The response of scientists to deliberative public engagement: a UK perspective

Conference paper

The responses of experts to deliberative and inclusive processes in environment and technology policy-making: a UK perspective

Dr Kevin Burchell
London School of Economics, UK
k.burchell@lse.ac.uk

Abstract

The purpose of this paper is to explore an important issue that appears to be somewhat neglected in work on deliberative and inclusive processes (DIPs) in environment and technology policy-making: the response of experts, especially scientists, to DIPs. Information in this area is clearly important to the future success of DIPs, in terms of identifying the barriers and opportunities that are presented by experts. More broadly, information about the responses of experts to DIPs is important in terms of the impact that increasingly prevalent DIPs might have on wider expert communities. As might be expected in an area that is somewhat neglected, the empirical evidence can be described as inconclusive. Some evidence is not particularly encouraging while other evidence is more positive. In the paper, I will explore some of this evidence and make conjectural comments on the implications that it might have for successful DIPs. Future research strategies for filling this empirical gap will also be explored.

Introduction: from exclusion to inclusion

In the UK, during the latter part of the twentieth century, environment and technology policy-making became increasingly professionalised and institutionalised as the exclusive preserve of experts (most obviously, scientists, but also economists, actuaries, representatives of commercial interests and policy-makers), and consisted largely of the case-by-case consideration of benefits and risks. Within this technocratic approach, interaction with the public largely took the form of top-down risk communication, public meetings at which members of the public often struggled against the authority of experts, and broad-based science communication and education programmes under the rubric of *public understanding of science*.

However, as the result of a number of complex and contested dynamics, a range of, what I will refer to here as, *deliberative* and *inclusive* processes (DIPs) are increasingly seen as an essential aspect of environment and technology policy-making in the UK. As the PATH conference illustrates, names for and definitions of DIPs can vary widely. However, for the purposes of this paper, I define DIPs as processes that emphasise the equal exchange of views, concerns and knowledge between the actors mentioned above and members of the public. In the UK, for example, activities that have some of the characteristics of DIPs include: the inclusion of broad-based memberships, including lay members, on the UK government's scientific advisory committees; the short-lived Agriculture and Environment Biotechnology Commission which had a similarly broad-based membership and a radically broad remit; the ambitious, though flawed, *GM Nation?* public debate that was run by DEFRA in 2003; and, a number of more recent inclusive activities have taken place with respect to nanotechnology. Finally, and

potentially most significantly, the first UK attempt at comprehensive public dialogue with respect to developments in science and technology is set to run from July 2006 to December 2007 (this is the *Wider Implications of Future Science and Technology* (WIST) project that is part of the UK Office of Science and Innovation (OSI) *Sciencewise* programme) (Sciencewise 2006).

As exemplified by the papers in this PATH report, as a result of this interest in DIPs in the UK and elsewhere, much attention has been paid to understanding: public attitudes, knowledge and capabilities; the contested purposes, benefits and disbenefits of DIPs; the variety of mechanisms of DIPs (especially issues of representation and scale); methods of assessment and evaluation; methods of linking DIPs to policy-making; the appropriate role for social scientists; and the development and transferral of institutional knowledge and memory.

However, although such work is beginning to emerge, far less attention has been paid to the barriers and opportunities for DIPs that are presented by experts themselves. One implication of the increased use of DIPs is that experts will increasingly be required to interact, apparently on equal terms, with non-experts and with broader non-expert values, knowledges and concerns. Further, policy-making will no longer be a limited matter of benefits and risks, but might be expected to address broader social questions, such as: broad-based social aspirations; alternatives and choices for achieving these; the distribution of various types of benefits and risk (particularly with respect to vulnerable groups and developing countries); and, institutional legitimacy, capability and accountability. It is my contention here that better understanding of the role of experts in DIPs is important in terms of maximising their future success. More broadly, such information is important in terms of the impact that increasingly prevalent inclusive processes might have on wider expert communities. Within this context, the objective of this paper is to discuss some of the evidence concerning experts' responses to DIPs, to conjecture as to the implications of these, and to discuss a future research agenda.

Demoralised **experts or** ***a common set of understandings*****?**

As might be expected in an area that is somewhat neglected, the empirical evidence can be described as inconclusive because it is limited, partial and contradictory. Despite this, some commentators have made bold claims regarding the impact of DIPs on scientists. For example, as part of a polemical argument against DIPs, Durodié (2003 p83) – in a statement that reveals much about his ignorance of DIPs – claims that 'by demanding the inclusion of so-called "lay opinions", it effectively marginalises actual scientific evidence and thereby leads to the demoralisation of scientists themselves'.

Setting aside Durodié's (2003) misunderstanding that DIPs marginalise scientific evidence, some empirical work would seem to lend some tangential legitimacy to Durodié's (2003) claim. A small corpus of interview-based empirical work consistently suggests that scientists – who, potentially importantly, are working with publicly controversial technologies or research practices – view the public as irrational, subjective, ignorant and easily influenced by the media and NGOs (Michael and Birke 1994a/b; 1995; Brown and Michael 2001; Cook *et al* 2004; Michael and Brown 2005; Burchell 2005; forthcoming). The following interview quotes from Burchell's (2005 pp157-8; forthcoming) work with GM scientists give a flavour of this broadly consistent discourse:

Deputy Head of Division: 'Basically, I think that they [the public] are pretty ill informed about what's involved and what goes on [in GM].'

Programme Head: 'I think the public really have no understanding of what we do, or they have a very big misunderstanding'

Interviewer: 'How would you characterise the public's response to biotechnology?'
Project Leader: 'I think it's hostile, but I think it's because of a hostile media.'

Project Manager: 'Now, I think that this public opinion has been shamelessly manipulated by lots of different organisations, often for very dishonest purposes of self-publicity, and of creating memberships, of creating subscriptions and donations.'

In his work with GM scientists, Burchell (2005 pp147-148) makes two further points. Firstly, these scientists tend to view policy-making as a process that should be based primarily on scientific knowledge.

Technician: 'I think it [scientific knowledge] should play a very large role. I think it should be considered a very major decision factor'.

Project Manager: 'Such people [scientists], I think, should draft these laws.'

Research Assistant: 'I think it [scientific knowledge] should take quite a large part in policy-making really'.

Secondly, while all of these scientists see public engagement as essential, it is clear that they conceive this in terms of public education rather than deliberation. Since this work has been conducted with scientists who are working with publicly controversial technologies or research practices (GM crops, animal experimentation and xenotransplantation), it is difficult to infer much about the views of scientists and experts more generally. In addition, while this material is interesting in itself, its value to the current discussion is possibly further limited since it is derived from outside of the context of actual, or even notional, DIPs. Nonetheless, it does suggest that there is sentiment among some scientists, with respect to the public and to policy-making, that would not necessarily bode well for their successful involvement in DIPs.

On the other hand, anecdotal evidence from Gary Kass, the Head of Public Engagement in the UK Office of Science and Innovation presents a more positive picture (Kass 2006). Gary Kass has been instrumental in the institutional advocacy of DIPs with respect to science and technology and the establishment of the *Sciencewise* programme. Of course, as such, Gary Kass discusses the processes and objectives of DIPs with many senior scientists. He reports that the scientists with whom he speaks are increasingly convinced by the arguments for DIPs, and respond positively to the idea of increased DIPs in policy-making involving scientific knowledge. However, although encouraging, this information has the limitation that it is anecdotal.

Evidence from the aforementioned DIPs work with respect to nanotechnology presents a more nuanced scenario. At the outset, it should be noted that scientists' involvement in science communication and DIPs is not highly valued within scientific career structures. For this reason, as noted in Wellcome Trust/MORI (2000), motivation among scientists to participate in what they refer to as public engagement is not strong. In the more specific context of DIPs, this constraining

issue was reiterated by a number of commentators at the first Nanotechnology Engagement Group (NEG) workshop (NEG 2006a p10). Recommendations to tackle this issue included introducing formal recognition for such work, changes to the Research Assessment Eexercise (which, to a considerable extent, determines university funding in the UK), and for more research funders to feature public engagement as a requirement. In addition, it was noted that this factor, as well as the recruitment processes that characterise DIPs, raises questions about the extent to which the scientists who participate in DIPs are representative of the broader scientific community (NEG 2006a). Indeed, this comment may well lend greater value to the empirical interview work discussed earlier which, while concentrating on scientists working in controversial areas, also reflects the views of a broader range of scientists than those involved in DIPs.

With respect to the responses of scientists to participation in DIPs, the discussion here is derived from comments and reports relating to some of the recent UK processes with respect to nanotechnology: primarily, two reports of the deliberative session of the earlier Demos-Lancaster *Nanotechnologies, Risk and Sustainability* project (Demos 2006a/b) and some personal reflections on the deliberative sessions in the second of the four more recent Demos-Lancaster *Nanodialogues – experiments in upstream public engagement* (see the early discussions of this project in NEG 2006 and Demos 2006); in addition, two recent NEG (2006a/b) reports on current public engagement with respect to nanotechnology and some anecdotal comments on the University of Newcastle *NanoJury* exercise. In considering these comments, it is perhaps important to note that these processes are not explicitly linked to policy-making and that both of the Demos-Lancaster projects are perhaps best described as research exercises with respect to DIPs rather than, or as well as, DIPs in themselves.

With specific reference to scientific experts, the key issues that emerge from this material relate to fluidity surrounding the status, function and role of scientific experts in DIPs. As discussed earlier, it is often stated that part of the attraction of DIPs lies in the assumption that scientific experts (and public participants) will share an *equal* status in deliberations. In this context, the function of the experts might be described as participation in deliberation and mutual learning. Indeed, Demos (2006b) reports a sense of equality between the scientists and the public participants. However, there are a number of factors which would seem to work against equality in DIPs. Firstly, obviously, scientific experts are invited to participate in DIPs precisely because they are scientific experts; in this sense, they are clearly *different* to the public participants. Further, as NEG (2006 p10) points out, the often technical nature of deliberation on science and technology means that 'it is often conspicuously and perhaps necessarily expert-led'. Of course, this factor lends a rather privileged status to the scientific experts. This unequal status is perhaps compounded by the frequent use of the term 'expert witnesses' to describe the scientific experts, and is perhaps reflected in anecdotal reports from several public participants in the *NanoJury* project that, during the breaks, they did not feel able to approach a particularly high-flying US nanoscientist.

With these comments in mind, it is perhaps not surprising that the function of scientific experts in DIPs is often to *communicate* facts as well as, or rather than, to *deliberate*. In NEG (2006a p10), this issue is aptly described more sharply as a 'tension between promoting science and two-way engagement'. Thus, in the second *Nanodialogues* experiment, the interactions between the members of the public and a scientist largely consisted of the scientist responding to questions and concerns that were expressed by members of the public; by contrast, the scientist

did not ask questions of the public participants (this role was assumed by the mediator).

However, this is not to say that this dynamic is not productive in terms of mutual learning. Clearly, through expressing concerns and asking questions of scientists, public participants reveal their views for consideration by experts. Indeed, it appears that such dynamics can produce an impressive degree of agreement, mutual understanding and common ground between public participants and scientific experts. For instance, in Demos (2006a p58), the following comment is made, 'A common set of understandings – even at times, a consensual language – emerged over the course of the afternoon, as members of the public developed a better sense of life in the laboratory and scientists grew to appreciate the legitimacy of public concern.'

The latter point in this quote is very important. Despite the possibly privileged status that scientific experts have in DIPs, and any preconceived ideas about the public that the scientists might have had, it would appear that views associated with the 'deficit-model' – for example, an emphasis on public ignorance – were rarely expressed by scientists in the first Demos-Lancaster project (Demos 2006a). Having said this, it should be noted that Demos (2006b p7) offers a slightly less positive assessment of this dynamic, and that Demos (2006a) states that the scientific experts differentiated between *informed* public participants and *uninformed* publics. Further, emergence of the 'deficit model' was raised as a potential problem by several participants in the NEG workshop (NEG 2006a p10). A dearth of 'deficit model' views from scientists can be construed as mutual learning in the sense that it appears that the scientific participants actually learned, during the course of the process, that publics can easily become highly informed. As Demos (2006a p67) puts it, 'Several of the scientists expressed real surprise at the quality and intelligence of their exchanges with the public participants'.

In particular, according to Demos (2006a), common ground between the scientific experts and the public participants appeared to emerge with respect to issues of control, agency and responsibility (and less so, perhaps, with respect to risk and regulation). As Demos (2006a) suggests, in common with the public participants, scientists expressed concerns about a lack of control or agency in the complex, global political and economic networks of contemporary science. In broad terms, a similar pattern also emerged in the more recent Demos-Lancaster *Nanodialogues* event referred to earlier. The emergence of this kind of common ground can also be construed in terms of the fluidity of scientists' roles in DIPs. This is in the sense that, in this instance, the scientific experts appear to reflect the concerns of citizens.

On the basis of the foregoing material, it would appear that the status, function and role of scientific experts in DIPs are fluid phenomena. Sometimes, scientific experts and public participants are equal, but at other times they are clearly not. Variously, and possibly simultaneously, scientific experts would appear to be deliberators, learners, communicators and educators. Finally, while scientific experts are primarily present as 'expert witnesses', they also assume the role of citizens. Although there may be a temptation among mediators and facilitators to endeavour to reduce such fluidity, the above material suggests that fluidity is necessary, inevitable and can be productive (though note that some public participants found this troublesome in the *NanoJury* process because of the variety of views that they were exposed to (NEG 2006b p25)). On this basis, the challenge for facilitators and moderators would appear to be try to work with such fluidity in ways that maximise the potential of DIPs.

Discussion

What, then, are the implications for future DIPs with respect to environment and technology issues of the variety of scenarios that are presented here? In particular, to what extent should we take seriously Durodié's (2003) warning that such DIPs will lead to the demoralisation of scientific experts; for instance in the context of the upcoming WIST 'public dialogue' project? Certainly, the information provided by Kass (2006) and the recent UK work with respect to nanotechnology suggests a considerably more positive prognosis in which the potential of DIPs can be maximised through processes that scientists find valuable, legitimate and affirming. However, two caveats might be highlighted.

Firstly, as mentioned earlier, none of these previous processes with respect to nanotechnology are explicitly linked to policy-making in the way that the OSI claims that the upcoming WIST project will be. Indeed, there are indications in Demos (2006a/b) that the lack of a clear policy link, while widely lamented for normative reasons, did at least contribute to the creation of a space in which shared understandings could more easily emerge. With this in mind, it is possible to imagine that such spaces might less easily emerge when policy outcomes are more explicitly at stake. Clearly, it is important that the responses of scientific experts to future DIPs that are explicitly linked to policy-making, such as the WIST project, are closely monitored.

Secondly, the comments of Kass (2006) and those relating to recent work on nanotechnology must be understood within the context of the *experience* of the processes of DIPs, or at least the arguments for DIPs, to which these scientific experts have been exposed. By contrast, the more worrying interview-based information that was discussed earlier was gathered in a context of *inexperience* in these regards. This raises the prospect that it is *experience* that makes the difference between positive and negative responses to DIPs. If this is the case, it is possible that – as DIPs becomes more prevalent – a perceptual gap might open up between scientists who have experience of DIPs and those who do not. In this scenario, while DIPs might prove successful in the policy arena, the prevalence and outcomes of DIPs might lead to disaffection in the broader scientific community.

In conclusion, while it would appear that DIPs in themselves do not demoralise scientific experts, there does appear to be uncertainty about the impacts of DIPs on broader expert communities, especially when they are explicitly linked to policy-making. Within the context of such uncertainty in this important area, it seems sensible to recommend that further research is necessary. This might take two main forms. Of course, it is essential that the moderators, facilitators and assessors of DIPs continue to concentrate on the ways in which the contexts and structures of DIPs impact upon the status, function and role of scientific experts in the process and, indeed, the ways in which these factors impinge on the outcomes. However, the foregoing discussion suggests that it is also important that three broader dynamics be investigated in research processes that are at a greater distance from actual DIPs: 1. the impacts of the extent to which the process is explicitly linked to policy-making on interactions between scientific experts and public participants; 2. the impacts of experience and inexperience of DIPs on the views of scientific experts with respect to the public and to DIPs; and, 3. the impacts of the extent to which the technology or approach is controversial or not, also on the views of scientific experts with respect to the public and to DIPs.

Author's note

I would like to express my gratitude for the interest that was shown in my paper, and for the very helpful comments, by colleagues at the PATH conference. Of course, any remaining shortcomings are mine alone. At the time of writing, it appears highly likely that I will be conducting, over the coming years, a research project very much like the one described at the end of the Discussion.

References

Brown, N. and Michael, M. (2001) Switching between science and culture in transpecies transplantation, Science, Technology and Human Values, 26(1):3-22.

Burchell, K. (2005) Talking to scientists: the role of scientific knowledge in environmental policy-making – a case study in biotechnology and genetics, unpublished PhD, University of London (LSE), London.

Burchell, K. (forthcoming) *Empiricist* selves and *contingent* 'others': the performative function of the discourse of scientists working in conditions of controversy, Public Understanding of Science (accepted for publication September 2005).

Cook, G., Pieri, E. and Robbins, P. (2004) 'The scientists think and the public feels': expert perceptions of the discourse of GM food, Discourse and Society, 15(4):433-449.

Demos (Kearnes, M., Macnaghten, P. and Wilsdon, J.) (2006a) Governing at the nanoscale: people, policies and emerging technologies, Demos, London (http://www.demos.co.uk/catalogue/governingatthenanoscale/).

Demos (Stilgoe, J.) (2006b) Nanoscientists meet nanopublics: a working paper by Jack Stilgoe, Demos, London.

Kass, G. (2006) Head of Public Engagement, Office of Science and Innovation, Department of Trade and Industry, personal comments, January 2006 (gary.kass@dti.gsi.gov.uk).

Michael, M. and Birke, L. (1994a) Accounting for animal experiments: identity and disreputable "others", Science, Technology and Human Values, 19(2):189-204.

Michael, M. and Birke, L. (1994b) Enrolling the core set: the case of the animal experimentation controversy, Social Studies of Science, 24(1):81-95.

Michael, M. and Birke, L. (1995) Animal experiments, scientific uncertainty, and public unease, Science as Culture, 5(2):248-76.

Michael, M. and Brown, N. (2005) Scientific citizenships: self-representations of xenotransplantation's publics, Science as Culture, 14(1):39-57.

Nanotechnology Engagement Group (2006a) Terms of engagement, workshop at Royal Society, 30/06/06 (http://www.involving.org/negworkshops).

Nanotechnology Engagement Group (2006b) Nanotechnology Engagement Group: Policy Report 1, Involve, London (http://www.involving.org/negreports).

Sciencewise (2006) Sciencewise homepage, Office of Science and Innovation, London, (http://www.sciencewise.org.uk/).

Wellcome Trust/MORI (2000) The role of scientists in public debate, Wellcome Trust/MORI, London (http://www.wellcome.ac.uk/doc_WTD003429.html).