environmental burdens geographically concentrated among the poor, both within and across nations (FAO 2011). Industrial agriculture, which accounts for much of the affordable and securely available food for the global affluent, now resembles the typical pattern of extraction, pro-

duction, and disposal of hazardous substances that is conducted largely in environmental sacrifice zones (Powers and Faden 2019, 188–206). These areas are so known because the burdens of environmental degradation tend to be clustered in poor and politically marginalized communities, far away from where most of the more affluent consumers live. The effects include air pollution, deforestation, destruction of watersheds and wetlands, concentrations of toxic wastes, biodiversity loss, hazardous runoff from mining, drilling, and chemically intensive agriculture. These effects on the natural environment have corresponding effects on the people who live there. They include environmentally-mediated ill health, lack of access to clean water, destruction of the basis for their livelihood, disempowerment from their land, and long-term subordination to powerful political and economic entities that extract profit and leave behind a toll of environmental wreckage and human misery.

These current burdens and long-term risks are well-documented. For example, by 2025, two-thirds of the world is expected to experience intermittent shortages that interfere with the ability of people to meet their daily needs, and the burden is falling most heavily on poor, hot, dry low and middle-income countries (UN-Water 2017). Agriculture looms large in this discussion. It accounts for approximately 70% of all freshwater withdrawals worldwide and 85% in less industrially developed nations (World Bank 2007). The rapid pace of groundwater depletion is especially worrisome, and it is mostly due to industrial agriculture, overgrazing, and the deforestation that accompanies population growth, and the expanded land footprint of agriculture (UNEP 2007).

In addition, between 30% and 40% of the land under cultivation has become too degraded to support agriculture over

the long term, and options for expanding the footprint of agriculture are limited by the fact that roughly 70% of the world's arable land is currently used for some human activity, including agriculture (FAO 2015). The result is that the rate of topsoil depletion vastly exceeds the rate of replenishment in all regions of the world, but the equatorial regions bear disproportionate burdens (Pimentel 2006; FAO 2015; UNCCD 2017; IPBES 2018).

The widespread but localized environmental harms due to the widespread overuse of fertilizers, pesticides, and herbicides in large-scale agricultural production are well-known (World Bank 2007). In addition, however, the extensive use of all synthetic chemical compounds over the last 70 years has fundamentally altered the planet through changes in the air, water, soil, and even the global nitrogen and potassium exchange systems (Steffen et al. 2015).

The environmental footprints of meat are generally higher than for most plant-based foods. The production of grain for feeding livestock and poultry exacerbates problems of scarcity of water and arable land (Gerhardt et al. 2019; Budolfson 2015). In addition, the biggest driver of biodiversity loss has been the increased production of food for a population that has doubled in less than 50 years, and since 1980, more than half of this increase has been at the expense of intact forests, especially due to increased consumption of meat, now accounting for 70% of agricultural production (IPBES 2019).

Second, climate change and its associated harms add a further element of geographically disproportionate environmental impact and unjust distribution of its economic and health burdens. As a result of climate disruption caused by activities that increase the atmospheric concentration of greenhouse gases, overwhelmingly the poor will be hurt first and worst

(IPCC 2018). On a global scale, many of the most severe consequences are expected to fall upon the hottest, driest, poorest tropical countries with economies that are heavily dependent upon small scale agriculture, most reliant upon rainwater for irrigation, most affected by drought and desertification, and least able to bear the costs of adaptation (IPCC 2014; Powers 2015). By and large, many of those who are being harmed severely, and perhaps irreparably, and who will continue to suffer the most, have benefited the least, and contributed relatively little to the problem of global warming.

Moreover, poor communities within virtually every nation tend to suffer disproportionately. They generally reside on the least agriculturally productive land, as well as the physically most vulnerable terrain, routinely subject to floods, erosion, and geological instability. They also generally lack the essential services and infrastructure protections that can provide a hedge against natural disasters (UN-Habitat 2003; Powers 2016; Powers and Faden 2019, 220-223).

Both examples involve harms produced by routine, uncoordinated activities of many people. Building a fire in a wood stove, taking a long flight to Copenhagen, clearing a patch in the forest for a garden, paving the driveway, taking a long hot shower, downloading a video from the internet, having a celebratory 7 course meal, storing food in non-degradable plastic containers, and going for an afternoon drive are not in themselves sufficient to cause grave harm to people or the planet. Nor do they seem to merit moral disapproval in the straightforward way that we often think of certain actions – torture, for example – as categorically wrong in themselves. Indeed, the activities resulting in localized and planetary-scale harms are often undertaken for morally benign or even salutary purposes, but the cumulative negative effects and their

concentration are becoming so well-known that the age of environmental innocence is coming to an end.

Sarah also knows that the nature of the moral problems posed by climate change and many other examples of environmentally-mediated group harm are more complex than often described in discussions of group harm. They are often presented as problems that arise only when the effects reach some threshold or tipping point, colloquially elucidated in terms of small changes at a particular moment in time that can bring about large-scale, long-term catastrophic consequences (Gladwell 2000). However, this account is somewhat misleading with respect to most human-induced changes to the environment and their accompanying harms to human beings. Most environmental harms do not arise in a way analogous to the addition of a single drop of water causes a full glass to overflow.

The better comparison is to the problems of congested highways. One more automobile on the road does not tip the balance, immediately converting an easily navigable thoroughfare into traffic gridlock. To be sure, at some point, the road can become impassible, but harmful consequences accrue gradually as travel becomes progressively more difficult. The highway continues to serve its function, only less adequately. Many environmental harms tend to accrue in the same manner. While some catastrophic environmental changes may be abrupt, or even irreversible, environmental degradation often sets in gradually, causing significant harm well before reaching a catastrophic tipping point. This description holds for harmful levels of greenhouse gas concentration and in cases of ordinary, localized effects of cutting down trees, consuming water, using and disposing of plastic products made from petrochemicals, and expanding the land footprint of the built environment, thereby pushing back the frontiers of wild na-

ture. While human activities have significant environmentally mediated harmful effects on people and the planet when the types of activities are widespread, engaged in by many people, and repeated over extended periods of time, the accrual of harm usually does not wait until a catastrophic tipping point is reached or a discrete threshold is breached (Powers 2018b). The fact that “what we all do together” has consequences in the here and now, and not at some distant moment when a catastrophic tipping point is reached, adds to Sarah’s sense of urgency, not only for preventive action, but for the sake of gaining a better understanding of her own moral responsibility and the implications for a whole way of life.

7.1.2 Moral Intuitions: Is the Idea of Individual Responsibility for Group Harm Quixotic?

Even though Sarah knows that individuals acting alone are not the sole cause of harm to people or the planet, she wants to live up to her deepest values and she wants to make a difference in the real world. Even though she is uncertain just how much difference she might make by changes in her lifestyle, she believes that failure to let her daily activities be guided by the outcomes that she rightly values is morally condemnable. Sarah feels the moral tug of guilt, regret, or unease just from knowing that her individual actions contribute, often in very small ways, to avoidable, progressively evident, systemic patterns of environmental injustice.

However, many philosophers think that Sarah and others like her have made a mistake. The skeptics agree with those who say that individuals have no individual moral duty or personal responsibility to change their behavior because, on reflection, they are correct when they conclude, “It makes no

difference what I do.” The animating thought is that, absent some basis for thinking that a change in individual behavior will result in a reduction of aggregate harm, the ground for moral condemnation of individuals is elusive (Sinnott-Armstrong 2005). Literally, on this view, one might say “it’s not my fault,” given the fact that harm only accrues after enough people engage in the same – otherwise morally benign – activities.

Skeptics of this sort do not necessarily deny the existence of any injustice. Nor do they all reject the idea of a need for assigning moral responsibility for prevention or remedy. The typical claim is that only collective responsibility is relevant in cases of group harm, and that the primary duty of individuals is to participate in and promote collective solutions (Cripps 2013). The search for a rationale by which we can assign and specify individual responsibility, by contrast, is likely to be misguided and perhaps counterproductive (Jamieson 2014).

It might even seem that in Sarah’s case, the aspiration to make a difference is particularly quixotic. Unlike those who focus only on one issue, such as climate change or factory farms, the relevant outcome guiding Sarah’s actions is multidimensional and breathtaking in its scope. As Sarah well knows, a whole way of life for people like her seems to be implicated. The breadth of her concerns might appear to skeptics as further grounds for dismissing her intuitions that her personal choices raise profoundly troubling questions about individual moral responsibility. How could Sarah possibly make the kind of difference that she herself thinks of as morally called for? And if she cannot make such a difference, then is her own moral unease simply irrational?

The task of this chapter is to make sense of Sarah’s moral intuitions. The first step is to situate Sarah’s moral discom-

fort within a context of philosophical debates about ideal and nonideal theory. The remainder of the chapter examines three leading strategies for understanding what, if anything, makes individual actions wrong or morally irresponsible, when such actions are neither necessary nor sufficient to cause harm.

The first strategy for answering questions about individual moral responsibility involves the claim that in many instances our individual actions do make a morally important market difference. The argument explains how ordinary individual consumer choices in the marketplace can trigger a difference in corporate production decisions. The second strategy locates the relevant difference by pointing to the share of total harm that can be apportioned to each individual, for example, by one's personal greenhouse gas emissions footprint. A third strategy focuses on the difference that individual conduct makes to the risk of harm, in particular, risks of harm generated through non-linear climate processes. Unfortunately, none of these strategies offer Sarah an explanation or validation of her moral intuitions.

The alternative proposal developed in the final section explains the wrongness of certain individual actions in cases where actual or expected difference-making is unlikely, there is no sensible way to apportion an individual's share of the total harm, and no individual's action makes a clear difference to the risk imposed on others. This strategy focuses on the difference that individuals make in their moral relations with others, even if they have reason to expect that the actions guided by a desired outcome are unlikely to be successful.

7.2 Nonideal Theory

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Individual responsibility for injustices that arise as the cumulative consequence of the uncoordinated actions of many persons and institutions has been characterized as a problem of nonideal theory (Budolfson 2018). In part, that characterization is based upon objections to the use of a priori arguments within practical ethics, in contrast to arguments based on concrete empirical conditions in which market and political decisions are made. (See Sect. 7.3). The aim of this section is to say more about how the arguments in this chapter, including a principle of reciprocity defended in Sect. 7.5, figures within a mode of nonideal theorizing.

The phrase entered the philosophical lexicon through the work of John Rawls. There is a huge literature on nonideal theory generally, as well as more specific disagreements on how Rawls conceptualized nonideal theory (Valentini 2012). I will elaborate on three points that seem to me central to the way Rawls most often employs the concept, not for the purpose of defending an interpretation of his theory, but simply because examining some of its key elements is useful for shedding light on the broader issues in theorizing about justice. I first distinguish between ideal endpoint principles and idealized assumptions about the social conditions in which these principles apply, and second, I distinguish two types of idealized social conditions, enduring empirical conditions and normative preconditions. I conclude this section by explaining my rationale for pursuing a particular approach to nonideal theorizing.

7.2.1 Ideal Endpoint Principles and Idealized Social Conditions

Rawls's theory of justice is the paradigmatic example of ideal theorizing in contemporary moral and political philosophy.

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The central aspiration of his hypothetical contract model is to generate a set of principles of distributive justice that are ideal in the sense that they are deemed sufficient for the fair regulation of a scheme of social cooperation. Such principles represent the endpoint of philosophical reflection. Ideal endpoint principles are designed for the assessment of institutions. They are not intended to provide direct practical guidance for individuals under circumstances that Rawls calls conditions of partial compliance. However, defenders of ideal endpoint principles often argue that we must have a reasonably clear understanding of the ideal regulative principles we should strive to implement at the institutional level (Simmons 2019; Shelby 2004). For example, it is sometimes argued that endpoint principles are necessary to generate principles of transitional justice, or ones that identify necessary steps, improve compliance with ideal principles, or establish the practical priorities necessary in order to make the transition to a fully just social order (Williams et al. 2012; Sher 1997).

In order for Rawls's project to get off the ground, he needs a second type of idealization. He must specify the social circumstances that his endpoint principles are meant to regulate. Rawls calls this conception the "circumstances of justice." However, we need to distinguish further two types of social conditions upon which his and similar theories depend. For simplicity, we can call these enduring empirical conditions and normative pre-conditions.

7.2.2 Enduring Empirical Conditions and Normative Pre-conditions

Enduring empirical conditions are ones that are assumed to remain in effect as part of the background in circumstances

that generate the need for distributive principles in the first place. For example, Rawls imagines the permanence of conditions of moderate scarcity and limited altruism (Rawls 1999a, § 22). In other words, his aim is not to develop a theory of a just society, understood as a kind of post-scarcity paradise. Nor does he suppose that a fully just society will put an end to competition for scarce resources or usher in an era of pure altruism. Rawlsian ideal theory then, is not robustly utopian in the way orthodox Marxism is. There will always be a need to set social priorities, adjudicate among competing claims of self-interested parties, and distribute economic resources in ways that members of a society could be persuaded to accept as fair. In short, ideal theory is not necessarily equivalent to utopian theory.

Normative pre-conditions, by contrast, are not background assumptions about the enduring circumstances that explain why some principles of distributive justice will be required. Rawls's theory also draws upon assumptions about the social conditions that are normative pre-conditions for the application of his distributive principles. Rawls's approach in this respect is not unique. Moral and political philosophers routinely rely upon deliberately counterfactual assumptions as a way of demarcating the domain of a principle's application (O'Neill 1988). Two examples from Rawls's theory illustrate this point.

First, Rawls, in his later work, insists that his distributive principles only apply to societies that guarantee human rights that secure the satisfaction of basic needs (Rawls 1999b, 65, n. 1). He even construes this guarantee as a lexically ordered principle that takes priority over his other distributive principles (Rawls 1995, 7). To put matters slightly differently, his distributive principles are assumed to be applicable only in "favorable circumstances" (Rawls 1999a, 216; Rawls 2001, 4).

Under favorable circumstances the basic needs of all are met, and thus, the residual normative problem is the distribution of an economic surplus among claimants, all of whom are above a moral threshold of well-being (Rawls [2001](#), 128–130, 139, 162). In response to critics who accused him of thinking that there are existing examples of such societies, including the United States, Rawls in various venues denied that current societies satisfy the “conditions of background justice” necessary for the application of his principles (Forrester [2019](#), 126).

Second, a further normative pre-condition for application of his ideal endpoint principles is that the relevant societies are composed of free and equal citizens. Critics seize upon the fact that even societies that adhere most closely to some crucial norms of Rawlsian justice are marked by racism, sexism, and other hierarchical ideologies that contradict the free and equal citizenship premise. A powerful criticism is that this particular kind of idealization abstracts from and obscures social conditions that are among the morally most urgent to address (Mills [2005](#)).

Rawls replies that, while he recognizes that both of these pre-conditions are counterfactual assumptions for much of the world, their purpose is to bracket, not gloss over the existence of well-known problems such as racial discrimination and gross deficiencies in basic human needs. These two problems are set aside in order to focus on questions of fair economic distribution of an economic surplus, once problems of justice that Rawls himself classifies as “more pressing” have been addressed (Rawls [1992a](#), 8). The upshot is that his ideal theory – composed of what I call endpoint principles and normative pre-conditions – is not designed to address directly many kinds of concrete, real-world injustices that even he thinks of as morally more urgent, and for which the back-

ground conditions for application of his principles are not in place.

7.2.3 Some Shortcomings of Ideal Theory

In other words, the consequence of employing these kinds of normative pre-conditions and focusing only on endpoint principles that kick in only when those pre-conditions are met, is that ideal theory is unable to offer immediate practical guidance for the world as we find it. It cannot address some of the centrally defining real world problems of extreme poverty, patriarchy, or the condition of most of the world’s population in the face of concentrated, unaccountable political and economic power. It only tells us what justice requires once these problems are safely behind us. Moreover, given Rawls’s narrow focus on inequalities in wealth and income it cannot assess the unfairness of differential patterns of environmental burdens, and more importantly, it cannot identify injustices in the underlying power relations that determine key decisions regarding resource extraction, production processes, and disposal of the wastes generated by modern societies. Nor can it shed light on the phenomenon of intersectionality, for example, instances in which racism, sexism, and economic disadvantage work together to compound and entrench deprivation or lock in mutually reinforcing patterns of subordination (Crenshaw [1991](#)).

I have not attempted to inventory or classify all of the idealized assumptions Rawls relies upon. There are others, for example, conceiving of societies as economically self-sufficient and self-contained, largely impervious to external economic and political influences on its distributive possibilities (Powers and Faden [2019](#), 109–111). However, the common thread running through all of my examples here is that questions about

power in real world contexts – both market power and political power – are not part of the account of the social conditions the theory brings to the forefront for moral scrutiny.

Nonetheless, Rawls claims that the endpoint principles of ideal theory offer “the only basis for the systematic grasp of more pressing problems” (Rawls 1999a, 8; Cf Rawls 1999b, 90). Other theorists reach the same judgment (Simmons 2010). Their argument seems to rest on the idea that the proper task of nonideal theory is to generate transitional principles, or principles that depend heavily upon ideal principles to define the ultimate object or endpoint. However, my claim is that unjust forms of power and disadvantage embedded in systematic patterns of social organization can be identified without knowing in advance the full set of regulatory endpoint principles that would govern a fully just society. In fact, the ultimate justification of Rawls’s own endpoint principles of economic distribution depends on whether they are adequate for addressing independently identifiable forms of unjust power relations. At various points, Rawls appears to agree, for example, when he notes that an important purpose of his distributive principles is prevention of the emergence of unjust patterns of domination by politically and economically powerful social groups (Rawls 2001, 44, 130–31, 148).

If these claims about the existence of independently identifiable forms of unjust power relations are correct, we can and should pursue a form of nonideal theorizing that can help us generate practically useful freestanding, mid-level principles (i.e., ones that are neither transitional nor endpoint principles) that proceed from and offer guidance for addressing empirical realities, in particular, unjust power that is exercised in markets and within political and other institutions.

To be sure, the economic inequalities identified as unjust by Rawls’s endpoint principles routinely co-travel with unjust forms of power, but the point is that the injustice of those power asymmetries is neither reducible to the injustice of economic inequalities nor are they necessarily remedied by implementing Rawlsian principles of economic redistribution. Unjust power relations are normatively distinctive, pre-theoretically identifiable, but systematically ignored by his and many other forms of ideal theory. That said, my claim is not that the enhanced capacity for scrutiny of unjust power relations is the only virtue of nonideal theory. However, such a shift in practical focus is important enough to make it the centerpiece of a nonideal theory of environmental justice for two reasons.

First, an important reason that many ordinary individuals like Sarah lack significant ability to make a difference to the way things go has to do with the way power is concentrated within political and economic institutions that increasingly span the globe. There is no effective way simply to opt out or to avoid the environmental impacts of what others do. They simply live in the grip of social forces largely controlled by others, and this is true of relatively privileged individuals like Sarah. Second, Sarah’s own lifestyle choices entangle her in morally problematic power relations that stand in need of the kind of scrutiny that ideal theories often cannot provide. She benefits from a system which systematically offloads environmental burdens and generates diminished life prospects for others, who, even more than Sarah, lack effective capacity to escape or avoid. Sarah is thus caught in the middle, constrained by powerful social forces, and yet party to and beneficiary of the power that she and others in her social position have over the occupants of less powerful social positions. Ideal theory suffers

from its inability to reflect on Sarah's responsibility in such circumstances.

7.3 Making a Market Difference

7.3.1 The Basis for Sarah's Food

Consumption Decisions

Sarah does not want her choices to contribute to the very system of food production that makes a rich and diverse diet possible for her and has the potential for undermining the ability of others to meet their most basic needs. Given the large greenhouse gas contribution of meat, its substantial water footprint, and the additional land area required to raise livestock, she thinks that reduction of meat consumption is a good way to address a number of interrelated environmental concerns. Moreover, she is concerned about a range of widely reported environmental and economic consequences of large-scale chicken and beef production. Massive pollution of waterways, exploitative producer contracts, precarious employment arrangements, reduction of the local prevailing wage, and more deeply entrenched patterns of political disempowerment are among the many consequences of the geographic concentration of agricultural production facilities (Constance 2008; Powers 2018a).

Although Sarah is concerned about inhumane treatment of animals, she does not reject eating meat on the grounds that it is wrong in itself. Accordingly, making a difference to the environment, the lives of people involved in the industry, or the organization of the global system of food production, must be central to her decision-making. Because her concerns about her actions are rooted in their consequences, her decision pro-

cess is heavily dependent upon the way the world really is and what impact she can expect to have.

7.3.2 The Example of Factory-Farmed Chicken

Will giving up factory-farmed chicken make a difference to the global food structure and the environmental consequences she hopes to avert? Quite a few philosophers argue that the individual decision to forgo chicken consumption is likely to make a morally relevant difference.

Peter Singer, Shelly Kagan and others argue that one ought to do whichever available act has the greatest expected utility, or in other words, one ought to do what will have the best expected outcome (Singer 1980, 335–336; Kagan 2011, 124). Their argument, in a nutshell, is that it may be unlikely that Sarah will make a substantial difference, for example, if she forgoes the purchase of a factory farmed chicken (or vote in an election). Nonetheless, in such cases she ought to forgo the purchase (and vote) anyway because there is so much to be gained, even if the probability that her action might make a substantial difference is low, as long as her action does not involve significant inconvenience or loss to herself.

The underlying assumption in both the voting example and the chicken purchasing example is that they are instances of a kind of collective action case that Julia Nefsky calls a triggering case. As she puts it “[s]ome act triggers the relevant outcome: a threshold number n of acts of a certain type is needed for particular morally relevant outcome, and so when the n th act is performed, this triggers the change” (Nefsky 2011, 370). Voting seems to be a clear example of a triggering case. If there is much at stake, and Sarah's vote just might break a tie, the expected utility of going to the polls on the long-shot chance that she will prevent some awful candidate from winning is

reason enough to vote. Probabilities may be low, but in high magnitude cases, expected utility theory calculations provide an a priori reason to go vote.

The expected utility argument assumes that chicken purchasing decisions are relevantly similar to voting cases. In Kagan's version of the example, if a butcher orders crates, each containing 25 factory-farmed chickens, and he does not reorder until the 25th chicken is sold, Sarah should choose not to buy a chicken, even though it's unlikely that her refraining from purchase would have been the 25th sale that would trigger the outcome she seeks. Kagan's assumption is that there *must* be some threshold which determines how many factory farms are in operation, and that if consumers reduce demand below that threshold, the industry will go into decline. Thus, the right choice in every instance is to refuse to purchase a chicken. A consumer's refusal just might keep the butcher from ordering another crate and thereby reduce the number of factory-farmed chickens produced and the bad consequences that accompany this mode of production.

However, Nefsky argues that there is no empirically defensible reason to assume that a single triggering act is involved in the way butchers make their ordering decisions or reflects a realistic basis upon which producers respond to small changes in demand. Butchers might make their reordering decisions based on any number of considerations other than timing their actions to when the current stock is depleted. They may look to what competitors are doing, their advertised specials in progress, or statistics about past sales (Nefsky 2011, 370). In other words, there is simply no grounds for supposing that there are discrete events that trigger a difference in production outcomes analogous to the way that a single vote in fact can decide an election. One vote may be the triggering event

that decides an evenly split election, but there are probably no similarly precise thresholds at which changes in any individual's purchasing behavior is a tipping point in food production decisions.

Nefsky offers the example of overfishing as a more realistic explanation of how environmental collective action problems typically work. There may be no sharp boundary between a fish population that has a healthy ability to replenish and a population that is in decline. It is unlikely that taking any single fish from the water can be identified as the tipping point that makes the difference. It's more likely that when enough anglers begin to increase the size of their catch the population will go into gradual decline (Nefsky 2011, 377-78). All we know is that the worst-case harm will not materialize until there's enough overfishing sufficient to undermine rates of replenishment.

Moreover, there is no reason to suppose that tiny changes in consumer demand, even if such information does figure in the butcher's decision whether or not to order another crate of chickens, affects upstream production decisions in the way the usual examples imagine. Mark Budolfson argues that we can and often do know enough about supply chains to know that production decisions don't get made in the way the standard examples assume. The reality is that producers make production decisions that build in a buffer to accommodate slack in sales (Budolfson 2018). They know that they will often overproduce relative to demand, and so their pricing reflects the expectation of slack in demand. They know that some excess will simply be wasted, given away, or sold at deep discount to manufacturers of dog food. Because even quite substantial reductions in demand are unlikely to make a difference to their production decisions, there is virtually no chance that any

consumer's decision will make a difference. The reality of the marketplace is that production decisions are not as sensitive to changes in demand as the standard examples assume.

Nefsky argues along similar lines. She sought information about the size of the buffer in the chicken industry to determine whether an individual's action is likely to make a production difference. An executive of one of the world's largest chicken production companies explained that even a 5% decrease in demand would make no difference to their business model (Nefsky 2018).

The upshot is this: if Sarah thinks that her moral responsibility is grounded solely in her desire to make a difference to the outcome, then she has to rely upon realistic considerations of expected utility. She cannot follow the advice of those who simply assume, contrary to available empirical evidence, the existence of discrete triggering events as a basis for determining what she should do. Considering whether and how consumers might make a market difference depends upon a real world understanding of how markets work.

7.4 Making a Climate Difference

7.4.1 How Climate Harms Are Produced

Climate scientists emphasize the importance of limiting the atmospheric stock of greenhouse gas emissions to 450 parts per million (ppm). This emissions target must be met in order to limit the rise in global temperature of 2 degrees Celsius (or better still, 350 ppm for an estimated 1.5 degrees) above a pre-industrial baseline in order to avoid catastrophic, potentially irreversible climate-related harms (IPCC 2018). However, climate harms are occurring now, and they are increasing as

atmospheric stocks continue to climb. An upward movement will lead to more climate disruption, more droughts in dry places, more rainfall in wet places, more deaths, higher prevalence of tropical disease, more dislocation of people, and so on (WHO 2003).

Does Sarah have a moral obligation or responsibility to refrain from going for a long leisurely afternoon drive in a gas guzzling SUV? The standard answer is that she does not. The conclusion is premised on the assumption that her action does not cause global warming, disruptive climate changes, or their related harms (Sinnott-Armstrong 2005, 299). The argument has two parts. The primary argument rests on the claim that an individual's act is neither necessary nor sufficient for any discrete climate harm to occur. A secondary argument is that there is no reason to single out the emissions from an individual's leisure drive as an especially morally salient cause of climate harms (Kingston and Sinnott-Armstrong 2018).

I'll postpone discussion of the salience argument and focus on the first line of argument. The thrust of that argument is that the emissions from an afternoon drive are too small to make a difference to global warming or to alter the extent of harms due to climate disruption. More specifically, small additions to the total stock of greenhouse gases, on their own, cause no additional, identifiable harm. Harm only occurs as a result of the aggregate, uncoordinated contributions of billions of people around the world over many years.

Climate disruption is assumed to be an example of a kind of moral problem that Derek Parfit describes when he speaks of harm produced by "what we all do together" (Parfit 1984, 70). These are cases in which it often seems that the harm that results from what each individual does cannot be disaggregated, such that the precise quantum of moral responsibility for the

harm that can be attributable to each person can be calculated. Sarah's leisure drive causes no more deaths, no loss of arable land, no flooding, no heat waves, and no other discrete harmful effects. Thus, it is difficult to see how Sarah wrongs anyone, or that she has any moral responsibility to abstain from her leisure drive.

7.4.2 The "Share of the Total" View

Parfit offers an influential suggestion for how we should think of individual moral responsibility in cases of group harm. He defends what he calls the "share of the total harm view." We can calculate the total harm done by what we do together and divide it by the contribution of each individual. In climate change cases, if we can calculate the total harms due to climate change, then we can estimate the individual's contribution. For example, on some estimates as many as 300,000 deaths annually can be attributed to the accumulated stocks greenhouse gases (Cullity 2019, 24–25). Using the 300,000 deaths per year estimate, the average individual share of deaths for which each person is responsible can be calculated. Alternatively, we could follow John Broome's proposal to use social cost of carbon calculations as the metric of harm (Broome 2019, 111). By one estimate, for example, the average academic would be responsible for \$40,000 of social cost imposed upon others over a lifetime. However, the share of the total harm view faces two objections when applied to cases of contribution to climate disruption.

First, it's implausible to apportion moral responsibility to individuals based on average per capita emissions. If we assume that the purpose of such calculations is to make an appropriate, fine-grained discrimination among differentially culpable agents, then attribution of moral responsibility based

on averages misses the mark. Knowing the average per capita emission tells us nothing about what Sarah should do. At minimum, we want to know about differences between the contributions of large and small emitters.

Second, even if we have the relevant information about proportionate contributions of emitters, assignment of moral responsibility should not proceed on the assumption that all emissions are on a moral par. Some emissions are for benign, worthwhile, or even noble purposes, while others are frivolous, trivial, or dishonorable. Henry Shue's distinction between luxury and subsistence emissions brings home the point that moral responsibility is as much a function of the social value or disvalue of those emissions as their quantity (Shue 1993). Imagine two high-emitting billionaires. One travels the world in his private jet to attend every rock concert performed by his favorite band. A second billionaire travels around the world promoting the necessity of political action to fight climate change. Their causal contributions may be comparable in size, but that fact tells us nothing about the moral comparability of their actions or their responsibility.

7.4.3 Risking and Wronging

Another way of understanding what makes an action wrong even when it does not result in actual harm – or an attributed share of total harm – is the risk it imposes on others. The rough idea behind a plausible account of wrongful instances of risk imposition is that an agent's conduct exposes others to an impermissibly high probability of significant harm. The probability that qualifies as impermissibly high and the magnitude of harms that count as significant are open to disagreement, but most people would agree that it is wrong to create an avoidable risk of grave harm to life or health of others simply to secure

a slightly better life for ourselves. For example, an automobile driver speeding through a residential neighborhood just to get to the supermarket a few minutes faster wrongs the people it endangers, even if no is injured (Kumar 2018).

The attraction of a conception of wrongful risking is that it preserves the action-guiding role for an agent's concern about avoiding a bad outcome without having to appeal to the existence of an actual bad outcome as the explanation of an action's wrongness. It allows us to conclude that certain types of actions, in well-defined circumstances, are wrong because of their unacceptable risk profile.

What about the application of a risk-based approach to the relevant difference that matters in the climate change context? John Broome and Holly Lawford-Smith defend versions of such an approach. Lawford-Smith concludes that "individuals have duties not to perform the actions that can be reasonably be expected to cause certain kinds of harms." (Lawford-Smith 2016, 76). Broome says that emissions may or may not do harm, but they certainly increase the expectation of harm (Broome 2019, 110).

What about our SUV drive? In the normal course of things, the harm that is expected for an afternoon drive is probably near zero. Even a whole lifetime of extravagant living may not produce much added risk of harm. Even an afternoon of emissions from a highly inefficient coal powered electrical plant might add only trivially to the risk of climate harms produced by the gradual rise in levels of atmospheric greenhouse gas stocks. To the extent that we think about climate harms as a function of continuous linear processes, most incremental contributions by individuals are described accurately as doing no harm or magnifying the expectation of harm.

7.4.4 Triggering Non-linear Climate Risks

One argument is that we need to look beyond these scenarios involving a gradual rise in greenhouse gases. There are non-linear climate system processes that also are important for understanding whether an individual's episodic emissions create an unacceptable risk. For example, it is possible that climate processes involve a series of steps, or natural thresholds, marking the point at which a new storm is triggered or a storm is made more destructive (Lawford-Smith 2016, 67-71, 75-76). Alternatively, because of the chaotic nature of the climate system even very small upward changes in total emissions (an instance of the butterfly effect) could produce large-scale differences in weather patterns (Broome 2019).

The probability that an isolated individual's action would trigger these kinds of effects is a matter of deep uncertainty, as both Lawford-Smith and Broome acknowledge (Lawford-Smith 2016, 68-76; Broome 2019, 117). However, Broome's conclusion is that we have moral reasons to forgo emissions because the consequences of doing otherwise would be dire (Broome 2019, 119). Once again, we have an example where expected utility calculations are at work, but even if there are discrete triggering events of the sort that are absent in the chicken purchase example, the new problem with this kind of argument is that it does not help us decide which among all the small emissions activities we should forego. Presumably, if we place the weight of the calculus on the magnitude of low probability, non-linear harm, we should not do *anything* that produces a net increase in emissions.

How might we avoid the lack of any standard for discriminating among risky activities? Broome's argument builds on an analogy to the responsibility of cruise ships to carry life

boats. The likelihood of needing the lifeboats is very small, but the magnitude of expected harm is so great that there's a morally weighty reason to take the precautionary steps to include them (Broome 2019, 1.19). However, this analogy is not helpful. The comparison between shipping risks and risks of non-linear climate change risks conceals much that is normatively different between the two cases. In the lifeboat case we have relevant information necessary to make moral judgments regarding acceptable risk. The probability of shipping accidents is readily quantifiable, the mechanism of harm production is well-understood, and the means and costs of risk reduction are known. Climate risks due to non-linear natural processes are not at all similar to these cases. The radical uncertainty in our understanding of the mechanisms of climate harm production, and hence the absence of relevant information about means and costs of prevention, undermines our ability to make risk assessments of the sort made by the shipping industry.

Two further issues of deep uncertainty pertaining to the causal mechanisms reveal further problems with arguments that rest on the highly speculative link between an individual's emissions and the harm of non-linear processes (Winsberg et al. 2019).

The first issue is the difficulty in attributing the increases in number or severity of certain event types, such as increased rainfall, storms, tornadoes, hurricanes, and so on to climate change. As it turns out, even attribution of event types to climate change processes – much less an individual's emissions – is not that straightforward. For example, scientists have relatively low confidence in detecting a link between tornadic activity and climate change. By contrast there is more confidence

in the causal link between climate change and heavy rainfall events and extreme heat (National Academies 2016).

The second issue has to do with attribution of singular events to climate change. The issue is whether this particular storm is attributable to climate change. Whether a singular weather event, such as Hurricane Harvey in 2017, was made more destructive by climate change due to higher ocean heat, or attributable primarily to other factors such as La Niña, is even more difficult to determine (Hayhoe et al. 2018).

Consequently, attribution of non-linear climate harms to individual activities is two steps removed from what climate attribution theory is currently able to accomplish. If we don't have great confidence in attributing certain types of weather events to climate change itself, and we have even less confidence in attributing singular events of each type to climate change processes, we are missing the sort of information usually seen as central to judgments of when we have moral responsibility to take steps to manage risk.

7.4.5 Salience and Unacceptable Risk

The discussion of risk takes us to the second version of the argument developed by Kingston and Sinnott-Armstrong. Determining whether risk of harm creates moral responsibility to avert it always goes beyond the mere recognition of a potential causal link to a harmful outcome or risk of harm. Suppose that a leisure drive does increase risk of a non-linear effect. Added risk alone, even risks involving high magnitude harms, settles nothing morally. Judgments of acceptable risk turn on the identification of salient causes. When there are multiple causal factors at work, it is a commonplace observation in both legal and moral theory that we need some way to discriminate among the causal contributions in order to decide which ones

warrant assignment of responsibility (Hart and Honoré 1985). Even in relatively simple cases, like the example of a speeding motorist, there are multiple causally implicated agents, and for the purposes of assigning blame, liability, or some preventative responsibility we necessarily must pick and choose among them. As Annette Baier has argued, we always have to decide which harms and risks of harms to notice as the morally salient ones meriting condemnation, regulation, or assignment of a duty to protect against (Baier 1986, 49).

To be sure, the notion of salience is difficult to pin down, but a number of factors have been suggested as relevant. Some impositions of risk are consented to, or they are so trivial in nature that we are entitled to ignore them, while other risk impositions, although considerable, are justified because the expected benefits outweigh the expected harms. Among leading proposals are suggestions that primary causal responsibility be assigned to agents who can avert a risk at least cost (Wenar 2007). Often, we make such judgments by examining the typical circumstances of occupants of certain roles, such as automobile operators, train conductors, gun shop owners, or handlers of explosives. Our concern is trained on assessment of those in the best position to take preventative action. Judgments about the relative financial or cognitive burdens of attending to the potential for harm also figure in the identification of the agents best positioned to prevent an unwanted outcome.

Within moral theory, sometimes the point about salience is put in terms of the background contributors we classify as spurious causes, for example, ones that make a negligible difference to the outcome, or causal contributions that are thought too small to count, or ones that merit condemnation because they are unusual, rare, abnormal, or out of the ordin-

ary scheme of things, unreasonable, and so on (Lewis 1973; Lewis 2000). Whatever definition of spurious causes we use, the lesson is that for all normative judgments of causality, where the aim is to assign blame or liability for harms, or allocate responsibility prospectively for risk management, it is never a simple matter of getting some causal story straight.

Quite often, there are no natural places to draw the line based on what is too small, too rare, too remote, or too improbable to count, or conduct that is so unusual or so unexpected that responsibility should attach (Gunnemyr 2019). Even very unlikely outcomes can be deemed causally relevant for normative purposes as long as we have sufficient reasons to place the socially assigned responsibility on the occupants of some role. In the climate change case, there are no clear, ready-made answers. We might argue for focusing on environmentally clueless leisure drivers, owners of coal-fired power generation facilities, industry executives who hide or deny their knowledge of the science behind climate change, individuals who embrace high emissions lifestyles, or some other category by which we identify morally salient contributors.

Perhaps no single criterion captures the one concern that is normatively most salient in all circumstances, but the mere presence of a causal link between an agent's activities and harmful outcomes or the imposition risk of harm is never sufficient for normative purposes. However, as a general rule, we look to states of mind, for example, in legal theory where judgments about the violation of a duty of due care, or reckless disregard or indifference to the well-being of others is at issue. Because all of our daily activities causally contribute to harms, we often take special note of the presence of ill will or culpable indifference to the welfare of others, and as the harmful effects of certain kinds of activities become common knowledge we

update our assessment of even the most routine, previously accepted activities (Baier 1986, 64).

7.5 Making a Relational Difference

7.5.1 Moral Indifference and Business as Usual

Perhaps the growing numbers of individuals like Sarah who sense that something is morally amiss about actions of relatively trivial importance such as getting the nth new pair of jeans, buying fresh fruit year around, or shopping for the latest fad in exotic imported grains shows that we are on the cusp of just this sort of update. For many people, it becomes psychologically more difficult to go about business as usual when so much becomes known about how the routine activities of the global affluent predictably result in massive environmental degradation and environmentally mediated harms to others who cannot avoid the fallout from affluent lifestyles. Participation in a way of life that is not universally sustainable, or continuing with business as usual manifests a troubling degree of indifference to the expected, life-altering outcomes for much, if not all of humanity, especially when the activities of a relatively privileged 20% of the world's population are undertaken for the sake of convenience or hedonic satisfaction.

7.5.2 Reciprocity

How should we understand what is wrong about the knowing participation of the global affluent in practices that they have reason to know systematically benefit them at the expense of those who lack sufficient offsetting power to demand a fairer distribution of benefits and burdens? My hypothesis is what is troubling about a business-as-usual approach in morally un-

precedented times is that what was once appropriately viewed as unobjectionable conduct is now better seen as a violation of a more basic, pre-theoretically identifiable principle of reciprocity. Because there are a number of variations in the ways that reciprocity has been conceptualized within many diverse ethical traditions, we need to narrow the focus.

John Rawls, for example, proposes that any principles of just social interaction must satisfy a more basic moral standard which he calls "criterion of reciprocity" (Rawls 1999b, 14, 35). Rawls, of course, defends the controversial substantive claim that his own domain-specific principles proposed for domestic and global arenas satisfy the reciprocity criterion, but that debate is not our topic. A commitment to reciprocity sometimes figures in the explication of contractualist moral theories, but the idea of reciprocity has been invoked by theories as diverse as Aristotle in both his *Politics* and *Nicomachean ethics*, and more recently, it has been defended by moral and political theorists as a freestanding or generic moral norm that any credible moral tradition has reason to endorse.

Reciprocity, in this generic sense, is best understood as a particular kind of moral posture toward others, a commitment to stand in relation to others in a way that embodies a mutual recognition of others as moral equals, as persons who have weighty interests on a moral par with one's own, and for whom harm or risk to their most vital interests stand in need of a compelling justification.

Ranier Forst, for example, argues that reciprocity merely requires "that none of the parties concerned may claim certain rights and privileges it denies to others" (Forst 2001, 177). In a similar vein, Richard Miller uses the phrase "reciprocity of reasons" to indicate a willingness to interact with others as moral equals by "backing their own proposals with morally

relevant reasons and giving weight, in proportion to seriousness, to relevantly similar reasons offered by others" (Miller 2010, 72). While neither explication of what is involved in the moral posture of an agent committed to reciprocity provides a substantive account of the rights and privileges that none may claim, while also denying their applicability to others, both formulations make clear that there are some minimum reciprocal demands of justice owed to moral equals, and that these demands set limits on permissible activities affecting the morally most weighty interests of others who have no feasible pathway to avoid the harmful consequences.

Reciprocity, understood generically as a regulative principle for relations among moral equals, does not entail any specific set of endpoint principles that satisfy its normative requirements. It does not depend on counterfactual normative preconditions that define the scope of application of such principles, for example, limiting its scope to societies that fulfill certain lexically ordered human rights requirements. It does not depend on idealized assumptions about what others do, as theories of partial compliance often suppose. It does not depend on contractualist arguments about the moral principles that others who are affected by one's activities have sufficient reason to accept (or could not reasonably reject). Instead, the reciprocity principle proposed here stops short of an effort to identify specific endpoint principles that parties to a hypothetical contract would endorse as constituents of an ideal of just social relations. It functions merely as a normative screen, ruling out certain kinds of power relationships that involve the imposition of seriously one-sided terms of interaction upon the less powerful, who are in the grip of others who have the power to lead their lives without being held accountable for the consequences of their actions. In other words, the role of a

principle of reciprocity within a nonideal theoretical approach is to identify patterns of interaction that are clearly unjust. Ideal theories, by contrast, seek to identify the constituent principles of a fully just scheme of social relations.

To make the point more concrete, what a commitment to a principle of reciprocity rules out are patterns of interaction in which the morally non-negotiable human interests of less powerful individuals are placed at risk for the sake of considerably less weighty interests at stake in the lifestyles of the global affluent. For example, no one should acquiesce in the sacrifice of the vital interests that ground their basic human rights as a result of their participation in such interactions, and no one should demand that kind of sacrifice from other, less powerful individuals simply to preserve a vastly higher standard of living for themselves (Powers 2020, 46–47, 53; Powers and Faden 2019, 167–177).

Physical loss of land due to sea level rise, loss of arable land necessary for food production, and loss of life from increased prevalence of tropical disease are examples of the morally non-negotiable interests that might be at stake. Indifference to the kinds of outcomes that no one within the globally affluent classes would tolerate as a by-product of the discretionary lifestyles of others is a surefire marker of a grave deficiency of moral responsibility. As the harmful effects of high emissions and other environmentally destructive activities become common knowledge, we must (as Baier suggests) update our assessment of the acceptability of the risks imposed by many of our routine, widely accepted activities and recognize them as dishonorable.

Our moral vocabulary is beginning to show early signs of this sort of updating, for example, in the increasingly popular idea that we should have a sense of moral shame for carbon-

intensive, discretionary airline flights. The earliest and best-known word for “flight shame” is the Swedish *flygskam*, but the Finnish have coined the term *lentohäpeä*, the Dutch speak of *vliegschaamte*, and the German equivalent is *flugscham*.⁷

These are hopeful signs, but it is important to acknowledge that moral updates on matters of individual responsibility do not happen easily, and in recent times, many philosophers have been especially reluctant to abandon what Katrina Forrester describes as a “deflationary view of responsibility” for individuals, even in times of social crisis and turmoil (Forrester 2019). She traces that professional reluctance in her survey of how liberal egalitarian philosophers took an “institutional turn” in moral and political theory. In the 1960s and 1970s liberal egalitarian philosophers in the United States turned their attention to the development of new theoretical tools for evaluating the moral responsibility of institutions for large-scale structural injustices, such as the Viet Nam war and racialized patterns of durable poverty and police violence. At the same time, however, many of the prominent theorists of institutional responsibility adopted the deflationary view, largely because they agonized over “how much people could be held responsible for their choices when they might not control the circumstances of those choices...” (Forrester 2019, 91).

The deflationary view is part and parcel of the division of moral labor presupposed by ideal theories that rely upon endpoint principles to assess institutions. Such theories assume that institutions that have direct responsibility for addressing structural injustices, and that individuals have different responsibilities, narrowly conceived as a duty to support and work for the creation of just institutions. This division of moral labor proceeds from the premise that only institutions have stringent and clearly delineated duties of justice in cases where

the moral problems arise from “what we all do together” because only institutions can make the relevant difference to the desired outcome.

As a result of the institutional turn, with ideal endpoint principles as its centerpiece, questions about the moral entanglement of individuals in non-reciprocal relations of power are largely sidelined. Inquiry about the moral responsibility of individual and non-state agents who create, sustain, or benefit from unjust institutional arrangements is blocked by a moral division of labor that recognizes only an undifferentiated duty of individuals to create and support just institutions. This division of moral labor is plausible only on the assumptions that no individual is in a position to make a significant difference to the outcome, and that only institutionally-mediated outcomes, not underlying power relationships through which the outcomes are produced, are the proper concerns of social justice.

The underlying assumptions in this chapter, by contrast, are that institutional change itself is dependent on individuals taking responsibility for their environmentally destructive activities, and that a heightened level of individual responsibility for some individuals is based on the fact their activities are possible because of the asymmetric power they have over people and the planet. Were Sarah and other conscientious environmentalists to learn that their actions will make no likely difference to the outcome, or no salient difference to the risk of a bad outcome, they would continue to try to find ways to reduce their carbon and water footprints, withdraw support from agricultural practices that involve heedless environmental degradation, labor exploitation, and other harms, and take other personal steps to opt out of practices that in the aggregate pose grave threats to people and the planet. They

would be justified in doing so, and they would be justified in thinking that individuals in superior positions of power have even greater responsibility to update their assessments of the acceptability of many routine, widely accepted activities and begin to recognize them as dishonorable.

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