Historical Emissions: Does Ignorance Matter?[1]

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This article addresses a specific issue in relation to the question of who should pay the costs of mitigation, adaption, and compensation stemming from anthropogenic climate change. It is concerned with the claim that it is in some way inappropriate to make members of current day states pay for the historic greenhouse gas emissions [GHGs] of their counterparts on account of the fact that those historic counterparts were not aware of the harm to which their actions would give rise in the future. The article is specifically concerned with a particular form of this argument, which maintains that this historical ignorance is the key factor which makes a difference to what is owed in the present. The argument is not always made in this fashion: sometimes it is listed along with a number of other concerns relating to the practical and theoretical difficulties associated with holding present day communities responsible for the actions of their forebears in order to cast general doubt on backward looking principles for the allocation of present day costs. My concern is with the particular claim that the fact of historical ignorance is key: that it exculpates historical actors, meaning that we do not, in retrospect, believe that they were to blame for their actions, and that this means that it would be wrong to hold their successors responsible for rectifying the costs of the lasting

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effects of what they did (cf. Bell, 2011; Zellentin, 2014).[2] My aim in this chapter is provisional: it is to show that this specific argument does not apply to the particular context of historic emissions, and that this "exculpatory block" does not lessen or remove modern day remedial obligations given a belief that such remedial obligations would in fact exist had past generations been aware of the likely effects of their actions. I accept that ignorance is a defence against the charge of moral wrongdoing, absent a justified charge of culpable negligence. Nonetheless, it is appropriate to hold those relevantly connected to historic actions which would have been wrongful if performed in knowledge of their likely consequences liable for the costs of those consequences when a specific condition is fulfilled. This is when we are convinced that they would have acted as they did even if they had, in fact, been aware of the likely consequences of their actions. This claim will doubtless seem immediately counter-intuitive to some: many have an understandable and deep-seated sense of indignation and resentment that is provoked when it is suggested that they might be blamed not for something they did but for something they would or might have done if they had the opportunity. The particular character of human history, particularly in relation to international affairs, and the precise sense of responsibility entailed in debates as to the modern day allocation of costs associated with climate change, mean that such a reaction is misplaced in relation to historic GHG emissions.

It is important to be clear at the outset as to the nature of the idea of responsibility on the part of modern day generations which is in play here. The conception invoked by the defender of backward-looking responsibility for the costs of climate change is not to be

understood in terms of *moral* responsibility, which necessarily accrues to agents solely as a result of their actions. Given a commitment to a certain form of axiological individualism, which accepts that individuals rather than groups are the basic units of our ethical thinking, it follows that we can only be morally responsible for our own agency, not that of others. This is not to deny that we can act in ways which lead to us being members of groups which can bear collective moral responsibility for particular outcomes, nor that we can be responsible for our omissions as well as our actions, nor that attributions of moral responsibility can be appropriate in the absence of deliberate intentionality to bring about a particular outcome but in the presence of negligence or some other form of lack of care as to the possible effects of our agency. We cannot, however, be morally responsible for outcomes over which we had no kind of input or control, and which in no way result from choices which we have made. One way to put this point is to note that causal responsibility, understood in terms of being at least one causal factor in relation to an outcome, is a necessary though not sufficient condition for bearing moral responsibility for the outcome in question. By definition, we cannot be causally responsible for events which precede our existence, and so we cannot be morally responsible for them either. It does not follow from this, however, that we necessarily have no responsibility, in a different sense, for the effects of such events. David Miller helpfully distinguishes in this regard between ideas of moral and "remedial" responsibility. To bear remedial responsibility for a particular problematic outcome is to bear a special responsibility to correct the outcome, to act in such a way as to right whatever wrong or solve whatever problem has been created. Miller writes that "[w]ith remedial responsibility we begin with a state of affairs in need of remedy, …and we then ask whether there is anyone whose responsibility it is to put that state of affairs right."(Miller, 2007: 98)

Neither moral nor causal responsibility is a necessary condition for possessing remedial responsibility for an outcome: trivially, I may possess remedial responsibility for another's actions if I promise that I will pay for the costs of what that agent does. Attributing remedial responsibility to an agent is therefore generally less significant than an attribution of moral responsibility, since it does not come with any further claim about moral blameworthiness or the possible desirability of punishment. It merely holds that it is right for the agent in question to bear the costs of putting right whatever bad situation is at stake. Of course, there has to be some reason as to why an attribution of remedial responsibility is appropriate, as opposed to leaving the situation as it is and not shifting costs from the immediate victims to some other party. Moral responsibility would be an obvious reason for such a shift, but there are other possibilities, particularly in situations where the agent with moral responsibility is unable to pay, such as in cases where they are dead or otherwise incapacitated. Thus Miller outlines what he calls his "connection theory" of remedial responsibility, whereby an agent can come to possess a duty to put a situation right on account of possessing one or more six types of morally relevant connection to the bad outcome. Three of these are types of backward-looking responsibility: specifically, moral responsibility; outcome responsibility;[3] and causal responsibility. Miller then adds three further forms of connection: benefiting from the bad situation in question; possessing capacity to address the bad situation (such as being geographically well-placed in relation to the victim, or being very wealthy and so being able to afford to assist); and possessing ties of

[2] Outcome responsibility emerges, for Miller, when we ask whether "a particular agent can be credited or debited with a particular outcome—a gain or a loss, either to the agent herself or to other parties" (ibid.: 87) Miller distinguishes outcome responsibility from moral responsibility here since, on his account, to be morally responsible for X is to be liable for praise or blame in relation to X, and some outcomes are not appropriate subjects for this kind of moral appraisal (his examples include the effortless physical ability of a natural athlete and the disappointing horticulture of a clumsy gardener (cf. ibid: 89-90)).

community to those negatively affected. Which of these is the appropriate basis for allocating individual or shared responsibility in a given case will, he argues, inevitably depend upon our intuitively grounded reaction to the particular specifics of the situation. So he writes, "As far as I can see, there is no algorithm that could resolve such disputes. We have to rely on our intuitions about the relative importance of different sources of connection." (ibid.: 107)

When we apply this framework to contemporary policy questions relating to climate change, we find a complicated series of claims relating to where the costs associated with historic GHG emissions should fall. There are three broad categories of alternatives. The first is to do nothing, and leave the costs of climate change to lie where they fall, knowing that this will mean terrible hardship for some of the world's most impoverished people. The second is to invoke some forward-looking principle, such as capacity to pay as a function of contemporary wealth, in order to allocate the costs of adaptation, mitigation and compensation, as is done by reference to the "Ability to Pay Principle" (APP) (cf. Caney, 2010: 203-228; Meyer and Roser, 2010: 229-253). The third is to appeal to a backward-looking principle which links present day parties, in one way or another, to particular historic emissions, either on its own, or in combination with a capacity-oriented principle. The two most prominent attempts to do this are commonly known as the "Beneficiary Pays Principle" (BPP) and the "Polluter Pays Principle" (PPP) (cf. Butt, 2013) Both have well-established parallels in the theoretical literature on present day responsibilities in relation to historic injustice. The first approach looks to the lasting benefits which historic industrial processes have had for people living in the present day. The most obvious modern day beneficiaries in such cases may well be the descendants of those responsible for the original

emissions but this will be a contingent rather than a necessary relation: there may be descendants who have not so benefited, and there may be non-descendants who have (cf. Baatz, 2013: 94-110; Gosseries, 2004: 38-62; Page, 2011: 412-32; 2012: 300-30). The second approach focuses more directly on the relation between ancestor and descendant, and posits some reason as to why it is appropriate for the latter camp to assume responsibility for the debts of the former (cf. Neumayer, 2000: 185-92; Pickering and Barry, 2012: 667-82; Shue, 1999: 531-45). A range of such reasons has been suggested in the historic injustice literature, ranging from accounts which place emphasis on the institutional continuity between the two groups through communal ties such as national membership or formal mechanisms such as the persistence of a state apparatus, to approaches which are grounded in the desirability of upholding transgenerational agreements or in the hypothetical wishes which would be expressed by previous generations if they were able to have their say in the present (cf. Butt, 2009; Spinner-Halev, 2012; Thompson J., 2002) In the cases of both the BPP and the PPP, it has been argued that the connection between past and present is of the right kind to place modern day parties under an obligation to try to put right the lasting effects of historical actors.[4]

What is crucial for the current argument is that whichever account is employed, it matters that the historic action in question was wrongful, that the parties responsible were culpable in moral terms. This is critical, since otherwise the claim that those responsible for historic emissions were not aware that they were doing anything wrong would not serve to block

[3] Megan Blomfield has argued persuasively that to see backward-looking accounts of remedial responsibility for the costs of climate change as merely analogous to backward-looking accounts of remedial responsibility for the lasting effects of historic injustice is to mischaracterize the relation between the two and to miss the extent to which harm caused by the effects of climate change is often itself a result of past wrongdoing: so she argues, "the causal links between climate vulnerability and historic wrongs suggest that in some respects, the problem of climate change is actually part of an on-going, or enduring injustice." (Blomfield, 2015: 4)

the claim for present day remedial responsibility. The challenge comes from the putative innocence of those responsible for GHG emissions prior to a specified date, which is taken to be the point at which it was reasonable to conclude that such emissions were morally problematic on account of the risk which they posed to the environment. Opinions vary as to when this was: while it is common to cite the first Intergovernmental Panel on Climate Change (IPCC) report in 1990, some have instead pointed to Svante Arrhenius's 1896 paper "On the Influence of Carbonic Acid in the Air upon the Temperature of the Ground" (Arrhenius, 1896). Axel Gosseries canvasses a range of different possibilities spanning more than 150 years, including 1840, 1896, 1967, 1990 and 1995, and of course, many continue to deny the effects of industrial processes on the climate, a mass of contrary scientific evidence notwithstanding (cf. Weart, 2008). Regardless of which point is chosen, the argument from excusable ignorance maintains that it is unfair to hold innocent emitters remedially responsible for the costs of their actions, as in Derek Bell's articulation of the principle, "If an agent is excusably ignorant of the consequences of her actions, she should not be held liable for the costs associated with the consequences of her actions." (Bell, 2011: 394). So, for example, Rudolf Schüssler writes that adopting a principle of strict liability in a context where those who pay the costs were not aware of the effects of their actions "comes close to primitive and/or totalitarian practices of clan liability" (Schüssler, 2011: 275), and Simon Caney has argued that if the ignorance of past emitters was excusable "it seems extremely harsh to make them pay for something that they could not have anticipated" (Caney, 2010: 130-1). Imposing a duty on excusably ignorant emitters to benefit the victims of climate change is, he writes, "to prioritize the interests of the beneficiaries over those of the ascribed duty bearers. It is not sensitive to the fact that the alleged duty bearers could not have been

expected to know. Its emphasis is wholly on the interests of the rights bearers and, as such, does not adequately accommodate the duty-bearer perspective" (ibid.: 131-2).

Broadly speaking, there are three ways to challenge the argument that present day parties do not owe remedial duties for the effects of historic emissions as a result of the non-culpable ignorance of the emitters. The first is to question the claim that such emissions were indeed made in a context of non-culpable ignorance. This can be done by maintaining that (at least some) past generations should have been aware that their actions were either harmful or posed a morally significant degree of risk, meaning that the emissions in question were either straightforwardly wrong as harmful, or were culpably negligent. The second is to maintain that the moral character of those responsible for the emissions is not relevant to modern day assignations of remedial responsibility, on the grounds that historic emitters were remedially responsible for their actions even in the absence of moral culpability, meaning that modern day parties who are linked to them in a morally relevant way (as in the PPP) or who have benefited from their actions (in relation to the BPP) are liable for the associated lasting costs. A recent article by Alexa Zellentin, for example, makes both claims. Zellentin (2014) first challenges the idea that GHG emissions associated with the Industrial Revolution really were innocent, arguing that there was at least "some indication that industrialisation posed environmental threats, and the relevant agents could therefore have been expected to know that they were embarking on a path of action a) that was not fully under their control, and b) the impact of which was not foreseeable" (ibid.: 270).[5] She then argues that rectificatory duties can arise in the absence of blameworthiness

[5] See also Meyer (2004 : 20-35) for an argument relating to the effects of 'wrongless historical emissions" which lead current generations to fall below a threshold-notion of harm, and Heyward (2014: 405-419).

when an agent infringes the rights of others, writing that "Responsibility and blameworthiness can come apart. This justifies the imposition of rectificatory duties on those who have infringed the rights of others even where the infringement happened in a non-blameworthy manner." (ibid.: 261)[6]

I am sympathetic to both of these responses, but the current article sets them to one side. This leads to the third form of response. This accepts, if only for the sake of the argument, that the emitters cannot be said to be morally culpable in relation to the specific emissions they produced, as they were ignorant of the likely effects of the emissions in question. It maintains, however, that more advanced scientific knowledge would have made no difference to the actions of the emitters, or to those responsible for regulating them: even if they had known of the likely consequences of their actions, they would have carried on regardless. It therefore maintains that the exculpatory strategy does not block the transmission of remedial responsibilities to agents in the present day. This does not amount to a general argument in favour of strict liability for the effects of emissions as suggested by the second strategy above: instead, the claim is that causal responsibility of this kind leads to remedial responsibility only in a specific subset of cases where a party brings about a particular outcome: that which obtains when a counterfactual condition is satisfied which attests to the non-relevance, in practical terms, of the ignorance of the causally responsible agent, who would have acted in the same way even if they had known of the likely effects of their actions.[7]

[6] See also Bell (2011)

[7] This idea of "likely effects" needs unpacking. The idea here is not to imagine that past generations had perfect clairvoyance as to how the future development of the world would play out, not least as such perfect knowledge would extend to contemporary debates over how to allocate the costs of

Such a claim faces two challenges: one epistemic and one normative. The epistemic challenge queries whether we can know how a historic agent, or indeed any agent, would have acted had they been in possession of information which would have rendered their actions, had they then continued with them, immoral. The normative challenge disputes the moral relevance of the counterfactual condition: even if we accept that an agent would have acted in this way, it argues, it makes no difference to the remedial responsibilities of either the agent or subsequent related parties. We will consider each in turn.

First, how can we know how someone would have acted had they been in possession of information which they did not, in fact, possess? The obvious way to respond is to say that we cannot. It is true that we cannot say for certain how a given agent would have acted had circumstances been different. My claim is that the relevant standard for the purposes of this chapter, however, is not certainty. It is sufficient to say that we are convinced that a agent would have acted in the same way regardless of the harmful effects of their actions, that it seems highly or overwhelmingly likely that this would have been the case. This idea can be expressed in a number of ways. We might, for example, borrow the standard of proof used in criminal trials, where jurors are required to be persuaded of the guilt of a defendant "beyond reasonable doubt", as opposed to the standard often employed in civil trials where

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climate change, and indeed to the future resolution, if any, of these debates. Rather, the question is how we believe past generations would have acted had they had at least some sense as to the likely future impact of their actions, and some understanding of the threat they were posing to future generations, even if we accept that they would have been unsure whether that threat would in fact materialize. Of course, even in the present day, scientists are unsure as to how existing levels of GHG emissions will affect future generations, and so climate policy discussions typically proceed with a number of different scenarios in mind (cf. UNEP 2011). Understanding the "likely consequences" of their actions, then should be understood in terms of describing a state of affairs where, to repeat Zellentin's words, agents knew at least "that they were embarking on a path of action a) that was not fully under their control, and b) the impact of which was not foreseeable"(Zellentin, 2014: 270), and further that some of the possible scenarios associated with their actions involved very substantial future environmental harm.

cases are instead settled on the balance of probabilities. Is this condition satisfied in relation to historic emissions – is it the case that we should be convinced, beyond a reasonable doubt, that the great bulk of historic emissions would have been produced even if previous generations had been aware of their possible future effects? It seems to me reasonably clear that this is indeed the case. Two observations, in particular, may be made in relation to the claim. The first concerns the general character of industrial powers historically, particularly in relation to their dealings with non-nationals. The dominant mode of foreign policy for much of the period in question was imperial and/or colonial: many less developed countries were subject to grievous wrongdoing at the hands of Western countries eager to fuel their industrial growth. It stretches credibility to believe that a concern for the descendants of those whom were being dominated and subjugated, in particular, would have checked the progress of the Industrial Revolution. It is not hard to point to a myriad of policies which were clearly harmful to others but which were justified by crude invocations of the national interest, with a particular emphasis on the interests of those living at the time. Second, and perhaps more straightforwardly, it seems clear that the development of knowledge about the effects of GHG emissions has not in fact served to check emissions in any kind of meaningful way. As Henry Shue (1999: 536) writes:

> ...the industrial states' contributions to global warming have continued unabated long since it became impossible to plead ignorance. It would have been conceivable that as soon as evidence began to accumulate that industrial activity was having a dangerous environmental effect, the industrial states would have adopted a conservative or even cautious policy of cutting back greenhouse emissions or at least slowing their rate of increase. For the most part, this has not happened.

Stephen Gardiner argues even the most high profile attempts at action, the Kyoto Protocol and the Copenhagen Accord, have been ineffectual, observing that the aftermath of the Kyoto renegotiation in 2001 actually saw widespread increases in emissions in the industrialized world as whole (Gardiner, 2011: 132). His verdict on these initiatives is damning: "in essence, it is highly plausible to believe that, at best, these efforts tried only to do something limited to protect the interests of the present generation, narrowly defined, and that, at worst they served merely as cover for business as usual. Either way, they did almost nothing to aid future generations, or the planet more generally." (ibid.: 128)[8] Perhaps, optimistically, we are now seeing some signs of progress, in at least some parts of the world. But this is limited, it is uncertain, it takes place in an international arena increasingly characterised by the spread and consolidation of international law, and it has, to put it mildly, been a long time coming.

Putting both these observations together creates a convincing case for the claim that the counterfactual condition is satisfied in relation to historic emissions. Perhaps neither on its own is sufficient to establish the claim: the fact that X does not change course when presented with evidence that what she is doing is wrong may not be in itself sufficient to establish the stronger claim that X would have set out on this course in the first place had she known of the effects of X, given the significance of path dependence.[9] When we look, however, at the moral character of historic communities along with the evidence of how these communities reacted when they became aware of the effects of their actions, the case

[8] (cf. Butt, forthcoming)

[9] It is worth noting, however, in contrast to the case of carbon emissions, that we do have experience of swift and timely international action in the light of new scientific knowledge in order to combat potentially catastrophic environmental change, as witnessed by the international community's response to revelations about the role of chlorofluorocarbons (CFCs) in the depletion of the ozone layer in the 1987 Montreal Protocol. The contrast with the role of the international community in relation to GHGs is striking.

becomes compelling. It is important to note here that we are thinking about the results of the aggregated actions of large numbers of individuals, along with the ongoing policy decisions of those responsible for regulating them (or choosing not to so act). The counterfactual condition in this context would not typically be derailed by one individual, or a small number of individuals, choosing to act differently: the claim of this section is that the overall picture would have been so similar as to be practically indistinguishable from the situation we face in the present day. I shall not labour the point further. In my view, it is, to say the least, very hard to make a good faith argument that things would have been different had scientific knowledge been more advanced at an earlier date. We should indeed accept that we cannot know for certain what would have happened, but it is hard for me to accept that there is much doubt about the most likely outcome. There may be legitimate disagreement here about how far beyond the balance of probabilities we must progress for the counterfactual condition for obtain, but insisting upon certainty seems too demanding a standard. The danger is that to make such an argument – or, more likely, to insist that one's opponent does the impossible and prove that a different outcome would not have been the case – will frequently be to argue in bad faith, from a motivation of seeking to avoid liability in the present rather than of trying to come to a fair-minded assessment of the character of historic policy making. Even if one believes that it is legitimate for lawyers to seek to protect their clients in such a fashion, it does not follow that it is a justifiable tactic for democratic communities which are struggling with the question of what they owe to others.

So suppose we accept all of the preceding argument. We agree (given this chapter's assumptions) that had previous generations acted in knowledge of the likely effects of GHG emissions then they would have acted wrongfully, and that this would have given rise to

modern day remedial obligations on the part of those relevantly connected. We also accept that accurate scientific knowledge would not, in fact, have made any difference to those actions. Why should this latter acknowledgement give rise to remedial obligations in the present day? To show why this might be thought to be the case, we need to return to the earlier distinction between moral responsibility on the one hand, and remedial responsibility on the other. Different understandings of responsibility are useful in different contexts. This applies, for example, when we think about how the law deals with ideas of responsibility. When it comes to criminal responsibility, it is a necessary condition for finding an agent guilty of a crime that they are morally responsible for the commission of the crime in question. Whichever theory of criminal justice we endorse, and however we justify using the coercive power of the law to impose hard treatment on criminals as punishment, a guilty verdict is predicated upon some sense of blame: the idea that the criminal did something wrong. The amount of punishment imposed need not be in exact proportion to the crime committed: thus if multiple individuals are found guilty of plotting to commit the same crime, their punishment is not normally a proportionate share of the punishment which an individual who was convicted of perpetrating the same crime on their own would face, even if the sentence given in the latter case is higher than the average sentence given in the co-conspirators in the former case. The quantity of punishment, and whether, indeed, anyone is punished at all, depends on whether there are agents who have acted in a culpable way. It is crucially important in such cases that the proper relation between the agent and the crime should exist: we rightly think it would be wrong to punish someone for something they did not do, or which they did innocently. So in criminal law, "*mens rea*", a guilty mind, is a strictly necessary condition for a conviction. The guilt which is relevant here pertains to the specific crime in question: it is clearly not (or should not be) enough for a prosecutor to point

to the general bad character of the accused. We instinctively recoil from the kind of legal system proposed in the story and film *Minority Report* (originally written by Philip K. Dick) where predictions are made as to which crimes individuals will commit, and the would-be perpetrators are apprehended and subsequently punished before they do in fact commit the crime. No one should be punished for something they did not do, regardless of how likely it is that they would have done the thing in question. This does not, of course, mean that they cannot be punished for conspiring or attempting to commit a crime – it can be legitimate to intervene to prevent wrongful action, and it can be legitimate to punish the preparation for wrongdoing even if the perpetrator does not actually get the chance to perpetrate. But there is nothing to be gained and much to be lost, from a moral perspective, in punishing the innocent.

The kind of case under consideration in this chapter, however, is not quite the *Minority Report* case. This is not a situation where an act is prevented and where a counterfactual judgment is made as to what would have happened had the intervention not occurred. Instead, an act does occur, and the counterfactual concerns our judgment as to whether the act would have occurred in the same way had the perpetrator been aware of the likely effects of their actions. It is true that we make a moral appraisal of the character of the perpetrator in such a judgement. However, and crucially, this is not an appraisal made with a view to deciding whether the perpetrator should be punished. Instead, the point of considering the moral character of the action is to determine not moral but remedial responsibility. This distinction is key. In such a case, it is straightforwardly true that the perpetrator is causally responsible for the effects of the action under consideration. It is also, by hypothesis, true that they are not morally responsible for the effects of the action, as they

are non-culpably ignorant as to what these effects are likely to be. The question is, in Miller's terminology, whether we should also hold the perpetrator remedially responsible for the action: whether the costs of the actions can justifiably be laid at their door. My instinct is that the burden is on the perpetrator to show why the costs of their actions should not be borne by them but should be left to lie where they fall, or should be borne by some other agent or agents. The situation in this case has the character of a zero-sum game – costs have been accrued, and someone has to bear them. Leaving costs to fall where they lie is a principle with some *prima facie* plausibility: there is administrative cost to shifting burdens, and so all things being equal, there is a reason not to intervene. This is not, however, a terribly strong principle. Thus we have seen that some wish to operate a principle of strict liability in relation to historic emissions, and to hold those who were outcome responsible also remedially responsible regardless of their moral culpability. If this claim is to be resisted, it must be maintained that the innocence of the perpetrator provides a sufficiently good reason not to make such a claim, and instead to argue that the perpetrator has no relation to the costs of the harm which is sufficiently strong to trump either a forward looking principle of capacity or equal sharing, or the leaving harms where they lie principle. My argument in this section is that satisfaction of the counterfactual condition relating to likely consequences tips the balance against the perpetrator. It significantly increases the moral relevance of their connection to the wrongdoing beyond mere causal responsibility, and means that potentially those with greater capacity, but certainly the victims of their actions, have justifiable cause for complaint if they, rather than the perpetrators, are forced to bear the cost of the perpetrators' actions. My claim here is that the default situation in such a case is not that of leaving the harm to lie where it falls, but of shifting it to the perpetrator. We can be justified in reversing this situation, and not only exculpating but indemnifying the

perpetrator, but only if the innocence of the perpetrator goes, we might say, all the way down. It is not hard to think of cases where actions have truly bizarre consequences, and where we are generally happy to say that ignorance is a defence not only against moral blame but potentially against remedial responsibility. Consider first the following example, taken from Judith Jarvis Thomson (1990: 229):

> DAY'S END: B always comes home at 9:00pm and the first thing he does is to flip the light switch in his hallway. He did so this evening. B's flipping the switch caused a circuit to close. By virtue of an extraordinary series of coincidences, unpredictable in advance by anybody, the circuit's closing caused a release of electricity (a small lightning flash) in A's house next door. Unluckily, A was in its path and was therefore badly burned.[10]

Morally speaking, there does not seem to be any significant difference between this case and one which involves some kind of "butterfly effect": it is hard to see that anything of any moral consequence ensues if I clap my hands and this inadvertently causes a tornado on the other side of the world. In this situation the harms seem to be nothing more than an unfortunate accident, and so presumably they should be treated as such under our preferred account of distributive justice, and so, for example, be left to lie where they fall, or be met by the community as a whole: either way, there seems no compelling reason to make B pay. The more direct the causal link, the less comfortable we may feel about such an outcome, but the intuition has force even when one acts innocently with disastrous effects to those directly around oneself: such cases are tragic and unfortunate, but if it really is the case that the effects in question were genuinely unforeseeable and that there is no question of culpable

[10] I am grateful to Mike Otsuka for this reference. For discussion, see Tadros (2011: 220).

negligence, there is certainly a case for saying that they should be treated as if they were natural disasters rather than the results of human agency for the purposes of assigning remedial responsibilities. The perpetrator is inextricably linked to the outcome, but she can distance herself from it by stressing the lack of culpable intent on her part. Very often, she will do this explicitly by stressing her ignorance of the effects of the action and stressing that had she known what was going to happen, she would not have acted in the way she did. ("I am so sorry. I had no idea that would happen. Obviously I would never have acted in this way had I know what would have happened – you must believe me!")

Some situations, however, are much less straightforward. Consider the following case:

> PESTICIDE: A corporation manufactures and sells a popular pesticide. There are two ways to produce this pesticide, involving either substance X or substance Y. The substances cost the same, and so the corporation utilises both in different batches, simply purchasing whichever it can most easily obtain each time it restocks its supplies. The corporation becomes aware that substance X causes long-term negative side effects to people who are exposed to it via food consumption; however, extensive testing has shown no such effects for substance Y. The corporation does not exclude substance X from its production, but continues to use X and Y indiscriminately in different batches, depending on whichever substance can most easily be obtained. As a result, many people who eat food treated with pesticide from the substance X batch develop significant health problems. It then transpires that substance Y, contrary to the best scientific information of the time, causes similar health problems of a comparable magnitude.

It seems clear that those negatively affected by Substance X have been wrongfully harmed by the corporation, and that the corporation is both morally and remedially responsible for the harm they have suffered. What of those affected by Substance Y? There seems to be no moral responsibility of a straightforward kind in this case if, by stipulation, the corporation was not negligent in their use of Y. In a criminal trial, those responsible for the corporation's actions could only be convicted in relation to the harms caused by substance X. The absence of *mens rea* would be an adequate defence in relation to harm suffered as a result of substance Y. My claim, however, is that the remedial responsibility of the corporation in this case is importantly different from that of a corporation who knew of the effects of X but not of Y, and so for that reason only used Y in their products. The second corporation is innocent of wrongdoing. Some, of course, will argue in favour of a principle of strict liability in such a case, and hold that it should be held remedially responsible regardless of the absence of wrongdoing. It does, though, seem significantly more justifiable to impose the costs associated with its use of substance Y on the first corporation. This corporation is not in good moral standing. It has made clear by its actions that it does not view the wellbeing of those it affects as a significant concern. It is true that the corporation can truthfully assert to those affected by Y that it did not know its actions would cause them harm. It seems, however, that it cannot in good conscience say that it would not have distributed the pesticide had it known of its effects: its other actions rob such a claim of its plausibility, and the exculpatory defence of ignorance can not be employed in good faith. The counterfactual condition, then, seems clearly to be fulfilled: the corporation treated X and Y identically even though it believed them to have significantly different effects, so it strains credibility to argue that it would have acted differently had it learnt of the true nature of Y at the same time as it properly understood X. On my account, this means that its connection with the

harms caused by Y is such that it is appropriate to hold the corporation remedially responsible. We need not insist that the cases of the two groups of victims are identical from the perspective of reparative justice; in particular, one can imagine a coherent argument which would seek to employ a forward looking perspective focussing on, for example, capacity in relation to harms caused by substance Y whilst insisting that remedial responsibility be borne by the perpetrator in response to substance X. What would be flatly unacceptable on my view, however, would be to assign remedial responsibility to the corporation in relation to the substance X cases but do nothing about the Y cases, leaving the harm to lie where it falls, on the victim. Imagine that there is no prospect of assistance from a third party. In such a case, with no other agent in a position to improve the condition of the Y victims, the causal responsibility of the corporation along with the satisfaction of the counterfactual condition is sufficient to give rise to remedial responsibility.[11]

[11] I have presented causal responsibility and the satisfaction of the counterfactual condition as jointly sufficient to give rise to remedial responsibility. Are both also jointly necessary conditions in circumstances of harmful conduct perpetrated in ignorance of its effects? This is slightly complicated. Satisfaction of the counterfactual condition has been presented as necessary given the chapter's commitment to accepting the *prima facie* force of the exculpatory block, though as noted previously, I am nonetheless in fact sympathetic to the strict liability model: my purpose here, however, is to maintain that those who resist strict liability on grounds of historical ignorance should exempt cases where the counterfactual condition is satisfied. For the most part, I also believe we should see causal responsibility as necessary for an ascription of remedial responsibility stemming from the counterfactual condition. The fact that actual outcomes, in this case particular historical emissions, have actually come about matters here. We are not asking who *deserves* to pay certain costs, if this is to be understood in terms of asking who is morally deficient in terms of displaying a moral character such that they would have acted wrongly had circumstances allowed them to do so. It may well be that we conclude that many historic agents would have produced substantial emissions had they been in a place to do so, regardless of their knowledge of their possible effects, just as we might believe that various historic peoples would have engaged in colonial injustice had they had the capacity to do so. The chapter does not argue that counterfactual wrongdoing should be punished, but rather that the costs of actions should stay with those who caused the actions in question when they would have acted as they did even if they had not been ignorant. It is possible that in some very particular cases one might wish to argue that the counterfactual condition on its own forms a morally relevant form of connection to an action such that an ascription of remedial responsibility would be appropriate, but this point need not be pressed for present purposes.

Suppose, then, that the preceding argument is accepted. This is not quite enough to make the case for present day remedial responsibilities as the result of historic emissions, but there is not much more work to be done. Recall that it was accepted for the sake of argument that it is the employment of the exculpatory block, and only the exculpatory block, which means that present day parties do not possess remedial responsibilities as a result of historic emissions. This being the case, it is accepted that those emissions which were morally problematic did historically give rise to remedial responsibilities, on account of the link of present day parties to the emissions in question, whether this be on account of a present day link to the lasting effects of the emission through the "beneficiary pays" principle, or to the emitters, on account of the "polluter pays" principle. So we can now fit the historic emissions which did give rise to historic remedial responsibility on account of the counterfactual condition into the contemporary picture. In terms of the BPP, we now have modern day benefits which have arisen as a result of historic actions which were morally problematic in the sense that they caused harm to others and would have been performed even had the emitters been aware of their consequences. In terms of the PPP, we have historic emitters whose moral innocence cannot be demonstrated "all the way down", and who bear a morally relevant form of connection to present day actors. This is sufficient to tip the balance, meaning that historic emissions of this type should be treated as if they were wrongful.

I have presented the argument thus far in a particular form, whereby the counterfactual condition makes the crucial difference between a situation where the causally responsible agent does or does not possess remedial responsibilities. The real world context of climate change policy is, however, a little more complicated than this would suggest. The principle

of "Common But Differentiated Reponsibility" (CBDR) formulated in Principle 7 of the Rio Declaration articulates the sense in which a multiplicity of actors has responsibilities for the costs of mitigation, adaptation, and compensation resulting from climate change.[12] Some of these responsibilities stem from backward-looking concerns, rooted in principles such as the BPP and the PPP, others are focussed on forward-looking considerations such as capacity as in the APP. The question here is not really one of identifying a particular agent or agents who should bear the costs of climate change while others are let off the hook: instead, the real question is how much remedial responsibility should be apportioned to different actors, and how much of the cost should be left to fall where it lies. It may, then, be misleading to think about the counterfactual condition as a mechanism for attributing remedial responsibility to an agent who would otherwise get off scot-free when we come to think of the specific context of climate change. Instead, the context is one where there is a multiplicity of different arguments which link particular industrialised democracies to the lasting effects of GHG emissions. The responsibilities of some states are over-determined, as they score highly in terms of historic responsibility, modern day benefit, and modern day capacity; those of others depend upon the amount of weight placed on different morally relevant forms of connection. So one way to interpret the argument of this article would be to see it as seeking to add extra weight to backward-looking principles such as BPP and PPP in this debate: from this perspective, no one would suddenly acquire remedial obligations simply

[12] "In view of the different contributions to global environmental degradation, States have common but differentiated responsibilities. The developed countries acknowledge the responsibility that they bear in the international pursuit of sustainable development in view of the pressures their societies place on the global environment and of the technologies and financial resources they command." (UNCED, 1992) For discussion, see Harris (1999:27-48).

on account of the counterfactual condition, but rather, the satisfaction of the counterfactual condition might be considered alongside other arguments linking past and present.

The strong claim made in this article, that those who bear moral responsibility can possess the same degree of remedial responsibility as those who bear mere causal responsibility but also satisfy the counterfactual condition, is undoubtedly controversial. By way of conclusion, it may be helpful to note ways in which this strong claim may be qualified for those who accept that there is some moral issue at stake in contexts where the counterfactual condition is met, but who are not willing to accept the full claim in this unambiguous form. First, it might be noted that the counterfactual condition is significant if it is taken only to have the effect of lessening the importance of, rather than strictly negating, the exculpatory block. It is quite possible to maintain that an agent who satisfies the counterfactual condition in relation to ignorant harming has a degree of remedial responsibility, if not as much as an agent who bears full moral responsibility for a wrongful harm; similarly, one might hold that satisfying the counterfactual condition would increase the strength of the moral reasons an agent has to assume remedial responsibilities, rather than maintaining that such responsibility strictly holds when the condition is satisfied and does not hold when it is not. This can be seen in relation to the "beneficiary pays" principle. I have argued elsewhere that the BPP is potentially capable of encompassing a variety of different contexts where a party involuntarily receives benefits stemming from the actions of another (Butt, 2014: 336-348). At one extreme, we might imagine benefits which result directly from unambiguous wrongdoing, the intention of which was precisely to improve the material situation of the involuntary beneficiary in question. At the other, we might imagine cases where the agent who suffers a loss is responsible to some degree for the loss which they have suffered, as

when they choose to provide a service to another without that other's prior consent in the hope of receiving future payment. I have argued that there is a case in each situation to be made for the claim that the beneficiary can possess good moral reasons to offset the loss suffered by the other party, so long as doing so does not leave the beneficiary worse off in overall terms than they would have been had the act in question not occurred. The strength of the moral reasons will, however, be rather different in the varying cases. I have argued that in the case of wrongful benefits designed to aid the beneficiary at another's expense these reasons are particularly strong, and mean that a beneficiary who does not act but is content to enjoy the benefit is clearly blameworthy. By contrast, it would not be unreasonable to suppose that the kind of reasons associated with paying for unsolicited benefits are generally supererogatory in moral terms, whereby it may be good from a moral perspective to pay, but whereby one does nothing wrong and should incur no blame for not so acting. The case of purely accidental harms and benefits falls somewhere between these two cases. There is particular reason to act in the case of wrongdoing which stems from a condemnation of the blameworthy actions of the perpetrators: such a concern is generally missing in cases of innocent harm-doing which does not involve culpable negligence. My claim is that the satisfaction of the counterfactual condition changes the picture here: cases with this character look rather more like wrongful harm, and rather less like innocent happenstance. When modern day benefits arise from the actions of forebears who were generally morally problematic, we have good reason to seek to distance ourselves from the lasting effects of their harmful actions, whether anticipated or not, by redressing the harm they have caused.

Second, it is possible (though not, it should be stressed, in my view necessary) to concede that the kind of remedial duties which one acquires in relation to the counterfactual condition are not enforceable obligations, which can be upheld by third parties under the threat of coercive force, but are instead moral duties which should be reflected upon and acted upon by present day parties who wish to act with moral integrity in relation to others. From this perspective, what modern day parties should be asking themselves is not the legalistic question of what the minimum is which they can get away with paying as a result of the past actions of their forebears and the provenance of their modern day advantages. Instead, both political leaders and democratic publics should seek to determine what form of contemporary action is the proper response to their own particular historical context. Too often, in the broad field of international reparative justice, states seek to pursue strategies of the former kind, nakedly rooted in self-advantage rather than pursuing any kind of good faith effort to determine what they owe to others. Consider, for example, the initial response of the UK government in 2011 to claims for compensation made by Kenyan victims of torture and sexual abuse during the Mau Mau uprising of the 1950s, prior to agreeing to pay limited compensation in 2013. The UK Government at first sought to deny the claims on two grounds: first, that the statute of limitations for such actions had passed; and second, that responsibility for the actions of the British colonial administration passed to the nascent Kenyan government at the end of the decolonization process in 1963 (cf. Bowcott, 2011). Both arguments are woeful from a moral perspective. There is a range of good practical reasons why some crimes should be subject to statutes of limitation in law, especially, perhaps, associated with the desirability of individuals being able to live their lives free from the uncertain prospect of possible litigation, but such concerns cannot have significant moral force when invoked by institutions such as states in contexts where it is abundantly clear

that earlier attempts to bring suit would have been doomed to failure. Similarly, there are obvious reasons why the terms given to an oppressed people as the condition for their liberation may be suspect from a moral point of view, and should not necessarily be seen as subsequently enforceable. These are the arguments of a lawyer seeking to avoid liability, not of a political actor possessed of a genuine desire to see that justice is done in relation to the past. Similarly, there is a real risk of grotesquely bad faith argumentation if modern day states seek to evade responsibility for their historic emissions on technical terms relating to historic ignorance, in a context where it is abundantly clear that this ignorance was not, in fact, action-guiding. Whether the duties that arise under the principle discussed in this article could theoretically be justifiably enforced can be left as an open question if the answer is thought to be problematic; what should be accepted, on my view, is the claim that political communities who wish to present themselves as moral actors on the world stage should not seek to hide behind the ignorance of their forebears when it is clear that this ignorance had no material impact on outcomes. Confronting the legacy of the past is a painful business, and particularly so when it comes to being honest about not only the cost at which our present day advantages came about but also the moral character of those whose actions gave rise to the advantages in question.

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