Economics & Philosophy (2024), **40**, 732–755
doi:10.1017/S0266267123000251

CAMBRIDGE UNIVERSITY PRESS

BOOK REVIEWS

Philosophical Foundations of Climate Change Policy, Joseph Heath. Oxford University Press, 2021, viii + 339 pages. https://doi.org/10.1093/oso/9780197567982.001.0001.
doi:10.1017/S0266267123000251

Joseph Heath sometimes plays the role of a gadfly in climate and environmental ethics. He often defends conventional, economics-focused claims which rub many philosophers the wrong way – claims that are at the heart of issues raised in these pages, claims such as that discounting is justifiable, growth is good, or cost–benefit analysis is appropriate in liberal democracies. In the climate ethics community, many of these claims are fiercely opposed; however, I think we can all agree that sophisticated defences of conventional positions play an important part in the ecosystem. For philosophers, a gadfly can challenge entrenched conceptions. For economists and policy experts, the philosophical underpinnings of climate policy can illuminate policies by highlighting their justifications. If we agree that these goals are worthwhile, then this book serves as a useful summary and synthesis of the ways Heath has ably defended conventional claims about climate policy.

In doing so, Heath also means to do something constructive, which is to bridge divides between policy discussions and climate ethics. (Of course, he is not alone in doing so. For instance, other North American figures doing so in the climate domain include Andrew Light (2017) and Idil Boran (2018).) The purpose of the book is partially to draw attention to these conventional claims, partially to defend them to philosophers, and, ultimately, to suggest that philosophers should adopt them. If Heath is right (and here I am perhaps more sympathetic to his view than many of my colleagues), climate and environmental ethicists could have more practical relevance to – or at least be speaking the same language as – policymakers. As a philosopher trying to bridge that philosophy-policy gap, I find myself endorsing some of these positions. Of course, not all philosophers have such a goal in mind. To those philosophers, I imagine Heath would be content challenging their presumptions.

The book is Heath's attempt to work backwards from policy: what are the assumptions that are needed to make the current policy discussion justifiable or appropriate (1)? His view is that the positions of many climate ethicists, if directly applied to policy, would meet neither of these criteria – many would be overdemanding (e.g. having no discounting) and some would be underdemanding (e.g. making sure that future generations have at least as good bundles of goods as our own). In short, the goal is to defend these conventional claims and support (or at least make intelligible) current climate policy discussions to moral philosophy. If he is successful, that could undermine some commonly endorsed views in climate ethics – but potentially could also bring climate ethicists into more productive discussion with policymakers.

While this is a rich book, this review is structured around several of these key conventional claims which Heath tries to defend: (1) that, in the context (or assumption!) of economic growth, many intergenerational *theories of distribution are undemanding* and easy to meet; (2) that the policy instrument of *carbon pricing can be justified* by a kind of minimally controversial contractualism; and (3) that *cost–benefit analysis* (specifically, cost–benefit analyses employing a social cost of carbon) *is appropriate* for regulatory approval on political liberal grounds.

1. Intergenerational Theory's Putative Undemandingness

The first claim I will discuss relates to how demanding intergenerational theories are. Climate ethicists endorse a variety of views about intergenerational transfers. Heath believes that these are practically undemanding; if he is right, then advancing these views does not help discriminate between actual climate policies (many of them would meet these intergenerational views, and some of them would do so trivially).

While economists are concerned about efficiency gains in intergenerational contexts, philosophers have mostly been interested in meeting demands of distributive justice. Heath believes these distributive claims practically imply (minimally) a steady-state economy. The two interlocutors Heath engages with are John Rawls (1971) as an intergenerational sufficientarian (Rawls' just savings requires only enough savings that just institutions can be maintained), and Brian Barry (1999) as an intergenerational egalitarian (where each generation has an equal opportunity, or an equivalent starting point). Along with other shapes or patterns of distributive justice, Heath believes that they are satisfied by a steady-state economy, where an economy is just insofar as institutions are maintained or generations get equal opportunity.

Heath makes two points in response to these kinds of steady-state interlocutors. Heath's first point is that in the light of a positive growth rate, these demands of justice will be very easy to satisfy ('undemanding'); if the demands of justice are satisfied by a steady-state economy, then (as policymakers usually expect) a growing economy makes it easy to satisfy these demands. One might think that the reason that philosophers endorse these minimal demands of justice is because they are less optimistic than economists or policymakers about positive growth. However, recent work suggests that philosophers and economists have similar expectations about the long-term growth rate, so Heath's assumption is not idiosyncratic (Nesje *et al.* 2023). Heath's second, and related, point is that if you put any weight at all on efficiency as opposed to equity or distribution, it will pretty quickly swamp the demands of justice, simply because there is so much potential value in investment.

An example is illustrative. Heath refers to Catriona McKinnon's (2013) suggestion that we create an 'Intergenerational Climate Change Compensation Fund' to redress climate harms allowing generations harmed by climate change to be brought to a non-climate affected baseline. However, with the important weak sustainability assumption that environmental impacts can be redressed with sufficient resources (a claim Heath addresses but I do not have the space

https://doi.org/10.1017/S0266267123000251 Published online by Cambridge University Press

here to discuss), this is not very demanding if the appropriate investments are made. Furthermore, if one cares about efficiency, a very small proportion of benefits could be allocated to this fund, and the remaining questions are about who should be able to consume the additional benefits, and these questions reflect the bulk of the actual effects, at least according to Heath.

Beyond the assumption of weak sustainability, philosophers are likely to be thinking about losses and damages, or climate impacts that are irreversible or beyond our ability to adapt to (whether terrestrial losses or deaths) (Wallimann-Helmer *et al.* 2019). These do not seem to be subject to redress with extra resources. One way Heath responds is that we provide all kinds of benefits to future people which may be ignored in GDP measures, and that growth is not only economic, but cultural and intellectual (71). While I believe Heath should have spent more time considering irreversible or uncompensable harms ('many of these [environmental] "problems" are only problems in the sense that they would be extremely costly to remedy' (90)), I think Heath is right to be focusing on the broader aggregate picture, since policy addresses large groups of people and it can distort our responses to limit our focus on small subsets.

2. A Contractualist Defence of Carbon Pricing

A second purpose of Heath's broader project is to defend certain aspects of market structures on contractualist, as opposed to utilitarian, grounds. Carbon pricing – or the policy instruments that disincentivize emissions either through marginal taxes (carbon taxes) or through maximal emissions amounts (cap-and-trade) (I discuss this distinction and survey relevant moral issues in Mintz-Woo 2022) – is where Heath tries this type of convergent justification approach. The utilitarian justification for carbon pricing is straightforward: if costs for emissions are internalized by the emitter, then the emitter will reduce her emissions. If those additional costs reflect the social damage, then the emitter will reduce her emissions to the point where her private benefits match the social damage, which, from the point of view of society, is where the emissions are (barely) justifiable. With some additional caveats, the utilitarian concludes that carbon pricing makes it the case that rational actors will only emit when the overall benefits outweigh the costs, i.e. when emitting improves outcomes overall, justifying carbon pricing instruments.

Heath is also concerned about incentives, but his contractualism is meant to yield a distinct motivation for carbon pricing. His view is that market economies are systems that we contribute to and take from based on indirect reciprocity (prices indicating how much an action takes from or benefits others). When we contribute more, we are rewarded with money (which is like a credit that allows you to take from others later).

While interesting, I am concerned that this may get both the phenomenology of market transactions and the intergenerational climate relationships wrong. When you work for a wage, this does not seem like a contribution to a large entity like 'the market' or 'society' which has rules or norms about how much you contribute and promises that you can take things out later on. You provided some work to

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some individual or group who specifically pays you for the things you did *for them*. In other words, there are various relationships, usually bilateral, of buying and selling. And I think this phenomenology tracks reality: the economy is a series of various actions and relationships, not a large object from which you pay in or take out.

But there is a more important objection in the climate context. This is Brian Barry's objection (§3.2) that contractualism presumes reciprocity, and intergenerational contributions cannot be directly reciprocated, at least not in general. Mitigation contributions generate a stream of benefits over time, and many of those who will benefit will come after the mitigator (and therefore will not be able to reciprocate *to* the mitigator). Heath's response is that reciprocity can be indirect. If thinking in terms of graphs, all nodes can be connected in a directed graph, even if there are no cycles such that a given node has a path back to itself. The intuition is that a contractualist's contract need not be between two specific people, it can just be satisfied by the contract being honoured eventually, or by someone.

While we could grant that social contracts could have that structure (at least arguendo), I think that Barry is right that the resultant picture does not, intuitively, instantiate *reciprocity*. If I send a basket of goods down a river and a recipient downstream, in appreciation, sends another basket of goods down the river to a third person, Heath would be committed to saying that this is (indirectly) a reciprocal benefit. But that just seems to be misunderstanding what reciprocity is. I think the intuition that indirect reciprocity generates the right structure gets some credibility from the idea that, in very complicated contexts, transfers *might* ultimately benefit the original giver (e.g. that there will or could eventually be a cycle in a directed graph). For instance, if I leave a penny at a cash register and then take a penny a month later, it could seem like indirect reciprocity because *maybe* the people who took my penny contributed a penny later on ultimately leading to a penny being left for me. That kind of indirect reciprocity could intuitively seem like (at least potential) reciprocity. But if the situation *precludes* any such responses, as in the climate case where there is no chance of transfers from later receivers to earlier givers, then this defence doesn't work.

And this is not merely a terminological point, because reciprocity motivates the contractarian's concern for mutual advantage. What is left on Heath's view is something like *general* advantage (or total advantage), and this reduces the distinctness of contractarianism, rendering it rather close to a utilitarian position.

3. Liberal Cost–Benefit Analyses

Another claim that Heath defends is that cost–benefit analyses (CBAs) should be used for regulation. CBAs are not very popular amongst environmental ethicists or amongst philosophers more broadly, but they are an influential part of actual decision-making (especially in North America and the UK). Once again, Heath denies that CBAs can only be supported by utilitarianism, but suggests instead that they can be justified as ways of addressing externalities and as following from a minimal form of political liberalism.

Heath claims that, instead of accepting any regulations which pass such an analysis (which would instantiate a simple utilitarianism), only ones which

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involve actual Pareto improvements are considered acceptable (e.g. purely redistributive policies and other potential Pareto improving policies would pass CBA, but he says that is not enough to consider them appropriate for regulation) (§5.1). Since actual Pareto improvements are considerably less controversial amongst philosophers than potential Pareto improvements, this might alleviate some concerns.

Next, he argues that CBA is just an attempt to avoid legislating value judgements by adopting the preferences (with respective strengths) of citizens. Instead of deciding what is valuable (e.g. sentience or ecosystems), CBA just adopts the values or preferences of citizens without privileging any particular person or conception of a good life, i.e. it is neutral.

While I believe the point about limiting CBAs to actual Pareto improvements is useful, I think the idea that CBA is neutral between substantive accounts of the good is less novel (for instance, a more ambitious version of this argument, also for an interdisciplinary audience, was recently made by Greene (2013)). One line of criticism might be that what we should be neutral towards is not the satisfaction of preferences but capabilities to flourish, say. Another potential line of criticism is that individuals with expensive tastes or prosocial preferences should not be treated equally – maybe the former should be downweighted and the latter upweighted, for instance (Keller 2002). My main point is not about the correctness of these lines of criticism, however, but about the novelty of Heath's position in this dialectic.

However, one common concern climate ethicists have with CBAs is about pricing environmental harms to make them comparable with other harms. Sometimes, this concern is expressed as the claim that environmental harms are priceless (or unpriceable). One point on which I am very sympathetic with Heath is that simply saying these harms are priceless is a way of hijacking a conversation or of ducking the hard work. Trying to find reasonable estimates for these harms is difficult (Fleurbaey *et al.* 2019), but saying that they are meaningless, in a liberal democracy, is a way of saying that one set of (environmental) values always trumps others. That's not reasonable. Even if emissions do contribute to climate harms (or their risks), that does not mean that all emissions anywhere are unjustifiable. If emissions from a car are needed to transport someone to hospital rapidly to address physical injuries, those climate harms are usually outweighed by the importance of addressing these injuries.

In this way, as with many other claims, I think that Heath is doing interesting work, testing some of the limits of common claims by climate ethicists. It would be useful for professional philosophers and policy practitioners alike to come to understand climate policy in a collaborative manner. Whether Heath's is the best basis to do so is up for debate, but I believe the project is exciting and worthy of critical scrutiny and discussion.

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https://doi.org/10.1017/S0266267123000251 Published online by Cambridge University Press

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Limits of the Numerical: The Abuses and Uses of Quantification, ed. C. Newfield, A. Alexandrova and S. John. University of Chicago Press, 2022, 317 pages.
doi:10.1017/S0266267123000275

This edited volume is a welcome and timely addition to scientific and normative debates over quantification. Quantification, or the numerical representation of the world, is central not just to science but also to politics, the economy and culture. Quantification, for example, enables standardization, which is central to the proper functioning of markets and bureaucracies. And indeed, one of the driving commitments of the volume is a view of quantification as embedded in and shaped by socio-political institutions.

While this claim may sound obvious, it comes with certain substantive commitments about what quantification is, and accompanying methodological commitments about how best to investigate it. *The Limits of the Numerical* conceptualizes quantification as both a value-laden process and a product. It is, on the one hand, a set of institutionalized processes constituted by actors with certain kinds of role-related powers. And it is also a product that embodies the