

## **Can we justify the individual remedial responsibility to lower personal emissions? An expansion of the argument of moral integrity**

*Abstract:* Climate change harms are already numerous and there is no doubt that humans urgently need to do more to remedy these harms. Who bears these remedial responsibilities and how can they be justified? While there is a consensus that collective agreements are needed to successfully address the problem, there is no agreement yet, what the responsibilities of individual citizens are in this process. For example individual emissions reductions have often been claimed negligible or—in the language of classic collective action problems—, even counterproductive. I argue that individuals have a first-order remedial responsibility to contribute to a collective solution, but also a second-order responsibility to reduce their personal emissions. The focus of the paper lies on second-order responsibility which is more challenging to justify. These responsibilities have recently gained upwind by an argument by Marion Hourdequin which refers to the virtue of moral integrity. I argue that her argument faces objections under the assumption of climate change as a collective action problem, but will then support individual emissions reductions by an expansion of her argument.

### **KEY WORDS**

Climate change harms, Moral responsibility, Remedial responsibility, Moral integrity

### **1 Introduction**

The harmful effects of climate change are already felt in large parts of the globe, particularly affecting already vulnerable communities. Nowadays, there are no serious doubts that these harms are primarily caused by anthropogenic activities (IPCC 2014). Should individuals do something against these harms? In paradigmatic harm cases, such as lying or stealing, holding perpetrators morally responsible and blameworthy offers reasons for them to change their conduct and undo the harm they have created. Climate change, however, is often not seen as a paradigmatic harm case. Some reasons for thinking this are that the harms of climate change occur far away in time and space, the specific victims are often unknowable to the perpetrators, emitting is not in every case blameworthy (as some emissions are necessary for survival), and our economic system often incentivizes individuals to produce considerable emissions (Jamieson 2015). Moreover, climate change is often seen as a collective action problem (Ostrom 2014) and more recently as a problem of structural injustice (Zheng 2018). All of these characteristics of climate change have led some scholars to think that the use of the concept of moral responsibility is inappropriate, and instead the focus should be on finding a collective solution how to go about the problem (Johnson 2003, Sinnott-Armstrong 2010).

I agree that the concept of moral responsibility is inadequate in thinking about climate change harms. Because of the urgency of mitigating the effects of climate change, I will assume that our focus should lie on solving the problem proactively by finding solutions and assign the necessary tasks to undo the problem, rather than on morally judging agents and working towards a moral ideal. For this reason, I argue that instead of understanding individuals (or collectives) as morally responsible, a more useful and pragmatic notion is framing climate harms in terms of *remedial* responsibility. Remedial responsibility, first introduced by David Miller (2007) in the context of global poverty and migration, is the responsibility to put a bad situation right and undo the harm that has been inflicted. Nation states might then be said to have remedial responsibilities because of their initial contribution to the problem, and because they have the adequate power and ability to induce change (by introducing the necessary legislation, for example).

The question now becomes: do individuals have remedial responsibility with respect to climate change harms? There is a consensus that individuals have certain responsibilities to help work towards collective solutions (Johnson 2003, Sinnott-Armstrong 2010). I will call these first-order remedial responsibilities. What is more controversial is whether individuals should also reduce their own greenhouse gas emissions. I will call these second-order responsibilities. Many scholars are skeptical about these second-order responsibilities because the emissions by any particular individual are miniscule. Furthermore, in a collective action problem, an individual that restricts their individual emissions might just incentivize others to emit more.

An argument of moral integrity could offer justification for why individuals should reduce their personal emissions. Such an argument was put forward by Marion Hourdequin (2010). I believe that the approach of using integrity to justify individual emissions reductions is an appealing route. However, I do not think that Hourdequin puts forward an entirely convincing argument. Mainly, I argue that Hourdequin ignores the point that individual emissions reductions are only desirable and virtuous if they actually help remedy climate change harms. After all, reducing one's own emissions comes with a cost and if then others emit that share, then we might be left with a situation with more overall harm. In such a scenario, it doesn't make sense to claim that having moral integrity requires a consensus of one's political commitment to reduce emissions with a personal commitment of reducing individual emissions. The personal efforts would undermine the political goal, which contradicts the idea of an agent with integrity.

I will show however, that in the case of climate change, we can stick to integrity as a justification for individual emissions reductions even though climate change is a collective action problem, as some important assumptions of collective action problems do not strictly hold for climate change. The main contribution of this paper will thus be to suggest an expansion of the argument of integrity to make it fruitful as a justification for the individual's remedial responsibility to reduce their emissions.

## **2 Remedial responsibility for non-paradigmatic climate harms**

How should we understand our responsibilities with respect to climate change harms? Before I will turn to the more concrete discussion on the argument of integrity to justify individual remedial responsibilities, I will now to declare why I will talk about remedial responsibility rather than moral responsibility, and why the former requires justification.

In paradigmatic harm cases, moral responsibility is a helpful concept to grasp responsibility. We identify those who have done the wrong and if they did so knowingly and voluntarily, we blame them and may ask for some kind of repayment. If Lesley harms Ryan by stealing their porcelain cat, Ryan can blame Lesley and ask them for replacement or compensation for the loss. Moral responsibility is usually understood as a backward-looking type of responsibility with focus on what someone has done in the past. But it is implicit in the rhetoric that it can have forward-looking implications in the sense that being blamed helps to change to a more desirable conduct. As such, assigning moral responsibility in the form of blame can be action-guiding.

However, climate change is not seen as such a paradigmatic harm case (Jamieson 2015) and blaming individuals for their emissions seems unfruitful. Here are some reasons why:

- i. *Some emissions that individuals produce are necessary, and therefore not blameworthy:* we blame Lesley because they have done something wrong. Not all emissions however, are wrong. Some are unquestionably essential (such as breathing, eating, basic heating). Other types of emissions might also be considered necessary for a good life.
- ii. *Some emitters are not around anymore:* Lesley is around and can be blamed and asked for compensation. Many emitters who contributed to climate change, however, are dead.
- iii. *An individual's influence is miniscule:* Lesley is 100% responsible for the harm. An individual however, produces a miniscule amount of emissions in comparison to the

overall share, and they are therefore only responsible for a very tiny fraction of the harm.<sup>1</sup>

- iv. *Climate change is a collective action problem*: Refraining from a harmful activity is positively connoted in a paradigm harm case. This might not be the case in tackling the problem of climate change. Because of the collective nature of the problem, if some individuals reduce their emissions, this might not overall reduce emissions but might lead other individuals to emit more.
- v. *Climate change is a structural injustice problem*: Climate harms do not affect everyone equally, but disproportionately affect the world's most vulnerable populations. This is due to general structural injustices in the distribution of wealth and resources that no particular individual is responsible for, nor can any particular individual resolve it.<sup>2</sup>

All these features make it odd and counter-intuitive to blame individuals—at least in the traditional sense. To reach the desired goal, namely mitigate current and prevent future climate change harms, many have argued in favor of collective solutions to the problem. For example wealthy states, who caused the problem in the first place should remedy it and set the necessary policies to control the emitting activities of individuals, corporations and other relevant agents within their territory.

I will subsume this forward-looking approach of responsibility under a concept of remedial responsibility. Remedial responsibility has been described as the responsibility to help those in need and undo a harmful situation (Miller 2007). Most activities undergone by collective agents that are directed towards undoing climate change harms—which usually fall under mitigation, adaptation or compensation activities—can be understood as acts of remedying the situation. For example, reducing greenhouse gas emissions to guarantee a warming of less than 1.5° C compared with the level of before the start of industrialization (IPCC 2018), building seawalls to protect from flooding or paying redress for destroyed habitats are all acts that contribute to a remedy of climate change harms. Furthermore, the “common but differentiated responsibilities” that states have to undo the negative effects of climate change have been described in climate change treaties and can be understood as remedial responsibilities (UN 1992, Principle 7, UNFCCC 2015, Article 4). Certainly, states are not the only collectives which can have such responsibilities but also other bodies such as international

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<sup>1</sup> Even this tiny fraction of harm has been questioned for example by Sinnott-Armstrong (2010) who argues that individuals do not produce any harm that can be related to climate change.

<sup>2</sup> This list is far from exhaustive. More features have been listed such as local and temporal distance of the victims and systematicity (Jamieson 2015). I do not present and further discuss these features here, as they are not crucial for my argument.

organizations or governmental subunits. However, with regard to the priority goal of lowering climate change and its harms, a state-orientated approach might be promising for pragmatic reasons.

What is crucial with remedial responsibility is that its assignment needs to be justified, as it is not necessarily assigned to the original wrongdoer and comes with a certain cost. Remedial responsibility is a more forward-looking responsibility, which can however be justified by backward-and forward looking principles. Miller, in his original work, suggested principles such as moral or causal responsibility, ability, and benefit, among others (Miller 2007). These principles correspond respectively to principles prominently discussed in the climate change ethics literature: the ‘Polluter pays’, the ‘Ability to pay’, and the ‘Beneficiary pays’ principles (Caney 2010, Page 2012).

Some scholars have argued that collective responsibilities are all there is in the context of undoing climate change harms, and that the responsibility of individuals is to be maximally supportive (Johnson 2003, Sinnott-Armstrong 2010). It seems to me plausible that individuals do have such supportive remedial responsibilities. Crucially, however, individuals also have a remedial responsibility to lower their personal emissions. This claim is not uncontroversial, and I will further elaborate on this in the next section.

### **3 Individual remedial responsibilities and justificatory challenges for individual emissions reductions**

It seems easier to justify remedial responsibilities for collectives. This is because states, for example, can be justifiably assigned with remedial responsibilities based on different justifications, such as their ability to pay and their causal role in bringing about the problem in the first place. As we’ve seen, the same does not hold for individuals, whose own contributions are miniscule, and whose power and influence is minor compared to collective entities. This is especially true because climate change is a collective action problem and a structural injustice case which both call for a collective agreement to steer the conduct of individuals in the right direction.

Nevertheless, there is a type of responsibility that I will subsume under first-order remedial responsibility of individuals: the responsibility to engage in collective action and thereby support such collective agreements. This responsibility is quite widely acknowledged in the literature (Johnson 2003, Sinnott-Armstrong 2010, Wallimann-Helmer 2017). Individuals gain power when they cooperate and try to enforce the necessary changes by, for example, rallying, writing joint letters and performing other collective activities. Fridays For Future is such a

collective movement which through their engagement aims to push forward the implementation of the Paris agreement. Individuals should therefore engage in political action to help bring about the necessary political change. But how is this remedial responsibility justified? Contrary to the problems that arise when we try to justify moral responsibility for climate change harms of individuals, it is rather plausible that individuals have such supportive remedial responsibilities. These responsibilities are forward-looking and focus on finding solutions to an existent problem. Therefore, it does not matter whether individuals also caused the problem in the first place. Moreover, even though an individual's effect is minor, it becomes more relevant as part of a group effect to work towards the collective goal. As such, every individual contribution can be justified as a helpful part for reaching the collective goal, which will ultimately help remedying climate change harms.

Justifying a remedial responsibility for individual emissions reduction is more tricky. I will call these second-order responsibilities. With regard to the tiny amount that individuals emit, it has often been argued that their emissions are negligible and do not make any difference and even more do not cause any harm (Sinnott-Armstrong 2010).<sup>3</sup> What makes the scenario worse is that climate change is a collective action problem and if an individual reduces their emissions, it is not guaranteed that this actually contributes to a reduction of the harm. Certainly, the reduction of the individual will be too small to make a sensible difference to climate change harms. But even the fact that it reduces, albeit by a miniscule amount, the overall greenhouse gas emissions is not a given. In a collective action problem, if some individuals spare a collective resource, it sometimes incentivizes others to use more of that resource. Therefore, if one person reduces their emissions and thereby enables the atmosphere to tolerate more emissions, this gives others an incentive to produce more emissions and fill that share. In such a scenario, it seems overly demanding to ask from individuals to reduce their personal emissions and accept the personal sacrifice for no overall contribution to a good.

Anyone who wants to argue in favor of individual emissions reductions, I believe, needs a convincing argument for how such reductions can be justified. One argument that tries to offer such a justification for individual emissions reductions is the moral integrity argument which has been formulated by Marion Hourdequin (2010) and I will turn to her argument in the next section.

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<sup>3</sup> A counter position to this has been defended by Peeters et al. (2015). They argue that individuals should reduce their personal emissions (also in the absence of a collective agreement) and in order to reduce the objection of over-demandingness, argue that individuals should only reduce their luxury emissions but not their subsistence emissions. It is however, not clear how to draw a border line between the two and I think the position of Peeters et al. is hard to uphold against anyone who doubts that individual emissions reductions make sense in a collective action problem setting.

#### **4 Justifying individual emissions reductions: the integrity argument**

So far, I have discussed that individuals have remedial responsibilities to work together towards a collective solution for remedying climate change harms. Recently, the argument of integrity has gained upwind for posing a justification for individual emissions reductions. Intuitively, the idea is that an individual should act in a way that is coherent with that individual's larger commitments. If Lesley campaigns in favor of a law to forbid the production and consumption of meat, yet eat meat themselves, this behavior is often seen as hypocritical. We would expect of people who do such campaigning to individually stick to the behavior they try to reinforce on the political level.

Marion Hourdequin (2010) has formulated an argument to show why individuals should reduce their personal emissions based on the virtue of integrity.<sup>4</sup> She notes that moral integrity is not a very clear and well understood term and then brings more clarity into the debate by elucidating two aspects of integrity that she borrows from Audi and Murphy (2006): Integrality and Integration. Integrality involves that a commitment of an individual should be well integrated with their other commitments. Integration is related to integrality and concerns an individual's effort to avoid conflict between different commitments they hold.

We have so far accepted the commitment of individuals to take action towards a collective solution for climate change harms. Therefore, in order to satisfy integration, an individual who holds this commitment on the political level should also hold the commitment to do one's share to combat climate change harms on the personal level. For an individual to be integral, their actions requires consistent expression at the personal and political level. Not reducing one's personal emissions while actively working towards a reduction in greenhouse gas emissions on the collective level would present such a clash, where different commitments are not well integrated with each other. Hourdequin argues that the fact that individual emissions reduction are small and might have only a neutral effect on overall emission reductions is not a reason for why individuals should not personally lower their emissions. Furthermore, there is evidence that many individuals do not reduce their personal emissions for personal benefit or to view an immediate result. She presents the example of people who buy a hybrid car, not because they save money (as they rarely know how much they spent on gas), but rather to make a statement. But even when individuals clearly suffer by reducing their personal emissions, they might be

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<sup>4</sup> She gives a further argument for individual emissions reductions by defending a Confucian view within which she doubts that people conceive themselves as exclusively rational agents as portrayed by the collective action narrative. For space constraints, I will not discuss this argument here.

regarded as having moral integrity and be deemed praiseworthy. This might offer them, as well as others, reasons to behave in this way (Hourdequin 2010).

How convincing is Hourdequin's integrity argument? While I agree that integrity can offer a justification for individuals to lower their personal emissions and that the argument contains several very important insights, it seems that it lacks to do justice to the fact that climate change is a collective action problem. As pointed out by Baylor Johnson (2003), under the assumption that climate change is a classic collective action problem, we might face a situation in which individual emissions reductions come with a sacrifice for the respective individual, (hence can be translated into a certain harm), while bringing no reduction in greenhouse gases (hence no reduction of the overall climate harms). This would happen when other individuals step in for the individual who reduces emissions and instead emit for what one individual has spared. To make this point more clear, let me present three major assumptions that Johnson explicitly or implicitly states (Johnson 2003, 2011):

- 1) Reducing individual emissions to a level that would be sustainable if everyone lowered their emissions by this much, increases personal harm significantly, while the overall harm is not (or only marginally) reduced.
- 2) Reducing personal emissions is fruitless in the absence of a collective agreement.
- 3) The harms of individual emissions reductions are personal, while the benefits are spread to all. The benefits of emitting are personal, while the harms are spread to all.

If Johnson is right and climate change is a collective action problem in this way (which I will for now assume for the sake of the argument), then Hourdequin's argument of integrity doesn't immediately follow. Recall that our primary goal is to reduce climate change harms. If the remedial responsibility of individuals to lower their personal emissions comes with a significant personal harm, but with a much smaller and more uncertain harm that is reduced with regard to global climate change harms, then the overall harm might not be reduced but in fact be increased. If Johnson is right, then it might indeed be fruitless and implausible to expect an individual to lower personal emissions altogether. Instead, we would expect the individual to solely support a collective agreement which promises more success with regard to reducing the harm. Such a collective agreement can be, for example, an international treaty by which the conduct of corporations is severely restricted in a way to protect the common environment and guarantee its long-term use for everyone (Johnson 2003).

Let us take stock: Hourdequin seems to think that in these cases, we might still praise an individual for their sacrifice and their commitment to also personally contribute to a mitigation of climate harms. However, it seems to me difficult to use this as a convincing argument to plausibly justify individual emissions reductions, if they do not in fact contribute to a mitigation of climate change harms but indeed have no effect or likely an even negative effect. For Hourdequin, integrity prescribes individuals to hold consistent commitments on the personal and the political level. If Johnson is right that climate change is a collective action problem, however, reducing personal emissions would not be consistent with supporting a collective agreement against climate change harms. This is because a collective agreement would contribute to a reduction of climate change harms, which cannot be said to be necessary of individual emission reductions. In other words, reducing individual emissions cannot be seen as part of an integration of the commitment to help reduce climate change harms on the personal and political level if the personal emissions reductions work against this very goal.

As I am here trying to defend a pragmatic concept of remedial responsibility for climate change harms, the individual remedial responsibility to reduce personal emissions would need to at least somehow contribute to the overall goal of remedying climate harms. In our context, then, the integrity argument seems to create morally ideal beings for the sake of morality rather than providing an adequate justification for the assignment of individual remedial responsibilities. Since Hourdequin's integrity argument cannot offer this justification, we have to either look for another justification or give up on such a remedial responsibility to lower personal emissions altogether.

I will note that Hourdequin herself objects to the idea that individual emission reductions contribute to the mitigation of climate harms at least a little bit and this offers justification for why an individual should do so. She gives the example of an environmental activist who fights for controls on non-point source pollution but brings out huge quantities of fertilizer on their own lawn. Similarly, as to this climate activist, she argues, it would be morally odd and hypocrite for a climate activist to be careless about their personal greenhouse gas emissions. Tiny emissions reductions are thus, even though miniscule, in her view still contributing to the overall goal of reducing emissions and thereby climate change harms.

I believe that the fertilizer argument describes a fundamentally different problem and does not apply to the climate change case. We can argue that putting even a small unit of fertilizer on one's lawn poses a harm to the lawn (and the ecosystem) in itself and therefor should be omitted. This reasoning makes sense for paradigm harm cases or paradigm cases of collective effort. Analogously, eating meat while demonstrating for a law which prohibits eating meat, as

every purchase of meat (even though maybe small) harm which can be reduced by individual omissions. Individual emissions are not in this way harmful in itself but they only become so if enough other people also produce emissions. The argument of integrity, I believe, does plausibly apply as soon as an individual's contribution supports the overall goal, no matter how small this contribution is. However, the crucial point in the climate case is that (if Johnson is right), then even this small contribution is doubtful. An individual's personal emissions reductions might be done with good intentions, but may in the end increase overall suffering due to climate change's feature of being a collective action problem. In this scenario, refusing to reduce one's personal emissions and instead putting all the efforts into working towards a collective agreement might not then be hypocrite but instead might be the right way to go. Individual emissions reductions would be counterproductive as there is no moral good that is thereby achieved. Surely, they would be virtuous if everyone did behave so, but we cannot guarantee this without having a collective agreement. For these reasons, I believe Hourdequin confuses a case of collective effort in which small omissions are in themselves morally good and further contribute to reaching an overall good with a collective action case where such an outcome can rarely be expected.

In sum, if we accept that climate change is a collective action problem—which I assume in this article—the integrity argument is not obviously plausible. The idea that individuals have a remedial responsibility to reduce their emissions still seems plausible, however. Do we have to look for another justification, or is there another way to still stick to integrity as a justification for individual emissions reductions? In the next section, I will elaborate on an expansion of the integrity argument and argue that it provides a justification for prescribing individual emission reductions.

## **5 An expansion of the argument of integrity**

In this section I will look more closely at the assumptions of thinking of climate change as a collective action problem and analyze whether we have to accept those assumptions as they stand. While I argued that Hourdequin did not fully do justice to the nature of climate change as a collective action problem, Johnson, on the other hand, has a too narrow picture of what kind of collective action problem climate change is. My aim in this section is to show how we can make the point that lowering personal emissions can be integrated with the commitment of reducing climate harms collectively on a political level. Thereby, my goal here is to strengthen the argument of integrity. Recall the assumptions of the collective action problem from before:

- 1) Reducing individual emissions to a level that would be sustainable if everyone lowered their emissions by this much, increases personal harm significantly, while the overall harm is not or only little reduced.
- 2) Reducing personal emissions is fruitless in the absence of a collective agreement.
- 3) The harms of individual emissions reductions are personal, while the benefits are spread to all and the benefits of emitting are personal while the harms are spread to all.

I believe that none of these points holds in the case of climate change, at least not in a strict way as portrayed by Johnson. Let me examine them one by one.

*1) Individual harm of emission reductions may be overestimated.*

Johnson assumes that reducing one's personal emissions translates to a significant harm for those individuals. But holding and living a virtue in itself does not necessarily come with harms for the individual or at least the perceived harm varies a lot between individuals and is often a subjective matter. For example, recycling, gardening, bicycling, or living a minimalist lifestyle comes with joy for many, even though others may perceive those activities as burdensome (Sandler 2013). But also, from a more objective standpoint, reducing one's personal emission is often beneficial: For example, setting the air conditioning a little warmer in summer might spare us from getting sick and in addition save energy, while we easily adapt to a slightly warmer temperature (Hedberg 2018). Similarly, investing in less but more sustainable and higher quality items may be more expensive and time-consuming in the moment, but save us a larger amount of time and money in the long term. In the end, such "sacrifices" may not at all be that harmful but can be seen as simple lifestyle changes which require a bit of adaptation (Hedberg 2018). Lastly, several activities by which emissions are reduced require a minimum or almost no effort from the individual if they are minimally aware of the emission quantities their actions are attached with. For example, in situations where we have troubles to pick between two options, such as two meals, two holidays etc. we can simply pick the option that comes with the production of fewer emissions.

It is important to note, that such individual emission reductions do not need to be extreme, but to an extent that is bearable for individuals with the aim of steadily reducing emissions even more where they can.<sup>5</sup>

*2) Collective agreements are in sight.*

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<sup>5</sup> Individual emissions reductions would then constitute an imperfect remedial responsibility (or "duty" in Kantian terms) and would not go as far as to expect from individuals to reduce their emissions to such an extent that would be sustainable if all did so.

It is a common assumption regarding collective action problems that individual contributions are fruitless in the absence of collective agreements. In the case of climate change, however, it is not true that collective agreements are completely absent. Several attempts have been undertaken so far to reach collective agreements. For example, at the international level by treaties such as the Kyoto Protocol or the Paris Agreement in which the primary goal was to fix a maximum average temperature. Furthermore, local regulations are already in place in various locations around the globe, such as a climate article in the constitution of the canton of Geneva, articulating the canton's duty to reduce greenhouse gases (Constitution of the republic and the canton of Geneva 2020). Even though none of these agreements has been perfect, there is nevertheless evidence that there is a wide agreement that collective solutions are needed to limit incentives to freeride, and efforts towards such solutions are currently being undertaken. Under these circumstances, it does not hold that individual emissions reductions are fruitless and lead to void. Rather, individual emission reductions contribute to what has already been agreed upon or (in the case these agreements are not sufficiently specified yet), signal a willingness to accept future agreements (such as policies to further limit individual emissions). In order to guarantee that efforts to find better collective solutions are not foregone for the sake of individual emissions reductions, I consider a hierarchization of the two types of remedial responsibilities discussed here as crucial. By prioritizing the remedial responsibility to support collective solutions, which I will call first-order responsibility and considering the responsibility to lower personal emissions as a second-order responsibility, we can guarantee that individuals priority lies in supporting such collective solutions, while they only in a second step focus on their personal emissions reduction.<sup>6</sup> Therefore, finding successful collective solutions will be accelerated, while at the same time doing one's personal contribution to support this acceleration by signaling a willingness to accept collective agreements and a readiness to change one's lifestyle for the greater good of climate change harms reduction.

3) *The harms caused by increased emissions are not spread equally*

Another common assumption of collective action problems is that the benefits (in this case the benefits by producing more emissions) are personal, while the harms which thereby are created are distributed among everyone that takes part of the commons (in this case the atmosphere). But this assumption too does not hold in this strict sense for the case of climate change. It is not true that the harms that emerge by the production of emissions are spread equally among all members of the planet. Rather, those who are currently among the most vulnerable and poorest

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<sup>6</sup> Johnson agrees in a later paper, that individuals should lower their personal emissions, if they give priority to supporting collective agreements (Johnson 2011).

suffer disproportionately from more emissions and climate change (IPCC 2014), while the lifestyle of those who are well-off will not (or only slightly) be affected, at least for a while.

This circumstance comes about because climate change is not only a collective action problem but climate change harms also emerge as the result of structural injustices (Zheng 2018). Those who belong to vulnerable populations generally contribute the least to overall climate change and tend to depend more on local natural resources, yet they are the first to suffer from climatic changes such as sea level rise and droughts. The fact that climate change harms also result from structural injustice, I argue, offers further support for the integrity argument. If climate change was only a collective action problem, individual emissions would contribute to harm that is distributed all over the planet and would affect everyone to a similar extent. Knowing that my personal emissions contribute to the harm of everyone (including myself) offers a different motivation than knowing that my emissions contribute to a more local harm that is felt by the most vulnerable already. Given that we find ourselves in this latter situation, this offers a different motivation for individuals to lower their emissions for integrity reasons. An individual who has the commitment to reduce climate change harm on the political level, sees the same commitment becoming more fruitful on the personal level, knowing that fewer emissions contribute to a reduction of harms suffered by the most vulnerable.

This commitment is more directly visible on the personal level, knowing that the harm already affects others in a less privileged position, while oneself is in a privileged position and can reduce emissions without an extreme cost. The reverse argument holds in addition: it does not seem appropriate to claim that the sacrifices by not emitting are suffered personally, while the benefits are spread among all. As again, those who are among the least privileged do not get any of these benefits as their capacities to increase their emissions are usually already restrained and they often already live below a sustainable emissions level, while those who are well-off benefit from an atmosphere that can take up more greenhouse gas emissions.

To sum up, these three assumptions of a collective action problem as presented by Johnson do not strictly hold for the case of climate change. Therefore, it is not true that justifying a remedial responsibility of individual emissions reduction with integrity poses a contradiction of commitments such as it would be the case if his proposed assumptions strictly held. It is then plausible to assume that under the current circumstances, individuals should reduce their personal emissions, as this commitment can be well integrated with their political commitment to reduce climate change harms on a bigger scale.

## 6 Conclusion

How can individual remedial responsibilities be justified? I started this article by pointing out some of the challenges that emerge when we try to understand individual responsibilities in the context of climate harms. While the concept of moral responsibility cannot adequately capture individual responsibilities, remedial responsibility is a concept under which collective, as well as individual, responsibilities can be set below. Such a hierarchical concept is crucial, I believe, as various collective and individual agents' responsibilities flow into each other and influence each other and all of these actors play their (though distinct) roles for climate harm remedy. However, the assignment of remedial responsibilities requires justification. Offering this justification is particularly challenging for individual emissions reductions in a collective action scenario. I argued that while the argument of integrity can offer a justification for individual emissions reduction, the argument of Hourdequin has not done sufficient justice to the elements of the collective action problem which inhibits the plausibility of her argument. By expanding the integrity argument and arguing that the assumptions of the classic collective action problem do not perfectly fit the case of climate change, I hope I was able to show that integrity indeed offers a plausible justification for individual emissions reductions. This, because there is evidence that individual harm of reducing personal emissions is not as big as assumed by Johnson, because efforts towards collective solutions have already been undertaken and are likely to continue, and because the harms of climate change are not equally distributed among everyone, but are primarily hitting the most vulnerable due to climate change as a case of structural injustice. By further regarding the remedial responsibility to support collective agreements as a first-order responsibility and the responsibility to reduce personal emissions as a supportive and second-order responsibility, we can guarantee that the effects of individual emissions reductions are not fruitless but rather go hand in hand with the superordinate commitment.

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