

Gardiner and the Precautionary Principle

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In "Ethics and Global Climate Change," Stephen Gardiner claims that some version of the precautionary principle is defensible and reasonable for use in determining policy regarding climate change. I think Gardiner is right that some version of the precautionary principle is indeed defensible, but I think the version he defends is too conservative. I will begin this paper by considering a standard version of the precautionary principle. Then I will show why extreme views about the principle's application are unacceptable. After giving reasons for rejecting both absolutist application and complete refusal of the precautionary principle, I will propose that only a moderate position is consistent with our considered beliefs. I will then offer objections to Gardiner's restriction of the precautionary principle and discuss his use of Rawls. I hope to induce doubt about Gardiner's views as representing an ideal moderate perspective, and to suggest a more plausible position.

Because asking questions about the precautionary principle leads us to wonder about the appropriate methodology for arriving at moral judgments, let us first be clear on our methods for this paper. While I will not argue about its merits here, let us assume we are aiming at reflective equilibrium with our moral judgments. That is, we are not assuming there is a foundation for our moral judgments that we can discover in the world. Instead, we are looking to have a coherent set of beliefs. Let us begin by considering implications of the precautionary principle as understood generally to see why Gardiner takes care to be particular about what he wants to defend. We will then see how extreme views about the precautionary principle conflict with our considered beliefs to give some intuitive plausibility to a middle position.

Generally speaking, the precautionary principle tells us that we should avoid acting in ways that increase risk of harms to whatever individuals or systems have a moral status. For the purposes of this paper, let us grant that humans and the environment have moral status. Let us also define 'harm' as a significant decrease in well-being, and the act of harming as causing a decrease in well-being to occur. I will not give an account of well-being for either humans or the environment here, but let us assume such an account is possible. Any further discussion of the precautionary principle requires some degree of specificity, so let us begin by considering the plausibility of a particular formulation.

Gardiner offers the Wingspread Statement as a standard version of the precautionary principle: "When an activity raises threats of harm to human health or the environment, precautionary measures should be taken even if some cause and effect relationships are not fully established scientifically."¹ Here it seems we have two problems. First, it is not clear what is meant by precautionary measures. Without further elaboration, anything from creating awareness to prohibition on action might count. Second, and dependent on the first problem, is that activities that raise threats of harm to human health or the environment are often necessary for survival in today's society. If the answer to the first question is creating

awareness, then the principle might never cause changes in activity. If the answer is prohibition on action, then many acts that we might otherwise think are completely acceptable become impermissible. I am not claiming that morality cannot demand significant changes in life as usual in today's society, but I think considering some cases will show how humans might be asked to give up their lives in the interests of avoiding a small harm upon the environment on a possible interpretation of the Wingspread Statement. I think we can agree morality does not ask such things of us. Hopefully the following case will illustrate my point.

If the precautionary principle demands prohibition on action, then it would be wrong for a person living in an isolated and non-arable area to go to a grocery store to buy food. This is because the nearest store is so far away that it is necessary to drive a car, and because everything in the grocery store also requires transport and is a product of monoculture agriculture. So not only is the person in our example raising threats to human health and the environment by being on the road herself, but she is also financially supporting non-sustainable agriculture and the burning of fossil fuels by making a purchase at the grocery store.

But even if these known threats to human health were not present, we would still have some odds of risks to human health. The person in our example could cause a car accident and harm both other humans and the environment. It is also likely that she could not. Unlike contributing to pollution, causing a car accident is not a necessary condition of driving a car. But even if cars caused no pollution and the grocery store only sold items that did not harm human health or the environment in production, going to the grocery store would still be impermissible. The act of driving to obtain much needed food elevates risk to human health. So even if an action is necessary for human survival, and only a small amount of risk would be involved, the action would still be prohibited. If the person in our example could not afford to move to an area where driving to the grocery store is unnecessary, then no possible method of obtaining food would be permissible. This would remain the case even if she had a pollution-free car.

This seems obviously wrong. It is already established that pollution from cars contributes to human health problems and that monoculture agriculture drains the soil of nutrients and decreases biodiversity. I think we can agree that these things are bad for the environment. But even if we know an action guarantees harms to human health or the environment, we do not necessarily think humans should die of starvation rather than contribute to these harms.

An objection might be made that allowing self-harm is also prohibited when it could be avoided. Not driving to the grocery store would mean the person in our example allows self-harm: she would starve. But this would make driving to the grocery store and not driving to the grocery store both prohibited. I do not think this avoids our problem. Keep in mind I am not trying to make a particularly ambitious claim here. All I have attempted to show is that even guaranteed harms to humans or the environment are not prohibited absolutely.

So when it is not clear whether or not harms will occur, but the threat of harm is raised, we certainly do not demand total prohibition of action when doing so will result in loss of human lives. Therefore, we will not achieve coherence by completely prohibiting acts that raise threats of harm.

Now someone might say this example fails to address true scientific uncertainty. In our example, we can conceivably calculate the risks of driving a car. By risk I mean a quantifiable probability that a harmful event will occur. But given that the precautionary principle we are considering involves scientific uncertainty, we want to also address cases where risk calculation is impossible. Gardiner defines uncertainty as a technical term in economics to mean that probabilities are not available.² Given epistemic uncertainty, the probability of harm could be one-hundred percent; we simply cannot know. Given metaphysical uncertainty, no probabilities are available to know. Clearly we will be unable to calculate any probability. This might lead some to always regard scientific uncertainty as just as bad as having certainty of harm; it is better to err on the side of caution. But we have already seen that even guaranteed harms are not unconditionally prohibited. For these reasons, a defensible version of the precautionary principle ought not to demand absolute prohibition on action that raises any threat to human health or the environment.

At the same time, it seems obviously wrong to claim that no version of the precautionary principle is defensible, or that precautionary measures should be limited to spreading awareness, otherwise we would never be justified in taking consequential precautionary action. Our example here need not be elaborate. Imagine someone has discovered a new type of explosive device. It has been observed to work occasionally, but it has not been tested enough to have scientific certainty about the risk involved with detonation near nuclear reactors. If no version of the precautionary principle is defensible, then it is acceptable to do nothing preventatively if these devices are being tested near nuclear reactors. If precautionary measures should be limited to spreading awareness, it very well might be the case that the explosive testing is not stopped. So it seems to me like prohibition of harms is the goal in terms of precautionary measures, but we must allow for prohibition to be overridden by other considerations and avoid holding it as absolute.

But let us return to our previous example where we showed how scientific uncertainty does not necessitate unconditional prohibition. What about the other extreme? That is, what about cases where we encounter scientific uncertainty and are tempted to do nothing at all? In our example about explosive devices, we might not have probabilities, but we do have relevant knowledge: namely, an explosive device being detonated successfully near a nuclear reactor will likely cause a great deal of harm. This will probably outweigh any reason for the testing. So even if the probability is not available, any possible probability would be at too great a cost. This leads us to two conclusions: first, we might have to accept erring on the side of caution under true scientific uncertainty. Of course this will have to be qualified to allow exceptions when the costs of erring on the side of caution are either completely unacceptable or greater than the worst outcome we could expect, given our knowledge regarding the act about which we are uncertain. I am not claiming to have a theory of harm comparisons, but I think one is likely to be relevant to a plausible account of what to do under scientific uncertainty. So the severity of the harm at stake is essential in our considerations. But generally, when no probability is available, it is better to have been wrong and have taken unnecessary steps in harm prevention than to have been wrong and allowed harm to occur. Again, that is

not to say that treating uncertainty as a guaranteed harm necessarily leads to prohibition of the action. As we have seen, prohibitions can be overridden by relevant considerations. But what is necessary to consider in cases of true uncertainty is the worst case scenario. Keep in mind this is not to say we must treat every suggestion of harm as if the worst proposed case were true. Even given uncertainty, there is still room for requiring a plausible account of how an action might raise threats of harm for precautionary measures to be taken. We might look to our knowledge about explosions and nuclear reactors in the previous case as an example, though I will not argue here about what is required in such an account generally.

So a complete rejection of the precautionary principle is just as bad as an extreme application such that any action raising threats of harm to human health or the environment is absolutely prohibited. We have seen why the precautionary principle is necessary as well as why we need to be careful about articulating what it actually requires.

What exactly is the version that Gardiner defends, given the seeming absurdity of both refusal of any precautionary principle and absolutist application? He claims that a defensible core use of the precautionary principle has restricted application to situations satisfying Rawls' criteria for a maximin principle: "the parties lack, or have good reason to doubt, relevant probability information; they care little for potential gains; and they face unacceptable outcomes."³ Rawls says his principle, which stands for 'maximum minimorum,' is a rule for choice under uncertainty that tells us to consider the worst possible cases of the options and to choose the best of them.⁴ Anyhow, this rule is supposed to be a principle of justice because whoever will necessarily be harmed most will be harmed the least possible amount, regardless of how greatly others might have benefitted at her expense. Keep in mind that Rawls does not mean to apply this rule to all choices under uncertainty—only those satisfying the criteria just mentioned.

So given the criteria for a maximin principle, Rawls excludes cases like pollution where we are certain that harm is going to occur. There we do not lack or have reason to doubt probability information. Rawls also excludes cases in which harm is not guaranteed, but the probability of harm is known. However, Rawls is not claiming his criteria exhausts possible applications of the precautionary principle. Gardiner seems to follow Rawls' criteria for a maximin principle, but is less restrictive. But let us note that Gardiner makes a stronger claim here about the criteria for a maximin principle to apply than Rawls. Rawls offers the criteria to pick out cases in which we should use his principle of justice, whereas Gardner proposes the criteria as necessary for a defensible application of the precautionary principle in order to avoid standard objections. In discussing why gradual climate change satisfies Rawls' conditions, Gardiner says, "either the probabilities of significant damage from climate change are high or else we do not know the probabilities."⁵ So Gardiner seems to want to resist including cases where probabilities are known but low, but to ensure inclusion of cases where probabilities are known but high. Gardiner also does not want to include cases like the person driving to the grocery store to get food; obviously obtaining food in order to survive is a much cared about potential gain. Additionally, Gardiner likely does not want to include cases like driving in areas where pollution is not a major concern because slight harms to

human health and the environment are not necessarily unacceptable. The best term he uses to describe unacceptable outcomes is 'severe;' unsurprisingly, the worst outcomes are described as 'catastrophic.'⁶

Given our previous discussion of extreme views on the precautionary principle, I hope it is clear that reasonable use of the precautionary principle demands a moderate position. But that does not mean Gardiner necessarily has the position correct. I would like to object to his position as I have suggested previously: on the basis that it is too conservative in specifying which acts are to be covered by the precautionary principle. Let me be clear that I am only attacking Rawls' criteria because Gardiner argues that defensible application of the precautionary principle ought to be restricted to Rawls' criteria. As Rawls does not argue for limiting the precautionary principle's application and only suggests what criteria should be met for a law of justice to apply, my objections are not directed at Rawls.

Thus, I would like to suggest that the precautionary principle ought to be used in cases where probabilities are known but low, where potential gains are cared about, and where harms to human health and the environment are minor. To the first point, let us imagine our explosive device near a nuclear reactor in fact has a known probability. It is low. I still think this is no reason to refuse the precautionary principle; the potential harm, though the odds of occurrence are low, is so great that we ought to err on the side of caution. Just because there is no true scientific uncertainty, meaning it is impossible that the odds of harm are one-hundred percent, is not reason enough to refuse the principle. Clearly, odds of harm do not need to be one-hundred percent in order for us to take precautionary measures such as deciding against a certain action. In fact, I think even low odds of harm can be reason enough for precautionary action in order to be consistent with our other considered beliefs. Like I said before, severity of the harm at stake is relevant to our considerations. Say an airplane is built such that it crashes only ten percent of the time it flies. That would obviously be unacceptable. If this were a passenger plane, even one loss of life would be intolerable as a result of its use, even if the airplane provides safe and reliable transportation the other ninety percent of the time.

Furthermore, I worry about restricting the precautionary principle to use where potential gains are not cared about. Just because someone cares about a gain does not make it valid. Let us imagine a city where pollution is a major threat to public health and public transportation is convenient and affordable. It seems absurd to claim that the precautionary principle does not apply to those who care about gains from driving a car, such as an elevated social status, and therefore these people have no reason to stop driving. Humans and the environment are at risk of significant harm such that someone might have feelings of prestige. I think Gardiner is right to include something about potential gains in his conditions for applying the precautionary principle because it shows why driving a car in order to obtain necessary food should not be prohibited. But it is not merely beliefs about potential gains that are relevant; it is that potential gains actually do override application of the precautionary principle. If there is true scientific uncertainty and a plausible account of how an action might raise threats of harm, then potential gains must override the worst case scenario. Otherwise, driving the most extravagant

and polluting cars might be acceptable if it boosts someone's self-esteem. I think we will find such reverence for individual desires at the expense of harming others or the environment to be contrary to our considered beliefs.

Lastly, I want to show that it is unnecessary for harms to humans and the environment to be severe in order for the precautionary principle to apply. I think the precautionary principle applies to any case where there is risk of harm or uncertainty about harm (and a plausible account of how the action might raise threats of harm), even when the proposed harm is minor. We avoid incoherence by taking cases seriously where potential gains from refusing the precautionary principle actually do override its application. So it will never occur that driving a car should be prohibited in an area where pollution is not already a significant problem if potential gains include something like going to the grocery store or attending a philosophy conference when no less risk-generating means of transportation are comparable in terms of expediency. But it will turn out that precautionary measures should always be taken against driving around aimlessly, creating pollution, and elevating risk of harm to human health and the environment. I think this will be consistent with beliefs we already hold about the gravity of unnecessary harm.

I hope I have shown that Gardiner is right to defend a moderate version of the precautionary principle, but that Rawls' criteria for application of a maximin principle is not an ideal candidate for determining whether the principle applies to a given action. I think a more plausible position regarding the precautionary principle responds to my suggestions that the principle ought to be used in cases where probabilities are known but low, where potential gains are in fact cared about, and where harms to human health and the environment are minor.□

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¹ Wingspread Statement 1998, quoted by Stephen Gardiner in "Ethics and Global Climate Change," in *Ethics* 114 (April 2004): 577

² Stephen Gardiner in "Ethics and Global Climate Change," 564.

³ John Rawls, cited by Stephen Gardiner in "Ethics and Global Climate Change."

⁴ John Rawls, *A Theory of Justice* (Cambridge: Harvard, 1999), 132-135.

⁵ Gardiner, 577.

⁶ Ibid.