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Power and Responsibility: The Role of the Sciences in Reducing Social Inequality

In conversation with Professors Andrew Stirling and Danny Dorling

Communication | Editorial | Invited contribution | Perspective | **Report** | Review

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Abstract

We explore the role of scientists in reducing social inequality through policy advice in conversation with Professors Danny Dorling and Andrew Stirling. Providing unbiased advice requires careful consideration of the implicit power imbalances in policymaking and the internalised inequality within the scientific discipline itself. Professors Stirling and Dorling explain the causes and effects of the science-policy dynamic, and propose strategies to improve science advising and to address the underlying issues within scientific research.

Science ⇒ Policy

In their capacity as policy advisors, scientists can play a role in determining social outcomes of policymaking. Helping to improve policy outcomes means navigating the complex dynamics of power and the politicisation of policy advising. Reducing inequality requires unbiased scientific advice and research, which are currently undermined by inherent inequalities within the discipline itself.

Keywords Social inequality · Science advising · Evidence-based policymaking

Introduction

The growing importance of evidenced-based policymaking places scientists at the heart of government. Certainly, not all questions can – or should – be answered by science, but the perception that science is absolute and apolitical creates a façade of impartiality that affords scientists a prominent role in modern policymaking. Yet this perception abstracts from the reality that scientists operate amongst the same dynamics of inequality, power, political pressures and misaligned incentives that face politicians and policymakers.

In November 2020, the Cambridge University Science and Policy Exchange (CUSPE) hosted a lecture[1] with Professor Danny Dorling[2] (DD) of the University of Oxford and Professor Andrew

[1] A recording is available on CUSPE's YouTube page at `https://www.youtube.com/watch?v=16_zkHoczQs`.
[2] Halford Mackinder Professor of Geography, St Peter's College, University of Oxford.
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Stirling[3] (AS) from the University of Sussex to consider the realities of science advising. The discussions ranged from the role of scientists in 'speaking truth to power' to the responsibility to address inequalities within the discipline itself. Professors Dorling and Stirling offer their insights about how scientists can help to achieve greater equality from public policy.

Power

Social inequalities exist when those in privileged positions hold a disproportionate share of power and resources, and societies can be stratified by class, race, gender or any number of perceived differences [1]. Reducing social inequality is held up as a core goal of government and those who direct the policy agenda therefore have significant power to improve outcomes. However, Professor Dorling points out that reducing inequality means different things to different people. There is a belief amongst some politicians that social equality is unobtainable – and, perhaps, undesirable – because "some people are much more able than others, that some people are much more deserving than others". Professor Dorling argues that politicians with these beliefs may think that "they're being practical and sensible and doing the best that can possibly be done for those who are not quite as clever as them", while implementing policies that actually entrench social inequalities.

The view that inequality arises due to failures of individuals rather than failures of the system creates a sense amongst some groups that "for the economy to work, those who might be lazy need to be afraid of poverty" (DD). One consequence of this belief is the theory that equality of opportunities, rather than outcomes, is enough to address society's imbalances. Professor Dorling argues that campaigning for equality of opportunities allows politicians to masquerade as social do-gooders, but "lets [them] off when the outcomes don't actually materialise at all". An abundance of mixed incentives within policymaking compounds the sense that equal opportunities are enough. In particular, some policies may be justified by arguing that economic growth creates more opportunities for everyone. Professor Dorling reckons that politicians may think that they are addressing inequality by "promoting practical, sensible policies that may make Britain great again, may make it richer, may give opportunity to the rare person who needs to be [...] promoted upwards", despite a heavily unequal distribution of realised outcomes. Into this quagmire of power, inequalities and misaligned incentives walks the well-intentioned science advisor. While evidence-based policymaking can help by highlighting effective policies, scientists must sidestep many landmines on the way to improving outcomes – not least in their own backyard.

Despite the perception that the role of scientists in government is to 'speak truth to power', Professor Stirling argues that more attention needs to be paid to the fact that "even inside science, power shapes truth". The trope that science is unbiased or pure means that these imbalances are pushed under the carpet. Instead of tackling inequality, there is an implicit denial "that the knowledge that science produces is at least partly reflective of patterns of power and privilege that go on inside research" (AS). The institutions of science – scepticism, evidence, peer review – purport to reduce bias and promote objectivity, but are themselves "massively compromised" (AS) and give "a fig leaf for other interests to hide behind" (AS). Power imbalances within scientific disciplines are just as pervasive, and as detrimental, as those within government. Professor Stirling reckons that "these kinds of inequalities between institutions and between disciplines can actually turbocharge particular kinds of understanding and force specific sorts of innovations and suppress others". Without careful thought, scientists can unwittingly proliferate inequalities within the discipline and undermine efforts to use science for good in public policy.

Power imbalances in policymaking mean scientists risk falling into the trap of providing credibility to political agendas unrelated to evidence or the public good. Because it is seen as objective and unbiased, "science is very useful in the crucial business of procuring justification" (AS). Politicians can "hide behind" (AS) science to legitimise their agendas "just by judicious choice of framing assumptions and interpretations" (AS). Professor Stirling reckons that the "performance of hiding behind experts is almost physically realised on stage" in press conferences on Covid-19. Theoretically, there is a division of labour between

scientists who provide evidence and elected officials who make normative policy decisions. In reality, there can be a "toxic dynamic" (AS) where advisors feel they need to provide closure by justifying a single policy 'answer'. Professor Stirling remarks that "if an advisor is simply pre-empting a particular decision in some way by only giving one recommendation then they're actually violating that division of labour". For politicians, this hazy interdependence of science and policy offers a way to shift blame and externalise the exposure of powerful figures in government. Professor Stirling argues that what "a typical politician [...] is most worried about is not whether a particular bit of advice is right or not, it's actually how exposed they are if it's wrong". For scientists, the payoffs for shouldering this risk are the awards and peerages conferred for contributions to civil service. Professor Dorling says that, instead of celebrating objectivity and scientific purity, these "baubles" can exacerbate biases by giving politicians leverage with which to elicit "good behaviour" from scientists. An honour system that is less political and more transparent would encourage more objective science advising.

In this climate of power and politicisation in science advising, some turn to deliberative democracy as an alternative to centralised, if evidence-based, policymaking. Professor Dorling notes that, while generally very time consuming, citizens' assemblies can be very valuable when drawing on a population from a wide set of backgrounds. However, as Professor Stirling points out, citizens' assemblies are just as vulnerable to the inequalities and imbalances of wider society and, like scientists, are under pressure to "crank out a consensus". Deliberative democracy may be "necessary but not sufficient" (AS) for developing inclusive public policy.

Responsibility

Given the maelstrom of inequalities, power imbalances, pressure and misaligned incentives, one might question whether science can play a useful role in policymaking at all. However, the importance of evaluating policy choices and analysing outcomes means science cannot be dismissed. As Professor Stirling put it, "there is a very important baby in some rather horrible bathwater". We now turn to how scientists can help promote equal outcomes within the sciences and in policy.

A key responsibility of policy advising is acknowledging the implicit inequalities within and without science. Being cognisant of mixed incentives and politicisation in policymaking can help scientists avoid playing into a narrative that stagnates social progress. This may mean actively recognising and trying to correct for biases in evidence or acknowledging political pressures. However, promoting equality is not just about the evidence provided. Without addressing the implicit imbalances within the discipline itself, scientists can inadvertently play into an ongoing proliferation of privilege that colours the scientific research agenda. Professor Stirling remarks that "addressing inequalities and power and privilege of many kinds inside science [...] are actually crucial actions" to helping reduce wider inequalities. Science's inequalities are entrenched by the funding process, which often supports 'cutting edge' research that benefits the privileged, such as expensive consumer technologies, instead of that which could benefit a wider population such as vaccines or agricultural development. Ignoring sources of bias within science can affect the resulting research and "significantly exacerbat[e] wider social and political inequality" (AS). Collectively, scientists determine the agenda of research and have a responsibility to recognise its existing structural inequalities.

So, after acknowledging biases, what tools do scientists have to promote equality in the face of political pressure in policymaking? First, go back to basics. "Science has nice rules", says Professor Dorling, and policy advisors can "provide clear evidential basis and grading for any recommendations; always identify the uncertainties in the science, areas that need further enquiry [...] and advocate robust studies of harms and costs and benefits". Second, do not underplay uncertainty in favour of closure. Acknowledging uncertainty, not only probabilistic uncertainty but also the unquantifiable unknowns that are common in policymaking, is crucial to disrupting the politicised dynamic of justification that entrenches the status quo and does little to reduce social inequality.

Finally, scientists have a responsibility to be more open about both inequalities within scientific disciplines and the research process itself. As we

have discussed, policy advisors operate in a web of power imbalances, mixed incentives and politicisation. Professor Stirling reckons that science would be more resistant to these pressures "if it were to say in public what it routinely says in the pub about its own internal cultural and institutional and disciplinary inequalities". A more transparent scientific process would enable examination and correction of these disciplinary inequalities. By openly "acknowledging that science is part of an ongoing struggle against the many ways in which power shapes knowledge" (AS) rather than "acquiescing to this kind of pretence that science is somehow apolitical" (AS), scientists can be a force for good in policymaking.

Conclusion

Taking the inequality agenda seriously means recognising that the problems are structural. Professor Stirling argues that scientists can help to break down these systemic inequalities by reaching across the aisle: "the power of human contact [can] sometimes really trip up some of these structural forces". However, a large part of the struggle for equality is internal. Professor Dorling reminds us that we can "learn from experiences and update our own opinions, correct our own biases, based on our interactions with people". Admitting our discipline's failings is crucial to promoting equality in research and policy. As science advisors, we can help by "always see[ing] opposing scientific views and opinions as a gift and an opportunity to be sceptical and learn, rather than as the rival camp" (DD). As a discipline, we need to get away from the idea that science is neutral and that evidence always points to one answer. The role of scientists anywhere, but especially in politics, is asking questions – and to keep asking until we find the right one, says Professor Stirling. Delving, open-ended questions, asked despite political pressure for answers, can help to create a much-needed sense of humility in policy advising and the scientific discipline itself. Professor Dorling concludes that "scientists can help public policy towards greater equality, but particularly if they don't think that they are more equal than others".

References

[1] D. B. Grusky, "The Past, Present and Future of Social Inequality," in *Social Stratification: Class, Race, and Gender in Sociological Perspective*, D. B. Grusky and K. R. Weisshaar, Eds., 2014, pp. 3–51. [Online]. Available: https://doi.org/https://doi.org/10.4324/9780429494642

About the Authors

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After completing a PhD in Informatics and biology from the University of Edinburgh, Argyris Zardilis is now a research associate at the Sainsbury Laboratory, University of Cambridge studying the development of plant organs through a biophysical modelling lens. He is also part of the CUSPE Lectures team for 2020/2021 where he is interested in the origin and transformation of the institutions (in the wider sense) of society and more practically in the role of science/scientists in those processes. He can be contacted at `argyris.zardilis@slcu.cam.ac.uk`.

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