

"The point is to change it"

Philosophy protects the climate

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The influence of philosophy

Philosophy has an immense influence on public life. As an example, think of the influence of liberalism in politics. Liberalism is largely the creation of philosophers, including particularly John Locke and John Stuart Mill, and it is now the guiding principle of many countries' political systems. However, philosophy generally works its influence slowly, as ideas percolate from philosophical writing out into society at large.

It also sometimes happens that important public issues call directly for philosophical analysis. They cannot wait for the slow percolation of thought. For instance, in the 1980s advances in the technology of human reproduction demanded regulation. It was recognised that moral philosophy had an important contribution to make in determining the regulations. The philosopher Mary Warnock oversaw an official inquiry and report which led to the establishment of new UK legislation (Warnock, 1984). Her work was also influential elsewhere in the world.

Another example is climate change. Governments must decide how to respond to it. The need for action is urgent. Despite international efforts that have continued for more than three decades, emissions of greenhouse gas are still increasing. We are on track for warming of about three degrees by the end of this century, which is expected to be catastrophic. This is an emergency. Decisions need urgently to be made about how to drive down emissions. And good decision-making about climate change demands a philosophical contribution. Philosophy can help combat this most serious threat to humanity's future.

What has philosophy to do with climate change? One answer is that climate change itself is immoral in one respect. Some people in the world — mostly in rich countries — cause greenhouse gas to be emitted for their own benefit, and this does harm to other people — mostly in poor countries — who themselves contribute little to climate change. This is an injustice done by the rich to the poor, which is a sort of moral wrong. Wherever morality is at issue, there is a role for moral philosophy. Philosophical questions arise about the injustice of climate change. For example, how far is a country responsible for recompensing those who suffer from the emissions it released in the distant past?

I shall concentrate on a different contribution that philosophy can make. Decision-making about climate change involves judgements of value, and value is within the domain of moral philosophy. These judgements are generally made in practice using the tools of economics, by means of cost–benefit analysis broadly construed. For example, the *Stern Review* (Stern, 2007) — a major UK government report on the economics of climate change — estimated the benefits to be gained in 200 years from limiting climate change, and compared them with the present costs of limiting it. Cost–benefit analysis is a matter of valuation: the value — goodness — of benefits is weighed against the value — badness — of costs.

Philosophy allied with economics

Climate change affects all the world’s population over centuries. It requires methods of analysis that can cope with such numbers and such a long time. Economics possesses those methods, whereas moral philosophy has traditionally been concerned with the actions of individuals and relations between small numbers of people. But moral philosophy does supply underlying principles of valuation. Economics can apply these principles to the enormous problem of climate change.

The branch of economics that is concerned with value is known, oddly, as ‘welfare economics’. It encompasses cost–benefit analysis. Welfare economics is in effect applied ethics: moral philosophy applied to economic matters.

True, some economists believe their discipline to be independent of ethics. This belief was revealed in the reactions of some economists to the *Stern Review*. The *Stern Review* explicitly recognised that welfare economics rests on ethical assumptions. William Nordhaus

and Martin Weitzman — the two most distinguished US economists of climate change — each wrote a review of the *Stern Review*, and each denied that economics rests on ethics (Nordhaus and Weitzman, 2007). These reviewers insisted that values should be taken, not from ethics, but from the preferences of the public as they are revealed in markets.

This view about the source of value is an ethical theory. Some English speakers think that they speak their language without an accent, and only other speakers have an accent. They are so deeply imbued in their own accent that they do not recognise it as an accent at all. Nordhaus and Weitzman are so deeply imbued in their own ethical theory that they do not recognise it as an ethical theory at all. They accept it without thought, and suppose that anyone who takes the trouble to think about ethics is arrogantly trying to impose her own view on other people. Nordhaus wrote that the *Stern Review* ‘takes the lofty vantage point of the world social planner, perhaps stoking the dying embers of the British Empire’. Weitzman accused the *Review* of ‘relying mostly on a priori philosopher-king ethical judgements about the immorality of treating future generations differently from the current generation’.

These authors’ own arrogant position would be more defensible if their ethical theory were a good one. But it is not, at least in the context of their two reviews. This context is a discussion of ‘discounting’, which is the practice of giving less value to future goods than to present goods. Nordhaus and Weitzman recommended deriving the rate at which future goods are discounted from the rate of interest in present financial markets. But the preferences of future generations are not represented in present markets. Even if it were right in general to derive values from people’s preferences, it would still not be right to derive them from the preferences of only some of the affected people — the present generation — and ignore the preferences of the rest.

The idea that economics is independent of ethics must be rejected. It remains prevalent, especially in the US, but many economists side with Nicholas Stern in rejecting it. Philosophers who wish to influence the world’s response to climate change would do well to ally themselves with these economists. Economics has traditionally been influential in policymaking. Governments rarely call for advice from philosophers, but they regularly call on their economic advisers. Moreover, economic theory offers crucial insights that must be recognised by policymakers if climate change is to be overcome. If philosophers can ensure that governments’ economic advisers give good advice, properly based on principles of ethics as well as on economic theory, they will have made a major contribution. An alliance of philosophers and economists can together deliver good advice to governments.

An intellectual alliance already exists. The interface between economics and ethics is a well-populated field. Economists and moral philosophers have many interests in common. They include foundational questions about value: What is the source of value? Is it preferences? How do different values combine? Should different people's well-being combine additively as utilitarians suppose? Should the worse off have priority? And so on. They also include questions about particular values: What is bad about inequality, if anything? How should future goods be weighed against present goods? What value should be attached to changes in the world's population? How bad is a person's death? And so on. Many of these questions are directly relevant to climate policy.

In trying to answer them, philosophers and economists have always interacted. Indeed, they have sometimes been one and the same person; remember Adam Smith, John Stuart Mill and Henry Sidgwick. When the interaction breaks down, things go badly. When philosophers began to make the distinction between egalitarianism and prioritarianism in the 1980s and 1990s, they did not realize that the same distinction had been investigated by economists in the 1960s and 1970s, using different terminology. As a result, philosophers wasted effort in rediscovering what was already known.

The philosophers' ignorance arose partly because many of them could not read economists' writings. They did not understand their pervasive mathematical notation. Interacting with economists is demanding for a philosopher; it requires an investment in understanding their technical language and methods. But in value theory the investment is well worthwhile. Indeed, in the more quantitative areas of value theory it is essential.

The value of human life

Bad economics is a constant threat to good public decision making. The valuing of human life is an excellent example. This is a crucial issue for climate change, since it is widely agreed that the greatest harm climate change will do is to shorten people's lives. The US Environmental Protection Agency (US EPA) has recently produced a new estimate of the 'social cost of carbon', which is supposed to measure the harm done by emissions of greenhouse gas (US EPA, 2023). It estimates 'mortality costs' — the harm of killing people — as more than half of all the harm.

Economists have a way of setting a value on human life that conforms to their general ethical assumption that value should be based on people’s preferences. They base the value of life on what people are willing to pay to reduce their risk of dying. Poor people are willing to pay less to reduce their risk than rich people are. Consequently, many economists value the lives of people who live in poor countries much less than the lives of those who live in rich countries. The US EPA does the same.

This is foolish. The amount of money someone is willing to pay to reduce risk to her life depends on two things: first, on the value she attaches to her life, and, second, on the value she attaches to money. Poor people attach a greater value to money than do rich people because they have a greater need for the things money can buy. This is the reason poor people are willing to pay less money for reducing risk to their lives. It is not because their lives have less value to them.

Money is not a good measure of value unless adjustments are made to correct for the differing values money has to different people. These adjustments are called ‘distributional weights’. They can be made, but bad economics does not make them. The US EPA’s valuation of life is bad economics.

Indeed, it is incompetent. Measuring value by means of people’s willingness to pay, unadjusted, is known as the ‘Kaldor-Hicks criterion’ (Kaldor, 1939; Hicks 1939), and the US EPA explicitly uses this criterion. But it has been known for more than 70 years that the Kaldor-Hicks criterion leads to contradictory implications (de Scitovszky, 1941; Gorman, 1955; Blackorby and Donaldson, 1990; Broome, 2024). It is refuted by *reductio ad absurdum*, that is to say.

It is also immoral. In forming its response to climate change, the US EPA values the lives of Americans 35 times higher than the lives of Bangladeshis. Yet Americans on average emit 11 times as much greenhouse gas as Bangladeshis do. It is a licence for the rich to kill the poor.

Philosophy is not required to identify this fault in the US EPA’s economics. All economists should have learned about it during their education. But actually, welfare economics is little taught in economics departments these days. The Kaldor-Hicks criterion, though refuted 70 years ago, is still regularly applied in cost–benefit analysis for policymaking. Contact with philosophy might help economists recognise the logic

of reductio ad absurdum. But the real role for philosophy in improving the economics of valuing lives is to think about what, actually, a person loses when she dies.

This has been a topic within philosophy since antiquity. The answer cannot safely be left to the preferences about risk that people happen to have, since those preferences are rarely thought out carefully. There is a group of economists who reject the Kaldor-Hicks criterion, and take the view that what a person loses when she dies is the rest of her life. They value this on the basis of how long and how good the rest of her life would have been. This value is codified by health economists in the form of quality-adjusted life years or qalys. The World Health Organization uses disability-adjusted life years or dalys. Practical measures of value such as these are very amenable to philosophical analysis.

A generalisation of qalys and dalys is to value a person's life by the total of well-being the person enjoys during her life, which is to say the well-being she has at each time, added up over her life. This could be called the total of 'well-being-adjusted life years'. Adding up this value across people implies that the harm done by climate change is the total of well-being it takes away from the world's population. This is a utilitarian measure of value.

Population ethics

Measuring value this way raises a problem that economists of climate change have so far entirely missed. They recognise that mitigating climate change saves lives. They forget it also affects births: it alters the number of people who are born and also the identities of the people who are born. This is because action to mitigate climate change alters people's lives significantly. Consequently, it affects how many children people choose to have, when they choose to have them, and whom they choose to have them with.

An action that mitigates climate change extends the lives of some people. It also causes some people to live who otherwise would not have lived at all. If value is measured by the total of people's well-being, extending lives counts as a benefit equal to the total of well-being it adds to existing lives. Creating new lives counts as a benefit equal to the total of well-being contained in the added lives. Action to mitigate climate change also causes some people not to live who otherwise would have lived, and this counts as a harm equal to the total of well-being those people would have enjoyed had they lived.

This is intuitively odd. Well-being can be added to the world in two ways. One is by extending the life of an existing person; the other by adding a person to the population, who then enjoys well-being. Measuring value by the total of well-being treats either of these ways as equally good. But they are not intuitively equally good. Indeed, many people’s intuition is that adding people to the population is not good at all, but ethically neutral, even if their lives will be good. The philosopher Jan Narveson wrote: ‘We are in favour of making people happy, but neutral about making happy people’ (Nareveson, 1973).

This issue has taken us into the realm of population ethics. It is not surprising that the question of valuing lives should force us to consider the value of creating lives as well as the value of extending lives. Since climate change will change the world’s population, good decision making about climate change must take population ethics into account. This is a place where philosophy can make a vital contribution. Once more, it is most likely to have influence if it works through economics. Indeed, some of the leading contributors to population ethics are the economists Charles Blackorby, David Donaldson and Walter Bossert.

The IPCC

My own experience of working with economists has been good. It helps that I was a professor of economics before I became a professor of philosophy. I left economics in 1995 but was drawn back to working with economists again a decade later when I returned to work on the ethics, and hence the economics, of climate change. I was a lead author of the 2014 assessment report of the Intergovernmental Panel on Climate Change (IPCC). I believe that my colleague Lukas Meyer and I are the only philosophers who have ever been lead authors for the IPCC.

Each IPCC report consists of three huge volumes — one from each of three working groups — together with several summaries. Each volume has a ‘Summary for Policymakers’, which is the most widely read and widely influential part of it. Meyer and I were in Working Group 3, which was concerned with how climate change can be mitigated. We joined about a dozen economists in writing a chapter entitled ‘Social, Economic and Ethical Concepts and Methods’ (IPCC, 2014). I found the economists much more tolerant of philosophy than I expected. Welfare economics has been little taught since the 1970s, but these economists at least recognised the contribution philosophy could make. So did Ottmar Edenhofer, the chair of the working group.

In the working group’s volume, I was given the space to describe aspects of value theory that underlie economic valuations of the harm done by climate change, and of the benefits that can be achieved by policies that limit climate change. I was able to discuss non-human values and cultural values, as well as human well-being, and how human well-being can be aggregated across time and across different people. I mentioned problems of population ethics and considered how lives should be valued. Meyer wrote about issues of justice including the question of how far a country should be held responsible for its emissions from long ago.

The Summary for Policymakers of this volume was written by a small subset of the authors, including me (IPCC, 2014). At the meetings of this group, I was with a few economists among many other social scientists and some lawyers. An affinity emerged between economics and philosophy as the more analytic disciplines among the rest. We wanted to write in clear, sharp sentences, stating our meaning exactly. Other contributors preferred to write long sentences containing many caveats and conditions, whose meaning was often not entirely determinate. I later saw the benefit of this vagueness. When we came to present the report to governments, it gave them less to disagree with and made it easier to cobble together a consensus. Still, it was striking how economics and philosophy converged on the aim of precision.

The Summary for Policymakers is highly compressed. Nonetheless it had enough space to state explicitly that climate change raises issues of justice and ethics. It states that climate policy can be aided by ethical analysis, and can take into account values of different sorts, including non-human values. It also makes it explicit that distributional weights should be applied to monetary measures of benefits and harm, to take account of the differing values money has to different people. These are not radical statements, but their presence is significant because each sentence in the Summary for Policymakers has been individually considered and approved by consensus at a meeting of the IPCC’s members. These members include the governments of every country in the world.

So, for instance, every country, including the US, has agreed that distributional weights should be applied to measures of benefits and harms. Consequently, when the US EPA declined to apply distributional weights in measuring the social cost of carbon, it failed to honour a national commitment. As it happens, the Office of Management and Budget — another arm of the US government — has recently given its permission for US agencies to use distributional weights (Office of Management and Budget, 2023).

Did all this work in cooperation with economists achieve any practical influence for philosophy? The IPCC's 2014 report provided the scientific background for the meeting of the UN Framework Convention on Climate Change that took place in Paris in 2015. That meeting led to the Paris Agreement, which is now the governing document of the international community's fight against climate change. It is the framework regulating each country's contribution. So the IPCC's report as a whole could scarcely have been more influential in international politics. Philosophy's small contribution to it is a foot in the door.

References:

- Blackorby, C. and Donaldson, D. (1990). A Review Article: The Case against the Use of the Sum of Compensating Variations in Cost-Benefit Analysis. *Canadian Journal of Economics*, [online] 23(3), pp.471–494. Available at: <https://ideas.repec.org/a/cje/issued/v23y1990i3p471-94.html>.
- Broome, J. (2024). 'The Value of Life in the Social Cost of Carbon: A Critique and a Proposal'. *Journal of Benefit-Cost Analysis*, pp.1–17. doi: <https://doi.org/10.1017/bca.2024.21>.
- de Scitovszky, T. (1941). 'A Note on Welfare Propositions in Economics'. *The Review of Economic Studies*, 9(1), pp.77–88. doi: <https://doi.org/10.2307/2967640>.
- Gorman, W.M. (1955). 'The Intransitivity of Certain Criteria Used in Welfare Economics'. *Oxford Economic Papers*, [online] 7(1), pp.25–35. doi: <https://doi.org/10.2307/2662000>.
- Hicks, J.R. (1939). The Foundations of Welfare Economics. *The Economic Journal*, [online] 49(196), pp.696–712. doi: <https://doi.org/10.2307/2225023>.
- IPCC (2014). *AR5 Climate Change 2014: Mitigation of Climate Change*. [online] [ipcc.ch](https://www.ipcc.ch/report/ar5/wg3/). Available at: <https://www.ipcc.ch/report/ar5/wg3/>.
- Kaldor, N. (1939). 'Welfare Propositions of Economics and Interpersonal Comparisons of Utility'. *The Economic Journal*, 49(195), p.549–552. doi: <https://doi.org/10.2307/2224835>.
- Narveson, J. (1973). 'Moral Problems of Population'. *The Monist*, [online] 57(1), pp.62–86. Available at: <https://www.jstor.org/stable/27902295>.
- Nordhaus, W.D. and Weitzman, M. (2007). 'A review of the Stern Review on the economics of climate change'. *Journal of Economic Literature*, 45, pp.686–702; 55, pp.703–24.
- Office of Management and Budget (2023). 'Circular A4: regulatory analysis', pp.65–7. Available at: <https://bidenwhitehouse.archives.gov/wp-content/uploads/2023/11/CircularA-4.pdf>.
- Stern, N. (2007). *The Economics of Climate Change*. Cambridge University Press. [online] doi: <https://doi.org/10.1017/cbo9780511817434>.
- US Environmental Protection Agency (2023). *Report on the Social Cost of Greenhouse Gases: Estimates Incorporating Recent Scientific Advances*. Available at: https://cfpub.epa.gov/si/si_public_record_report.cfm?Lab=NCEE&dirEntryId=356357.
- Warnock, D.M. (1984). *Report of the Committee of Enquiry into Human Fertilisation and Embryology*. London, HMSO.