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Making Science Public as a route to better evidence



It is widely accepted that scientific evidence should play a role in policy decisions, yet the form that this should or could take remains subject to intense debate. Warren Pearce and Sujatha Raman discuss how the Making Science Public project attempts to address these questions.

The role of scientific evidence within policy is one of the most vexed issues within politics and public administration. Often such evidence is complex, translated to the public via the media and subsequently used to justify particular policy actions or seen to be ignored by government ministers. This use, or perhaps abuse, of evidence can have implications for political legitimacy, scientific authority and democratic participation and a host of efforts are being made to alleviate this situation.

However, problems persist. 2012 saw a prolonged, and still unresolved, debate about **the effectiveness and ethics of culling badgers** to arrest the spread of bovine tuberculosis in the UK. This followed a series of flashpoints along the difficult boundary between science and politics over the last 20 years: for example, the **MMR vaccine debate** challenged scientific authority, **Climategate** led to questions over the integrity of scientific research and the **sacking of David Nutt** called into question the status of scientific advice in policymaking. In this post, we use the example of evidence-based policy to illuminate the recurring crises of science and politics, and how one perceived solution – making science more public and transparent – opens up a new set of challenging questions for science society.

People don't understand the evidence...

For some, making science public involves putting evidence at the heart of how people and politicians deliberate and make decisions on policy matters involving scientific research and technology. Environmental campaigner **Mark Lynas recently reversed his opposition to genetically modified (GM) crops**, proclaiming his change of heart to be a result of having “discovered science”, objective scientific evidence trumping a naive green ideology. However, it is too simplistic to believe that good policy is the result of merely discovering and understanding the scientific evidence. For example, new evidence is emerging over **the threat posed to bees by neonicotinoid pesticides**, demonstrating the difficulties of governing

new technologies whose side effects for society may only become apparent over the long term.

For others, therefore, making science public means opening up the matter of what counts as valid evidence and how the central problem for policymaking is defined in the first place. Is it right to introduce GM crops on the basis of evidence from the molecular sciences? **Should studies adopting different criteria of hazard be considered?** Or should other factors be taken into account, such as taking precautions against long term environmental effects, or objections from organic farmers who fear contamination of their crops from new GM varieties? How valid are the boundaries drawn between evidentiary and ethical matters? Is the policy question just one of technological risk (to be resolved by science), or are there public issues at stake? Similar quandaries over the use of evidence exist in drugs policy. Some who call for politicians to listen to science also acknowledge that the line between fact and opinion is not clear-cut; scientists **examining evidence of harm from drugs, for example, must necessarily make choices about what harms to consider and how to weigh them up.** Indeed, a significant section of the population may regard scientific evidence on harms to health from drugs as peripheral to the formation of their views, preferring to see prohibition as a moral issue.

So, it may well be that there is room for greater communication and public understanding of particular evidence, but there is also the issue of making clear why particular forms of evidence have been included or excluded from the decision-making process.

...so we need more openness, transparency and participation

A common response to these issues has been to make policy-making more open and transparent. NESTA has called for a **Red Book of Evidence**, a place for government to lay out all the evidence informing a particular policy, and illuminating the 'audit trail' which led up to the decision. The UK government has introduced the notions of **open and contestable policy making (pdf, pp.14-15)**, acknowledging that much expertise exists beyond Whitehall, and can make a significant contribution to policy making. Neither is the openness agenda restricted to these shores, the UK government being a founding member of the **Open Government Partnership**, an international network seeking to improve transparency and civic participation throughout public affairs. A number of public participation exercises have also been sponsored by government, in theory, to contribute to policymaking around new technologies.

Such moves appear to address some of the factors behind the scientific controversies listed at the start. Greater transparency in evidence usage may yet help explain how

the government came to approve and later postpone the badger cull, and the Russell inquiry into Climategate found a “**transformation in the need for openness in the culture of publicly funded science**” with increased scrutiny of climate science from those working outside academic institutions.

But does open policymaking address the legitimacy problem?

These arguments for greater openness and transparency are often presented as clear-cut. However, invoking these perceived public needs as a ‘solution’ to the crises around science and policymaking brings two significant new questions. Firstly, if one moves from an assumption of a singular ‘public’ towards acknowledging the presence of multiple publics in society, then how might exercises in participation or transparency privilege certain publics over others? Powerful private interests may be further bolstered under the guise of public transparency, as **multinational corporations** and **royalty** gain even greater access to policy makers. Public academic institutions may also be weakened, as open access publishing meant to aid public access and understanding of research could actually enable private universities to undercut tuition fees, using publicly-funded research to act as ‘free riders’. And if transparency is dependent on access to sources of information online, then the nearly 11 million British people not using the internet will be further disempowered by being on the wrong side of **a widening digital divide**.

Second, to what extent does the openness agenda actually allow debate on the core questions of what counts as evidence and whether science should define the boundaries of policy problems? Sponsored public dialogues can easily become exercises in **claiming public acceptance for policy decisions which have already been taken**. If the legitimacy challenge for evidence-based policymaking is about the social meaning of collective problems and who gets to define it, it remains to be seen how this challenge can be addressed within the ‘open policymaking’ movement.

Making Science Public: An emerging research agenda

This post has used evidence-based policy as an introduction to the broad range of debates, challenges and opportunities which lie behind the idea of Making Science Public. It is a research agenda straddling some of society’s most important and controversial topic areas: food, agriculture and animals, energy and the environment, and health and social policy. As well as transparency in policy making, the agenda looks towards the making of politics through science and publics, alongside the role of public engagement and deliberation within science and technology. Through these numerous perspectives on the idea of Making

Science Public, the agenda holds the potential for contributing to both the theory and practice of democracy in the years to come.

The University of Nottingham is leading a 5-year research programme funded by the Leverhulme Programme, Making Science Public (2012-2017), through which some of these questions and related dilemmas will be investigated. The Programme is officially launched on 11th February 2013 with a day of dialogue and debate on what making science public means for people, science and politics. Speakers include [Ulrike Felt](#), [Brigitte Nerlich](#), [John Holmwood](#), [Reiner Grundmann](#), [Brady Haran](#), [Alice Bell](#), [Alex Smith](#) and the authors. If you would like to come along to this free event and contribute to the debate, [please register here](#). For regular updates from the programme follow the [Making Science Public blog](#) and [@MakingSciPub](#) for news and research relevant to the debate.

Note: This article gives the views of the author, and not the position of the British Politics and Policy blog, nor of the London School of Economics. Please read our comments policy before posting.

About the authors

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Warren Pearce is a Research Fellow on the Making Science Public Programme, focusing on the relationship between scepticism and science, with a particular focus on climate change. He is also a key contributor to work within the Programme on the theme of evidence, expertise and policymaking. Follow him [@WarrenPearce](#).

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