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## Individual Expectations and Climate Justice\*

*Abstract:* Many people living in highly industrialised countries and elsewhere emit greenhouse gases at a certain high level as a by-product of their activities, and they expect to be able to continue to emit at that level. This level is far above the just per capita level. We investigate whether that expectation is legitimate and permissible. We argue that the expectation is epistemically legitimate. Given certain assumptions, we can also think of it as politically legitimate. Also, the expectation is shown to be morally permissible but with major qualifications. The interpretation of the significance of the expectation is compatible with the understanding that historical emissions should count in terms of fairly distributing the benefits of emission-generating activities over people's lifetimes but constrains the way in which we may collectively respond to climate change.

### 1. Introduction

Many people living in highly industrialised countries and elsewhere emit greenhouse gases at a certain high level as a by-product of their activities, and they expect to be able to continue to emit at that level. This level is far above the global average per capita level, and as will be explained shortly, also clearly above the just per capita level. In this paper, we ask whether that expectation is (a) legitimate and (b) permissible. We suggest that under certain conditions the answer to both questions is yes, and having delineated those conditions we then examine the implications of that answer.

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We begin (in *section 2*) by introducing some of the terms necessary to understanding the questions we try to answer in this paper and we also defend a central assumption that we require in order to get the question off the ground at all. Specifically, in this part we explain the understanding of expectations that is employed in this paper and we defend the claim that many people emit and expect to continue to be able to emit at a level that is above the just per capita level.

With that as background, *section 3* introduces and investigates the question of legitimacy as related to expectations. We first distinguish two important senses of legitimacy, which we call epistemic and political legitimacy, each of which makes it meaningful to ask whether expectations about future emissions can be legitimate. Having stated what we mean by an expectation to be legitimate in each of these senses we outline the conditions that need to be fulfilled in each of these senses. We then discuss whether these conditions are indeed fulfilled for it to be legitimate in the case of expectations about future emissions. We conclude *section 3* by arguing that expectations about future emissions can indeed (under certain conditions) be legitimate; more accurately, we end by identifying the assumptions that need to be made in order to claim that they are legitimate.

In *section 4* we then move on to the question of moral permissibility—whether or not these expectations are legitimate, is it morally permissible to act on them? As before we argue that certain conditions need to be fulfilled for them to be morally permissible, and this section is taken up with identifying and defending the conditions we propose. *Section 5* then applies these conditions to the specific expectation we are interested in (i.e. the one to do with future emissions) and discusses whether they are fulfilled in this case. As before, we end by claiming that given certain assumptions, at least some of these conditions might be fulfilled.

*Section 6* then investigates how our analysis of both the legitimacy and permissibility of the expectation might change with the introduction of a coercively enforceable set of laws. This set of laws would require individuals to reduce personal emissions significantly below their current level, and also to modify their expectations about what level they will be able to emit at in the future. We argue that the discussion turns on one's answer to a basic question in political philosophy, namely on whether one thinks there is an obligation to obey the law or not. We do not wish to commit our discussion here to any particular answer to that question. Consequently, we provide an analysis of how accepting or denying either the obligation to obey the law or the legitimacy of the specific set of laws affects one's view on the legitimacy and permissibility of the expectation after those laws have been instituted.

We conclude in *section 7* by suggesting a way in which our interpretation of that expectation should inform our understanding of the significance of historical emissions and of how the collective solution to climate change should be brought about in a fair way.

## 2. Preliminary Clarifications

Highly industrialized countries or such regions that are organized as states ('Shi' to simplify) have developed ways of life in part by pursuing long-term policies and these ways of life come with a certain level of emissions. People living in these countries ('Phi' to simplify) pursue their individual lives by interpreting what the ways of life of their Shi allow them to do and by choosing life plans and projects (e.g., what careers to pursue, where to reside, how to travel, what to eat, how many children to have) that are framed by the ways of life of their Shi. Their lives taken individually will come with a level of emissions that collectively amounts to the level of emissions of Shi. Without a major technological revolution in the production or consumption of energy, Shi's ways of life and Phi's plans and projects foreseeably require that they individually and collectively will be able to emit at that level into the future. In other words, we can attribute to Phi the expectation that they will be able to continue to emit on average what collectively will amount to Shi's current level of emissions in the future (level X for convenience). This expectation we will call Expectation E. Expectation E is significant for Phi insofar as they believe that being able to emit at level X in the future is required for collectively continuing with having these ways of life and individually successfully pursuing one's projects.

A central assumption of this paper is that level X is above the just per capita level of emissions: Having Expectation E is an unjust expectation to have for many, if not most Phi. In our understanding defending this assumption requires defending at least three claims. The first is that total global emissions need to be capped for reasons of intergenerational justice. The second is that the remaining permissible emissions ought to be distributed among currently living people and among the relevant basic political units (Shi among them) in a just way. The final claim is that while the relevant political units may legitimately distribute their share of the permissible emissions amongst their members in various ways a just distribution of Shi's remaining permissible emissions will require of many, if not most, Phi that they significantly reduce their per capita emissions. First, very briefly sketched and from the perspective of liberal political philosophy the reasoning for a cap on global emissions is the following (Meyer 2008/09, 82–92): People whenever they live have basic rights that may not be violated. The consequences of the rise of temperature as an effect of anthropogenic climate change can be specified in terms of likely violations of future people's basic rights to living in a healthy environment, subsistence and self-sufficiency (with a higher rise of temperature resulting in more violations of future people's rights). Currently living people ought not to violate the basic rights that future people have vis-à-vis them. Thus they are morally required to impose a cap on emissions, that is, to limit total global emissions. In a social world with a plurality of relevant basic political units, namely countries and regions organized as states, the remaining permissible emissions need to be distributed among them.

Second, liberal political philosophy considers individual human beings as the basic units of moral concern with each having a claim to be considered equally. Alternative plausible ways of interpreting what this implies for the distribution

of benefits from engaging in activities that have emissions as a side-product come to the conclusion that Phi can claim no more than people elsewhere, that is, Phi have no more than an equal per capita claim to causing emissions presently and in the future (Meyer/Roser 2006, 228–246). Shi's claim to causing emissions is no higher than the sum of their members' claims. However, historically and presently Shi's level of emissions has been higher than the sum of the just per capita level of their Phi and thus impermissibly high. Of course this is not a contingent fact. Rather the level of welfare achieved and currently realized is strongly and casually correlated with the level of emissions historically and presently caused (Füssel 2010, 600f.).

Third, to be sure, Shi are not obliged to distribute their share of the global cap in any one particular way amongst their members. For example, Shi may justly decide to promote certain ways of life over others (for instance by aiming to give the priority over the good or by endorsing a particular conception of the right good), and do this in part through the allocation of emissions, and so individuals choosing to live that way of life may well be justly permitted a higher level of emissions than others. Further, as we are ultimately interested in the benefits deriving from emissions rather than emissions themselves (Meyer/Roser 2010, 232f.), there can be variations in the level of permissible emissions for each individual without necessarily rendering the distribution unjust. Thus while we can agree that Shi are required to limit their collective emissions, what that means in terms of permissible emissions for individual members depends on how Shi organise themselves and distribute the benefits associated with the just level of collective emissions.

Nevertheless, given that total emissions of Shi are simply the aggregate of the individual emissions of its members, and given that those total emissions are unjustly high, it follows analytically that at least some members of Shi ought to reduce their emissions. Further, we can say and with much confidence that having Expectation E is an unjust expectation to have and not only for some but for many, if not most Phi. To justify this claim we have to consider the cap that is required for reasons of intergenerational justice. Assume that we ought to limit the temperature increase in 2050 to 2.0–2.4°C since further increases of the temperature would lead to very severe consequences for very many people (IPCC 2007, 7–14). To reach this goal we will have to reduce emissions by 50–85% between 2000 and 2050 (IPCC 2007, 20). In 2000 the global per capita CO<sub>2</sub> emissions amounted to 4 tons, and more precisely to 11.4 tons in the Shi and 2.1 tons in the developing countries (Baumert et al. 2005, 22). Therefore, in order to limit the temperature increase to 2.0–2.4°C the per capita emissions need to be reduced to 0.6–2 tons. If complying with this cap is to be achieved on the basis of equal average per capita emissions, Shi will have to reduce their per capita emissions on average by 82–95%. And, of course, it is impossible that an emission reduction of this magnitude could be achieved without most Phi reducing their emissions (assuming that we will not have a revolution in the efficiency of energy use). On the basis of those considerations, we will proceed on the basis of the assumption that Phi emit at a level which is above the just *per capita* level (level X in this paper).

We now turn to how the term ‘expectation’ is understood in this paper. As a first step, expectations, in our understanding of the term, are part of the background against which agents choose from reasons for action. Here we think of an agent who is choosing between different long-term projects—should she become a teacher, a Formula 1 driver, a pilot or a nurse? The pursuit of each of those long-term projects is associated with a certain level of emissions as an unavoidable side-effect. Expectation E, i.e. the expectation about the level at which on average one will be allowed to emit now and in the future, is clearly relevant to this choice. If any of the potential long-term projects are associated with a level of emissions that is above the one set by Expectation E, the agent has reasons for doubt that it will be feasible. One’s expectation about the level of emissions that on average one will be allowed to emit serves, therefore, as one of the ways of identifying the choices that are realistically open to one.<sup>1</sup> In other words, expectations are predictions about the future that specify reasons for action available to one, in the sense that one can expect to be able to act on them.

In this paper, then, expectations are to be understood as predictions, i.e. beliefs about what will be the case. That is the first clarification. The second clarification concerns the level of emissions we are interested in. Expectation E, recall, is the expectation that on average one will be allowed to emit at level X per capita now and in the future. Level X allows a huge variety of different ways of life. For example, ways of life associated with zero net emissions are clearly among those that are open to agents given Expectation E. The questions of legitimacy and permissibility (as we will shortly describe them) are most difficult, and most pressing, however, when we are considering ways of life that are associated with a level of emissions that is above the by hypothesis just *per capita* level. Thus when we talk of Expectation E in this paper, and of whether it is legitimate or permissible, we always refer to the level of emissions that is above the hypothesised just *per capita* level.

### 3. Expectation E and Legitimacy

There are, we think, at least two distinct senses of legitimacy that can be applied to expectations so understood.<sup>2</sup> These we call epistemic and political legitimacy.

Epistemic legitimacy concerns whether people are justified in having an expectation. Are there good grounds for this belief about the future? We have to argue that Expectation E is epistemically legitimate because if it is not, it means that people do not have good reasons to believe that they will be allowed to emit at level X now and in the future. Suppose, for example, that you wake up tomorrow morning and, for no justificatory reason whatsoever, let alone good ones, suddenly have the belief that you are to be given €50 million by the state

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<sup>1</sup> Of course there are other things that also help do this—talent, for example, and the circumstances in which one finds oneself. Our point is only that expectations about emissions are also relevant here.

<sup>2</sup> Thanks to Julian Fink for stressing the importance of this distinction.

of Austria. This is just an absurd belief to have and consequently, the fact that you have it cannot be used, for example, as a justification for acting on it,<sup>3</sup> or for claiming you have been wrongfully harmed when it doesn't come true, and so on.

If Expectation E were relevantly similar to this belief and thus epistemically illegitimate, it could not generate valid reasons for the claims based on the expectation to be satisfied. This is not to say that others have no reason to respond in certain ways to the fact that a person suffers from a delusion. For instance, they ought not to take advantage of the delusion. We do not think that Expectation E is epistemically illegitimate. Essentially, Expectation E is a belief about the status quo coupled with a belief in its continuation. It is legitimate when there are (a) good reasons to believe that the description of the status quo it contains is an accurate description and (b) an absence of good reasons to believe that the status quo is going to change radically in the period covered by the expectation.

It seems to be undeniable that (a) is satisfied: We can measure the level at which people cause emissions and there is no doubt that in participating in the ways of life that are typical for Shi and in carrying out their projects Phi on average cause emissions far above the per capita just level (when that level is determined as we suggested in *section 2*). We believe (b) is satisfied in the case of Expectation E for at least two reasons. Firstly, the rules that have created it have been in place for a relatively long period of time (i.e. the rules of Shi, within which people have developed their expectations about what ways of life will be legally permissible in the future, and consequently about what levels of emissions will also be legally permissible). They are not the product of a very recent revolution or something of the sort. This creates a presumption in favour of the rules continuing. This is an important factor because if Phi lived in times of radically changed circumstances most of their beliefs about the future would become uncertain. At this point, someone might object that the problem of climate change has created exactly that—i.e. a time of radically changed circumstances in which all predictions are suspect. This is where the second reason comes in. While accepting that climate change does indeed change the circumstances under which Phi live, Expectation E remains epistemically sound so long as there is good reason for Phi to believe that Shi can respond to these changed circumstances and without breaking with the established and continuously evolved systems of law. We assume that this is the case and, thus, that Expectation E is epistemically legitimate. In the rest of the paper, we proceed on the basis of the claim that Expectation E is epistemically legitimate.<sup>4</sup> We now turn to the second sense of legitimacy, namely political legitimacy. The basic problem can be put simply enough. As Rawls writes, “political power is always coercive power backed by the government’s use of sanctions, for government alone has the authority to

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<sup>3</sup> It can be used as part of a causal explanation, but that is a very different thing.

<sup>4</sup> To be sure, if it could be shown that we should believe that the problem of climate change is such that responding to it will require a thoroughgoing revolution in ways of life, means of production, political organisation, and the like, then Expectation E would be epistemically illegitimate.

use force in its upholding of laws” (Rawls 2005, 136). And once we see political power as special in this way—i.e. as involving coercion of a special sort, and further, as coercion that claims justification for itself—the immediate question is: “when is that power appropriately exercised?” (Rawls 2005, 137) That is to say: under what conditions is state coercion justified, if it is at all?

The way in which we will understand this in terms of expectations is also straightforward. There are two questions that we ask in regard to the political legitimacy of Expectation E. First, is it currently legitimate for Phi to continue with their present ways of life and with making life plans that we know are unavoidably associated with a certain *ex hypothesi* unjust level of emissions—i.e., can Phi act on Expectation E without being justifiably coerced by Shi into doing otherwise, and if so, why? Second, what are the conditions that need to be fulfilled for Shi to be in a position to justifiably coerce Phi into not fulfilling Expectation E?

The first claim we make is that if the authority in question is legitimate, then it may justifiably use coercion to secure compliance with the requirements of any legitimate law that it makes. ‘Legitimate’ appears in both clauses of the conditional for two reasons. For one, there may be laws such that their being passed by an authority is sufficient to render that authority illegitimate, all other factors notwithstanding, and we want to leave that possibility open (Meyer 2005, ch. VI). Further, one might have a view of legitimacy such that in order for laws to be legitimate it is not enough that they be made by a legitimate authority—they must also be made in a certain way. Our conditional claim is designed to be agnostic between that view and the view that the way in which the laws are made do not matter at all to their legitimacy. It is clear how the conditional claim accommodates the first view, i.e. the view that, roughly speaking, procedure matters, but perhaps it is useful to explain why it can also accommodate the second. Suppose one has the view that how a specific law is made makes no difference to its legitimacy—all that matters is that the authority making it is legitimate. That is to say, on such a view, all laws that are made by a legitimate authority are just for that reason themselves legitimate. What that means is only that the second instance of ‘legitimate’ in our conditional claim is always satisfied when the first part of the conditional is true; the conditional claim itself is left untouched. The claim we are making here is about what follows from legitimacy in terms of whether state coercion is justified, and it is independent of claims about what is required for legitimacy in the first place.

Now, of course, the traditional view of what follows from legitimate state authority is that the “right to rule [...] is understood as correlated with an obligation to obey on the part of those subject to the authority” (Raz 1986, 23; cf. for a classical statement of the traditional view Locke 1980; Anscombe 1990; Finnis 1992). The view is that the state is justified in coercing its subjects and that its subjects have an obligation to obey. The weaker claim we make in our conditional is that if a legitimate state makes legitimate laws, then the state is justified in coercing citizens into obeying it. This weaker claim is clearly compatible with the stronger one. In *section 6* we will discuss the implications of both views for what follows from taking Expectation E to be legitimate. Our

second claim is that Shi are legitimate states who enforce a legitimate system of laws. (More accurately, this is an assumption, and in a later section we show the implications for our view of not accepting it.) The third and final claim is that the legitimate system of laws currently established and maintained by Shi allow Phi to act on Expectation E. Putting those claims together, we arrive at the following answer: Phi may act on Expectation E without being justifiably hindered by Shi to cause emissions at that level. In other words, Expectation E is legitimate. This is because Phi may only be justifiably so hindered when the legitimate laws of a legitimate authority prohibit Phi from fulfilling Expectation E, and the legitimate laws of the legitimate authorities Shi do not currently prohibit Phi from doing this. That is to say, we attempt here to understand the question of justified state coercion in the case of Expectation E as being a question of legal permissibility given the background assumptions that the legal system, and the authority which establishes and maintains it, are both themselves legitimate. If these background assumptions are valid then what state coercion is justified and what is not is purely a matter of what the laws allow and prohibit.

Given those assumptions the second question is easy to answer. That question, recall, was this: under what conditions can Shi justifiably coerce Phi into not fulfilling Expectation E? Once we reduce the question of justifiable state coercion to a question of legal permissibility, as we have done through our assumptions, then the answer to this question is: Shi can justifiably coerce Phi into not fulfilling Expectation E when laws prohibiting the fulfilment of Expectation E are introduced, so long as those laws are not themselves illegitimate or illegitimately made or render Shi as a whole illegitimate.<sup>5</sup>

#### 4. Expectations and Moral Permissibility

Given the assumptions made in *section 3*, then, Phi may continue fulfilling Expectation E without being justifiably coerced into doing otherwise. From the fact that the state may not force one to do X, however, it does not follow that one is justified in doing X. We understand expectations as beliefs about the future. Expectations, understood in such a way, delineate possible courses of action. It is a further question whether each possible course of action is, morally speaking, permissible. Consider this example. An agent predicts that she will be able to borrow some money from a friend and that, given her friend's bad and worsening memory she will get away with not paying back the money. Her expectations mean that the possibility of dishonestly borrowing money from her friend is a live one, but it is far from clear that it is permissible to turn the possibility into actuality. In this paper an expectation is to be understood as permissible if the action or series of actions that it delineates is permissible. Our question is whether Expectation E is permissible in this sense, regardless of whether it is politically legitimate or not.

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<sup>5</sup> Which of those options, or which combination of those options, one chooses will depend on one's particular view, and that is something we can remain agnostic about here.

We require two clarifications. First, it is obvious that an action, or a series of actions, could be judged permissible or impermissible for a wide variety of reasons. In this paper we are concerned with just one set of those reasons, namely reasons to do with the level of emissions associated with the actions being evaluated. We bracket off, and ignore, all other considerations. The question is: Is acting on Expectation E permissible or impermissible because of the level of emissions associated with acting that way? The second clarification has already been made in *section 2*, but bears repeating. ‘Acting on Expectation E’ means: acting in a way that is unavoidably associated with a level of emissions that is above the hypothesized just *per capita* level.

In order to analyze whether Expectation E is permissible, we first provide some general conditions for the permissibility of expectations so understood, before proceeding (in the next section) to apply those conditions to Expectation E. These, we suggest, are relevant for judging the permissibility of acting on expectations for moral agents in general and thus for Phi.

The first condition we call, perhaps somewhat confusingly given our discussion of legitimacy, the ‘Epistemic Condition’. The strongest way of stating this condition is to say: It is permissible to perform an action that one did not know was wrong. But this strong condition is, as is also familiar to us, too strong. Under certain conditions, lack of knowledge is not an excuse. For example, if a person threw a lit match into an oil tanker, and then claimed—truthfully—that she did not know that the tanker would explode, the only possible response to that is: Well, she ought to have known. So we can modify the Epistemic Condition to: It is permissible to perform an action one could not have reasonably been expected to know was wrong (or was liable to know to have been wrong). In the case of emissions, we can translate the Epistemic Condition as follows: It is permissible to act on the expectation that one will be allowed to emit at a certain level X in the future, even if that level is by hypothesis above the just level, if one could not have been reasonably expected to know that level X is above the just level.

The two versions of the Epistemic Condition contain the normative words ‘wrong’ and ‘just’ respectively, and this points to another relevant condition. Or rather, even though it can be considered part of the Epistemic Condition, its importance means it is worth spelling it out separately. Despite its name, it is not just knowledge that is important in the Epistemic Condition; in addition, it is crucial that what one is doing is wrong or unjust.

We can call this the ‘Compatibility Condition’. In terms of actions, it means that an act is permissible if it is compatible with the relevant moral principles. But there are a wide range of actions whose moral status is in dispute—a consequentialist’s list of morally wrong actions would not be identical to a deontologist’s list. Further, there can also be dispute over which moral principles are relevant in particular situations.<sup>6</sup> In order to deal with this disagreement, the Compatibility Condition must be amended to: An act is permissible if it is

<sup>6</sup> Indeed, whether one is a consequentialist or a deontologist can make a significant difference to how one describes the situation in the first place, and hence which features of the situation are morally relevant and how. See for example Smart/Williams 1973, particularly 101–106.

not held to be incompatible with generally agreed on moral principles that are also generally agreed on as being relevant to the act in question. This ‘generally agreed on’ attempts to take reasonable disagreement over the moral wrongness of acts into account. In other words the compatibility condition is meant to be neutral with respect to competing substantive reasonable understandings of what justice or morality requires. How does this translate to Expectation E? A strong interpretation would be the following: It is permissible to act on the expectation that one will be allowed to emit at a certain level X now and in the future, if there is reasonable disagreement over whether level X is in fact above the just level. A weaker interpretation would be to say that it is a question of which procedure one ought to use to arrive at a conclusion of what is permissible under these circumstances of reasonable disagreement. We do not discuss these intricate issues here because we will argue that there is no relevant reasonable disagreement with respect to the claim in question.

The next condition can be called the ‘Possibility Condition’. It seems clear that if it was not possible to act differently, then it is not impermissible for the agent to perform that act. This is simply ‘ought implies can’ from another angle—the idea is that ‘one ought not to do A’ implies ‘one can do something other than A’. There must, in other words, have been an alternative if the agent is to be judged to have done something impermissible.<sup>7</sup> However, the existence of the alternative is necessary but not sufficient. In order for it to be impermissible for an agent to perform a given act, it is not enough that one could have acted differently. Rather, it is essential that among the various possible alternative acts, there was at least one act which was not morally wrong. Or more precisely, because we should leave space for degrees of moral wrongness, what is essential is that there was at least one possible alternative which was clearly morally better than the actual act performed, even if that alternative was morally wrong in itself. So the Possibility Condition should read: It is permissible to perform an act if there were no morally better alternative acts one could have performed instead. In terms of emissions, the Possibility Condition can be translated as follows: It is permissible to act on the expectation that one will be allowed to emit at a certain level X in the future, even if that level is by hypothesis above the just level, if there is no morally better alternative to so acting.

It is not just possibility, however, that is relevant here. It seems plausible to hold that, even if it was possible to act differently, the agent can permissibly perform the act in question if acting differently was extremely expensive. It is difficult to make ‘extremely expensive’ precise, as different accounts of morality have specified differing criteria for delineating what is morally required and what acts are correctly characterized as supererogatory.<sup>8</sup> But the idea we are getting at is simple enough and widely held—for example, it seems plausible to say a person cannot be blamed for not jumping into the pond to save the drowning

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<sup>7</sup> Arguably proponents of both classical utilitarianism and of Kantian positions have held that agents always have a morally permissible option to act. For such views the Possibility Condition is never fulfilled. For discussion see Zimmermann 1996.

<sup>8</sup> Some have denied the need for a category of supererogatory acts. For discussion see Heyd 1982.

child if the person can expect to die as a result. We can call this the 'Cost Condition', and it can be translated to expectations as follows: It is permissible to act on the expectation that one will be allowed to emit at a certain level X in the future, even if that level is by hypothesis above the just per capita level, if it would be extremely expensive to act on a different expectation.

We understand 'extremely expensive' as a relational concept, i.e., as expressing the relationship between the costs of the action to the agent and the expected consequences of performing that action. One way to express this thought is to say: To morally require the agent to carry out an action that he strictly speaking could carry out but at extremely high costs to himself and without expected consequences that sufficiently outweigh those costs is an unreasonable demand. That is to say, when judging whether an action is too expensive to perform, one does not simply look at the costs of performing it—one looks at the costs in relation to the expected benefits of performing it. On our use of the term, an action is extremely expensive if the costs of performing it are unacceptably high compared to the expected benefits, and not just when the costs in themselves are extremely high. For example, if by sacrificing one's life one secures the continued existence of 7 billion people, sacrificing one's life may not be extremely expensive.

These conditions all seem highly relevant to the moral permissibility of expectations, but how are we to understand their relevance? Is each of these conditions individually sufficient to render acting on an expectation permissible? Or are they individually necessary and jointly sufficient? Or is the satisfaction of some combination of them, short of the necessity of satisfying all of them, sufficient to generate permissibility? Further, are the conditions themselves to be understood in binary or gradual terms? That is to say, is satisfying them a matter of 'yes or no' or is it a matter of 'less or more'?

There are good reasons here that pull in different directions. The possibility condition, for instance, seems like it can plausibly be understood as individually sufficient—if it really is not possible to do anything that would be morally better than X, then ought implies can seems to suggest that doing X is permissible. Further, the possibility condition also seems to be best understood in binary terms—either it is possible to do something, or it is not. It is difficult to understand what it would mean for an action to be simultaneously neither possible nor impossible to perform. On the other hand, the cost condition seems to cry out for a gradual understanding, because its satisfaction depends on weighing the costs and benefits of performing a certain action. Making it a binary condition would seem to be implausible—it would require a strict threshold, such that every action associated with a ratio of cost to benefit above the threshold would have to be considered extremely expensive and every action associated with a ratio below the threshold would have to be considered as not extremely expensive. But here we face the general objection to any strict threshold: why does it identify a categorical dividing line? Clearly, the ratio of costs to benefits of an action could be either far above the threshold, or just above it, just as an action could be far below the threshold, or just below it. This seems to matter for our moral assessment of the action. Thus a more natural understanding

seems to be to say that as the ratio rises, so the cost condition comes closer to being fulfilled.

For the sake of our paper, we make the simplifying assumption that each of these conditions is individually sufficient, because it allows us to discuss each condition in turn as it applies to Expectation E. We also think that it is plausible to understand them in that way but we want to stress that how one understands them and their relation is an open question. The individual sufficiency of the conditions can be understood as a working hypothesis of the paper which is meant to enable us to better analyze how each is relevant to the permissibility of Expectation E in particular, and it is to this discussion that we now turn.

## 5. The Moral Permissibility of Expectation E

We have, then, four relevant conditions for judging whether an agent can permissibly act upon Expectation E—the Epistemic, Compatibility, Possibility and Cost conditions respectively. Given our simplifying assumption of individual sufficiency, we can say that if any of those four conditions are satisfied, then, given that the expectation in question is also epistemically legitimate as discussed in *section 3*, we can call the expectation in question permissible. The question for us now is whether the expectation formed by Phi about the future level of their emissions is indeed permissible.

Let us begin with the epistemic condition. Here, we have to assume that Phi expect to continue to emit a level of emissions, X, that is by hypothesis above the just per capita level. Acting on this expectation (Expectation E) is permissible if Phi could not have been reasonably expected to know that X is unjust.

At first glance, it seems clear that the expectation of Phi does not satisfy the epistemic condition. Axel Gosseries identifies various dates before which one might have been able to argue that one could not be reasonably expected to know that a cap on global emissions was required in order to prevent the violation of future people's basic rights., We agree with him that the latest of these dates is 1995 (when the IPCC published their second report) (Gosseries 2004, 360f.). It seems, therefore, that one could claim that there has been a period of at least 15 years during which we can reasonably expect people to know that global current and future emissions above a certain level are unjust. Further, using the reasoning in *section 2*, the fact that Phi will have to reduce individual emissions by 82–95% in order for Shi to comply with a cap that is estimated on the basis of equal average per capita emissions, means that most Phi can be certain that their current level of emissions are above the per capita just level.<sup>9</sup>

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<sup>9</sup> There is an important complication here that should be noted, namely, the problem that specifying what is to count as an individual contribution is difficult. For example, one might want to distinguish between emissions as a side product of Phi's contributions to the general welfare and their individual contributions, with the latter understood as emissions they cause in carrying out private activities. In a complex society based on the division of labour and in which the state heavily regulates the market this distinction is difficult to draw. Nevertheless, how one draws the distinction, or if one draws it at all, is important to working out what level

Nevertheless, there may be a question that remains about which of Phi's emissions should be cut. One way of trying to answer that question is to rely on the distinction between subsistence and luxury emissions. The basic idea behind that distinction is the distinction between needs and wants. As Shue puts it, "some so-called preferences are vital and some are frivolous. Some are needs, and some are mere wants (not needs). The satisfaction of some 'preferences' is essential for survival, or for human decency, and the satisfaction of others is inessential for either survival or decency." (Shue 2008, 227) If any luxury emissions are incompatible with guaranteeing subsistence emissions to all, then all individual luxury emissions can be said to be unjustly high.

Given the extent to which Phi need to reduce emissions they have strong reasons to believe that their luxury emissions are unjust. It is possible, however, that Shi would distribute its collective cap in such a way that certain activities associated with luxury emissions are permissible and compatible with the requirements of fulfilling the global cap. For that reason the epistemic condition gives us a qualified answer. In some, but likely very few cases Expectation E may be permissible on the basis of the epistemic condition, but in most cases it is very likely not to be.

We now turn to the compatibility condition. Under the strong interpretation as introduced above, this would allow Phi to permissibly act on Expectation E if there is reasonable disagreement over whether X is a just or unjust level of per capita emissions. Now, there is certainly disagreement over what level of per capita emissions is just, but this is not the same as there being disagreement over whether X is just or unjust, and it is the latter that we need for this condition to be satisfied. There is general scientific agreement that the current level of global emissions is unsustainable (IPCC 2007, 7–14). There are of course people who reject that scientific consensus, and they may even be right—but given that consensus, the current state of human knowledge, and the importance of what is at stake, that disagreement is unreasonable. Further, it is an empirical fact that Shi have, and have had, a much greater share of global emissions (Baumert et al. 2005, 32). When we ask how emissions should be distributed, those two things seem to drive us towards saying that level X is indeed unjust, and it is unreasonable to claim otherwise. Take, for example, the three best worked out positions on distributive justice: egalitarianism, prioritarianism and sufficientarianism. On all of those views, the current level of per capita emissions in Shi would be considered unjust (Meyer/Roser 2006, 232–245).

Now, it is extremely difficult—impossible—to say whether disagreement with the conclusions of those worked-out principles of distributive justice is reasonable or not. Even if we say that that disagreement is unreasonable, however, there is another disagreement that does not seem to be. In order to say that the current level of per capita emissions in Shi is unjust, one has to hold that emissions, taken in isolation, are an appropriate subject for principles of distributive justice. Some authors have argued that they are (Meyer/Roser 2006, 238–9), but the problem

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of emissions to attribute to Phi as their individual contribution. In this paper, we will simply assume that however one decides to specify what is to count as Phi's individual contribution to emissions, this contribution is likely for most Phi to be above the just per capita level.

is that disagreement with that argument, or the view more generally, seems to be entirely reasonable. Simon Caney, for instance, argues that we have to adopt a holistic approach to global distributive justice, and therefore that it is inappropriate to apply principles of distributive justice solely to emissions (Caney 2009). Caney may be wrong, but in our view neither can it be shown that he is wrong, nor that it is unreasonable to have the view he does.

There is another source of reasonable disagreement. We can say that there is no reasonable disagreement over the claim that something ought to be done about the problem of climate change, but from this it clearly does not follow that there is no reasonable disagreement over what exactly ought to be done. In particular, there can be—and is—reasonable disagreement over what mix of mitigation and adaptation strategies should be adopted.

But we have to be careful about what conclusions we draw from this. In particular, we cannot use this to claim that the compatibility condition is satisfied in the case of Expectation E. The reason for this is simple. We have identified two sources of reasonable disagreement—the focus of principles of distributive justice, and the mitigation versus adaptation question. Now, whatever your answer to those two questions, the point is that there is no reasonable disagreement over the claim that in any scenario, and for whatever reasons, future levels of per capita emissions must be much lower than X. The compatibility condition therefore does not seem to be satisfied in the case of Expectation E.

Moving on to the possibility and cost conditions, recall that the possibility condition states: It is permissible to act on the expectation that one will be allowed to emit at a certain level X in the future, even if that level is by hypothesis above the just per capita level, if there is no morally better alternative to so acting. And the cost condition states: It is permissible to act on the expectation that one will be allowed to emit at a certain level X in the future, even if that level is by hypothesis above the just per capita level, if it is extremely expensive to act on a different expectation. In other words, when examining whether Expectation E satisfies the possibility and cost conditions, we must examine the possibility and cost of changing the actions generated (in part) by the expectation.

Consider an individual member of Shi who decided to emit below X, at a level consistent with a just level of per capita emissions. On its own, this is very likely to make no difference to climate change. That is to say, looked at in terms of consequences, the agent is highly unlikely to have any morally better alternative to continuing to emit X—any level of emissions she chooses is most likely to have the same impact, i.e. none, on climate change. Further, it is uncontroversial to say that long-term projects are parts of ways of life. These long-term projects are chosen for many reasons, but two important ones are the likelihood of succeeding at that project and a belief in the continuing value of the way of life associated with that project. But that relies, in turn, on the level of emissions one expects to be able to emit in the future. One would not, for example, begin the process of trying to become a Formula 1 driver now if one thought it was highly likely that such activities would not endure because of the level of emissions.

The point is that deciding to emit at a level far below X would be extremely expensive then, involving as it most likely would a radical departure from current ways of life in Shi. For example: many young people make the decision to travel significant distances for the sake of an education. This decision has a huge impact on their lives, and seems to be based in part on expectations about their being able to continue to emit at level X—for example they might be more likely to do it if they believe they will be able to fly back home regularly. The general point, which we made above, is that one makes significant choices on the basis of the expectations one has formed, and if one changes one's expectations, one might well make different choices. Imagine, for example, that you form the expectation that in the future you will only be able to emit at a level far below X. As a result, you study close to home, you do not apply to jobs far away, you do not try to work in industries that you believe are inconsistent with that future level of emissions, and so on. These are hugely significant choices and, given that they lead to forsaking opportunities that most people around you continue to take advantage of, they come with significant costs.

It seems, therefore, that both the possibility and the cost conditions can render it permissible for Phi to act on expectations they have about being continued to allow to emit at level X, even if we assume that X is above the just per capita level, either because Phi has no morally better alternative to continuing to emit X or because even if there were a morally better alternative (i.e. cutting her own emissions to much below X), choosing that alternative is extremely expensive (in the sense outlined above), which means we cannot demand that Phi choose it.

This conclusion needs to be qualified, however, and in the following ways. Firstly, it is of course possible to reduce one's emissions without thereby significantly altering one's way of life. Short of technological changes or the kind of substitutability that we shortly discuss, however, it is not possible to cut them significantly without altering one's way of life. Nevertheless, to the extent that cuts in emissions can be carried out without altering ways of life or changing long-term projects, they are to that extent less costly and are therefore less likely to be extremely expensive to carry out.

Secondly, one may argue that reducing one's emissions can act as a signal to the relevant collective authority. By reducing them, one demonstrates one's willingness to accept the eventual collective solution which will (in most cases) impose such a reduction, and further, one also demonstrates one's desire for such a solution. Phi could be seen as standing under a natural duty of justice to promote the establishment of just institutions. Consequently, reducing their emissions without thereby significantly altering their way of life is morally demanded when this can make a difference in terms of establishing a just regime of combating climate change. One way to argue that the costs of signaling are not unreasonably large is to think of the emission reductions in terms of eliminating (some) luxury emissions only (Shue 2008, 227). Of course, it is difficult for Phi to predict whether their minor reductions do indeed help to bring about a just regime—we take it that the likelihood is very small (see fn. 11 below)—, and thus it is difficult for them to assess whether even minor costs ought to be borne.

Thirdly, one may also make an efficiency argument. The basic premise of this argument is that when we know a resource is scarce and highly valuable, it is impermissible to use it inefficiently, i.e. to waste it. To the extent that current ways of life involve wasteful emissions, these wasteful emissions ought to be avoided. This is not a claim that people ought to change current ways of life; rather, the claim is that holding current ways of life constant, they ought to live them in the most efficient way possible. A minor example will make the point. Imagine two sorts of light bulbs, identical in the amount of light they emit and even in how they light up a room. The first sort comes with a higher level of emissions as a by-product than the second. The claim is that people ought for that reason alone to use the second sort. That conclusion seems difficult to deny because by hypothesis the change is one that will have absolutely no effect on the lives people lead, simply on the level of resources that are used to allow them to lead those lives.

The argument from efficiency relies—not for its validity, but its applicability—on the thought that there are more and less wasteful means of achieving an end. The argument can be applied further by observing that in fact most things can be thought of as means; or, at any rate, more things than we would think of at first glance. This may be rather opaque, so here is an example. Many people take a holiday every year, and this appears to be an end. Reflecting on it, however, one may realize that taking a holiday is directed at some further end—relaxation, broadening one’s horizons, escaping one’s family, etc. That is to say, instead of thinking of one’s end as going on holiday, one begins to realize that going on holiday is actually a means to some more fundamental end. This sort of reflective process can be extended to many of our apparent ends, and once it is, the efficiency argument as developed in the previous paragraph applies. It may be, for instance, that one does not need to go on a long-haul trip for a holiday to be a successful means to whatever the deeper end of going on holiday is for the person involved. Once again, this sort of reflection, and the subsequent application of the efficiency argument, does not involve having to claim that people are required to change current ways of life—all it claims is that perhaps some (or possibly many) of the apparent ends of current ways of life may be satisfied more efficiently once we realize that these apparent ends are actually only means to more fundamental ends.

Our view on the permissibility of Expectation E is qualified, then. While we do indeed say it can be permissible, we also argue that it is only permissible under certain conditions. We do not claim that this permissibility is generated by the simple—and false—claim that expectations qua expectations generate entitlements that it is permissible to fulfill no matter what else is the case.<sup>10</sup> Further, the permissibility of the expectation applies to the permissibility (given certain conditions) of pursuing current ways of life, but we also severely qualify the understanding of what it means to pursue ways of life—in general, we point out that not all emissions can be understood as necessary to this. Consequently, on our view, the permissibility of Expectation E is consistent with the impermissibility of current levels of personal emissions.

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<sup>10</sup> Thanks to Robert Jubb for stressing this point in his review of a draft of our paper.

## 6. The Collective Authoritative Solution

Thus far, we have discussed the legitimacy and permissibility of Expectation E in current circumstances. These circumstances, we can safely stipulate, can be thought of as being non-ideal. In this section, we transfer our attention to the case of ideal circumstances.

First, therefore, we will quickly describe the relevant features of the ideal case. We ended the previous section by pointing out that even though Expectation E can be permissible, it can simultaneously be impermissible to emit at the current level. Nevertheless, the sorts of reductions in personal emissions that this view generates cannot plausibly be seen as an adequate response to the problem of climate change. That response, whatever it is, must be collective and widely complied with if it is to be adequate. In the ideal situation we will have a collective and enforceable solution. Further, in the ideal case, it is clear the distribution of emissions will be fair (whatever it is that fairness amounts to).

We will understand the ideal circumstance as being one in which what we will call a collective authoritative solution (CAS for short) is instituted. The CAS will be (a) collective in the sense that it identifies all those who stand under duties to contribute to the reduction of total emissions to the just level; (b) fair, in that the distribution of those duties meets the relevant demands of justice; and (c) authoritatively imposed, in order to ensure that most comply with their duties.<sup>11</sup>

Our definition leaves open the question of whether the CAS is to be considered legitimate. Given the enduring reasonable disagreement on legitimacy, we do not want to restrict our analysis to one conception of it, and neither do we want to make its applicability dependent on accepting the claim that the CAS is legitimate. Consequently, we will provide an analysis for both cases, i.e., for the case where the CAS is thought of as politically legitimate and for the case where it is not, that is where the regime is considered merely *de facto* powerful and efficient (Raz 1986, 23–8). Further, and for similar reasons, we deliberately use the catch-all phrase ‘meets the relevant demands of justice’—we do not want to restrict ourselves to one particular view of what that amounts to.

To begin with, let us assume that the CAS is politically legitimate. Let us further assume that the conditional claim we made in *section 3* is true: if laws, or systems of laws, are legitimate, then the people subject to them may justifiably be coerced into obeying them. If the CAS is legitimate, then Shi may justifiably coerce Phi into not fulfilling Expectation E. Equally obviously, if you understand the CAS as illegitimate, then Shi may not justifiably coerce Phi into not fulfilling Expectation E.

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<sup>11</sup> This, we claim, is the ideal state with respect to climate change, but we do not claim that this ideal state is likely to come about. Indeed, we implicitly claim the opposite, because by arguing that Expectation E is epistemically legitimate (see *section 3*), we are claiming that people have good reasons to believe that the ideal state is unlikely to be reached anytime in the near future (or more precisely, it is unlikely to be reached in the time period covered by the expectation). The ideal state is nevertheless worth considering for systematic reasons and since it is the state we want to arrive at.

If the CAS is politically legitimate in the stronger sense this means there is an obligation to obey the laws that constitute it (see *section 3*). On this view, if that obligation is absolute, the question of moral permissibility seems to disappear. More precisely, the conditions we have identified for the moral permissibility of expectations are no longer relevant to judging what Phi ought to do. In such a situation, all that matters is that the agents in question have an obligation to obey the laws that constitute the CAS. To be sure, moral considerations can still be relevant, but they are relevant at the level of determining whether the CAS can be considered to be a case of legitimate law-making by legitimate authorities. Once we stipulate that is indeed the case, it is no longer relevant whether the agent knows that her current level of emissions is unjust or whether there is reasonable disagreement over it.

Further, the possibility and cost conditions also become irrelevant. Let us deal with the possibility condition first. That, recall, stated that one may permissibly act on Expectation E if there is no morally better alternative to so acting. The introduction of legitimate laws, coupled with the claim that one has an obligation to obey them, changes the picture, and changes it without having to make any reference to the effect of those laws. If there is an absolute moral obligation to obey, then it is morally required to obey the laws, assuming that they are legitimate, which plausibly presupposes that the laws in question are not so morally reprehensible as to render the authority making them illegitimate. Analogously, the cost condition also becomes irrelevant as long as the laws are legitimate, which plausibly presupposes that the laws do not make clearly unreasonable (in the sense of being extremely expensive) demands on people.

In summary, once one accepts the conditional claim about legitimacy made in *section 3*, interprets it to include the absolute obligation to obey, and finally adds the claim that the CAS is legitimate, the question of moral permissibility does indeed disappear. Alternatively, if one interprets the obligation to obey legitimate laws as not being absolute (Green 1988, 113f.; Perry 1989, 913), the question of moral permissibility changes to the question of the conditions under which it is permissible to disobey legitimate laws.

However, it is not at all necessary to accept that justified state coercion comes with an obligation to obey (Buchanan 2005, 233–240; Ladenson 1990, 34). On this view, even if the CAS is legitimate, all it means is that Shi can justifiably coerce Phi into complying with it—Phi have no obligation to obey. In such a situation, the institution of the CAS makes a difference in terms of whether the permissibility conditions are fulfilled. For example, it may mean for Phi that they can now understand themselves as contributing to a solution by complying.<sup>12</sup> More strongly, it necessarily makes a difference to the calculation of the cost condition. It does this because the institution of a coercive solution means that the costs of fulfilling Expectation E change owing to the facts that

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<sup>12</sup> However, even if the collective regime will lead to a solution, each individual's contribution to that solution may not, when considered in isolation, make a difference to whether that outcome is reached or not. That is to say, one of the sources of the free rider problem—being able to benefit from a better outcome without one's individual contribution being necessary to achieving it—applies here too.

(a) fulfilling Expectation E under the CAS will require disobeying coercive laws and (b) if most will comply, there is a smaller relative disadvantage for those who do comply. This alters the assessment of whether or not the cost condition is satisfied in the case of fulfilling Expectation E.

We now turn to the view that the CAS is to be considered illegitimate. The implications of this view are analogous to the view which holds that the CAS is legitimate and that legitimacy only implies that coercion is justified (i.e. there is no obligation to obey). That is to say, if we assume that the CAS is illegitimate, then once again, legal permissibility enters the question of moral permissibility only via prudential reasons, i.e., by affecting the costs to the agent of fulfilling Expectation E. The reasons for thinking that the CAS is illegitimate may vary, of course—for example, one could think that while there were legitimate authorities, the CAS is not an example of them, or alternatively, one could deny that there could be legitimate authorities at all (Simmons 1987, 268)—but the conclusion remains the same.

Thus far, we have concentrated on the effects of the CAS for judging the legitimacy and permissibility of Expectation E under ideal circumstances. There is, however, an interesting possibility of the reverse effect—the possibility, in other words, that Expectation E constrains or affects the nature of the ideal solution in some way. It is this that we now will briefly discuss.

Rawls speaks of conditions for legitimate expectations of individuals in *A Theory of Justice*. According to him,

“[i]n a well-ordered society individuals acquire claims to a share of the social product by doing certain things encouraged by the existing arrangements. The legitimate expectations that arise are the other side, so to speak, of the principle of fairness and the natural duty of justice. For in the way that one has a duty to uphold just arrangements, and an obligation to do one’s part when one has accepted a position in them, so a person who has complied with the scheme and done his share has a right to be treated accordingly by others. They are bound to meet his legitimate expectations.” (Rawls 1999, 275)

As the quote makes clear, he speaks of legitimate expectations in the context of social justice, but the idea seems relevant to our discussion. An institutional arrangement generates expectations on the part of those to whom that arrangement applies, and on whose continued efforts the enduring existence of that arrangement relies. If that institutional arrangement meets certain standards, and if agents do their bit in supporting and maintaining that arrangement, then the agent’s expectations about what she will receive in exchange for doing her bit are legitimate, and she can therefore permissibly act on the basis of her expectations about what she will receive.

We can distinguish at least three elements of Rawls’ account. Firstly, the institutions need to meet some (substantive) conditions (of justice) if they are to be able to generate legitimate expectations—“When these rules are just they establish a basis for legitimate expectations.” (Rawls 1999, 207) Secondly, agents need to stand in a certain sort of relationship to those institutions—“Given that

these rules are fair or just, then once men have entered into these arrangements and accepted the benefits that result, the obligations which thereby arise constitute a basis for legitimate expectations.” (Rawls 1999, 207) Thirdly, when formed under such conditions the expectations become morally significant because realizing these expectations is to be considered just (that is, justice requires fulfilling these expectations)—“A person who has complied with the scheme and done his share has a right to be treated accordingly by others. They are bound to meet his legitimate expectations.” (Rawls 1999, 313)

This analysis, the thought would run, can be transferred to Expectation E if we revise the first condition. That condition says that the institutions must meet some substantive conditions of justice. That is to say, it is not necessary that the institutions be perfectly just, only that they be just enough (Rawls 1995, 175). This seems the better interpretation because if legitimate expectations can be generated only by perfectly just institutions, then there would be no legitimate expectations at all, which is a strange result. Rather than thinking of it solely as a matter of substantive justice, therefore, we can think of the first condition as expressing legitimacy criteria, with the satisfaction of ‘some substantive conditions of justice’ being part of those. At this point, one makes the next claim, namely that Expectation E has been generated at least in part but necessarily by the institutions in question. If, therefore, we accept the assumption that Shi are legitimate, it seems to follow that Phi have in turn a valid claim that they be allowed to fulfill Expectation E.

The claim is not that Phi ought to be allowed to fulfill Expectation E. Rather, the idea is that the legitimate claim that Phi have to being allowed to fulfill Expectation E counts normatively. The costs of them not being able to fulfill that claim ought to be taken into account when (a) deciding whether the claim ought to be fulfilled at all and (b) if not, when designing the collective authoritative solution. The expectation has to be taken into account by at least instituting the CAS in as non-disruptive fashion as is consistent with it satisfying the aim of being an effective solution to the problem of climate change, because at the very least this is required to be consistent with giving adequate weight to Expectation E.

This argument, incidentally, would also function as a response to a possible objection to our discussion of the cost condition. That objection would run: costs to an agent that are a result of injustice on the part of an agent ought not to be normatively relevant at all. The response canvassed here would claim that the standard ought to be set lower, namely, at the level of legitimacy, and further claim that Expectation E is legitimate and therefore the costs of not being able to fulfill it are normatively relevant despite being a product of injustice.

## **7. Conclusion**

In this paper, we have attempted to identify conditions under which Expectation E—the expectation of people in the highly industrialized countries (Phi) that they will be able to emit on average what collectively will amount to their states’

current level of emissions and up to that level in the future (*section 2*)—could be considered legitimate and permissible (*sections 3–5*). We argue that Expectation E is epistemically legitimate (*section 3*) and that given certain assumptions we can also think of it as politically legitimate (*sections 3 and 6*). We further argued that Expectation E was morally permissible because of the cost and possibility conditions, but we heavily qualified that conclusion (*section 5*).

This analysis of Expectation E adds to our understanding of the relevance of historical emissions to the claims currently living people, and in particular Phi, have in being able to continue engaging in activities with emissions as a side-product. It does so regardless of whether we have been correct in arguing that Expectation E is both legitimate and permissible (under certain conditions and in a qualified way).

Expectation E has been formed, in part but necessarily, by the historical emissions of Shi when understood as transgenerational collective entities. Therefore, when one investigates whether Expectation E is legitimate or permissible, one also investigates whether and how the historical emissions of Shi affect duties and claims of currently living people with respect to climate justice. Further, by framing the investigation in terms of Expectation E, one is able to avoid some of the problems associated with analyzing the significance of historical emissions in terms of compensatory justice (Meyer 2011, 95–7). For example, one can avoid engaging with the controversial question of whether we can hold currently living people responsible for the acts of their ancestors. Also, the issue raised by the non-identity problem, namely whether Phi can be said to have been benefited by historical emissions, is not relevant. When the significance of historical emissions is assessed in terms of distributive justice these issues do not arise either (Meyer 2011). Our interpretation of the significance of Expectation E does not contradict but is compatible with the understanding that historical emissions should count in terms of fairly distributing the benefits of emission-generating activities over a lifetime, with those benefits understood as including the benefits mainly currently living Phi have received from such activities of their predecessors (Meyer/Roser 2010). However, if you agree with our (heavily qualified and conditional) claim that Expectation E is legitimate and permissible, this identifies a consideration that is relevant to determining how one ought to go about arriving at a collectively fair solution (*section 6*).

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