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## The UK Nanojury as 'upstream' public engagement

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### Introduction

In government and commercial circles, developments in science, particularly molecular-scale and nanotechnologies, are seen as crucial for Britain's economic growth. Yet public confidence in governance and scientific innovation is acknowledged to be low.

The crisis of confidence in scientific progress among the UK public, combined with calls for greater public participation in governance, has led to what Alan Irwin has recently documented as a strategic shift in science-society relations. He quotes from a European Commission document, which describes how supposedly 'innocent' citizens are increasingly being actively sought to 'express their views about the possible directions of science and its impacts on society' (Irwin, 2006). The increased commitment to engage the public in science-related policy- and decision-making has been widely welcomed as a step in the right direction. Policy makers consider that public engagement will bring transparency and openness into decision-making on technological developments, and will help to address public mistrust in science. Initiatives in the National Health Service since 1998 have also followed this trend (see review of *Citizens at the Centre*, In Touch, this issue).

In the 1970s, sociologist Dorothy Nelkin reported that

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much of what passed for participation in governance could best be understood as attempts by the powerful to co-opt the public (Nelkin, 1975). Thirty years later, the worldwide controversy on genetically modified (GM) crops indicated that consultation processes occurring **after** a technology has been developed and commercially released can be used by those in power to create an illusion of public consent for the new technology. This has led some people to question the wisdom of UK public engagement initiatives such as GM Nation.<sup>1</sup> Following the GM debate, some have suggested that all such engagement should occur upstream – that is before the technology has been developed – as this would allow the technology to be **shaped** through public involvement (Willis and

<sup>1</sup> See e.g. Genewatch's report 'GM Nation? The UK's public debate on GM crops'. [www.genewatch.org/sub-531175](http://www.genewatch.org/sub-531175)

**Grace Maiso, who provided information about the effect of new technologies on rural communities in Uganda.**

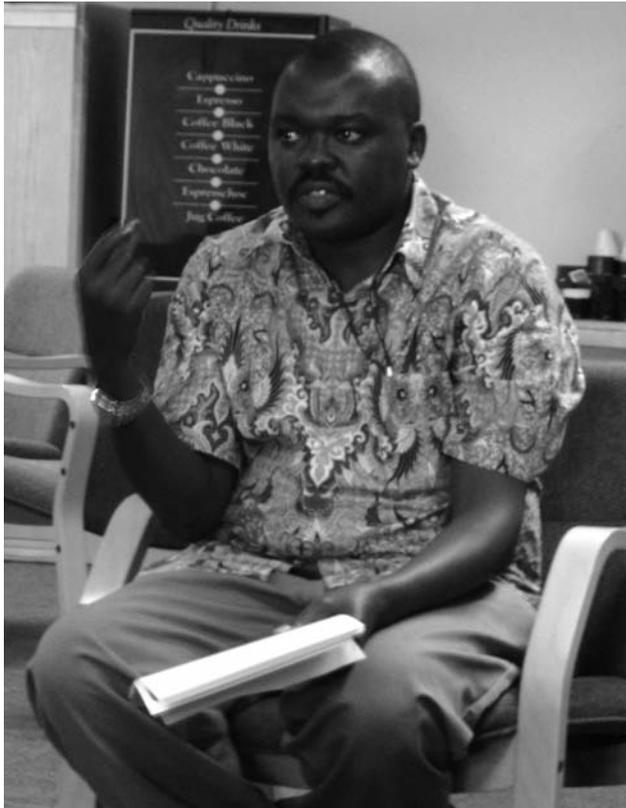


Photo: PEALS Research Centre

Wilsdon, 2004). Furthermore, advocates of public engagement state that it 'enables a society to discuss and clarify the public value of science' (Stilgoe *et al.*, 2005).

The Nanojury was initially conceived as one of a string of public engagement initiatives that heralded upstream engagement in the post-GM era. Along with many other public engagement processes which focus on new technologies, the Nanojury provided a public space to debate issues that surround nanotechnology before the technology was fully developed or, in most cases, widely commercially available.<sup>2</sup>

### The Nanojury process

#### Initiators and organisers

The idea of organising a Nanojury process came from Doug Parr of Greenpeace UK, together with materials scientist Mark Welland, of Cambridge University's Nanoscience Centre. Greenpeace has a history of protest around GM and other scientific innovations and is traditionally sceptical of

**Three members of the Nanojury drafting their recommendations.**



Photo: PEALS Research Centre

new government and business-led development. Rather than simply taking an oppositional stance, the pressure group has developed sophisticated critiques of certain scientific developments led by government and big business, to evaluate (mostly Western) benefits and costs. In assessing nanotechnology, Greenpeace sought to pose questions such as:

- Who is shaping the agenda on nanotechnology?
- Who will it benefit?
- Will it improve the lives of the many?
- Is it pro-poor?
- What will be the effect on the environment?

Both Doug Parr and Mark Welland were keen to adopt an approach that stimulated debate and encouraged public participation in the issues surrounding nanotechnology. The UK Guardian newspaper became involved as the project's media partner. This led to the collaboration with PEALS (Policy, Ethics and Life Sciences Research Centre) of Newcastle University, which has been convening public engagement processes since the late 1990s.

Doug Parr was particularly keen to develop a process that could highlight the power issues surrounding scientific development. He believed that nanotechnology would make a good case study. In particular, he expected the process would enable an analysis that could highlight where the power in the development of science is concentrated – for instance, in funding bodies such as the Department of Trade and Industry (DTI) and research councils. The Nanojury was an attempt to allow open discussion of the policies and developments in nanotechnologies through a deliberative jury process.

#### The design of the Nanojury

Whatever the rhetoric that surrounds them, the vast majority of citizens' juries in the UK have been commissioned by

<sup>2</sup> See online resources section, this issue.

decision makers primarily to provide social intelligence for policy makers. So no power is ceded to jurors or their process (see Kashefi and Keene, Haq, this issue). As a result, consultation fatigue is rife across the UK. Many community leaders and workers are reluctant to take part, having experienced decision makers' reluctance to act on citizens' recommendations. The PEALS team considered it vital to organise the process in such a way that it resonated for people and was rooted in their prime concerns.

The two-way street engagement process for the Nanojury took place in Calderdale, West Yorkshire. It involved a first phase with a bottom-up process, where members of the jury identified the issues that concerned them. In the second, top-down part of the process, nanotechnology was specified as a focus of concern by the funders and organisers of the process. The Nanojury was a 12-week process with six weeks dedicated to the bottom-up approach (see Box 1). The jurors' chosen topic was young people and exclusion. They heard evidence from youth workers, detached community workers, drug rehabilitation workers and senior police officers. During the second six weeks, participants went on to discuss the dictated topic of nanotechnology. When the deliberations were complete, the jurors collectively produced recommendations, including a short drama on the participant-led topic and on nanotechnology. A separate film was also released by PEALS at a launch of the jury's recommendations in London in September 2005.<sup>3</sup>

### Reflections on the Nanojury

The two-way street style of engagement, with two separate issues and processes running consecutively, provided critical insights into the nature and quality of the jury process, and in particular the role of organisers in defining and influencing the process, participation and outcomes. In the jury on youth issues, the organisers played the role of a critical friend, and facilitated finding appropriate witnesses in conjunction with the jurors. During the nanotechnology component of the jury process, the organisers had a more powerful status, choosing the witnesses who were to take part and thereby framing the process, the quality of the co-enquiry and the types of questions asked.

The nanotechnology process gave the jurors little more than a passive role. The organisers decided which expert witnesses the jurors should hear. This limited the range and substance of the knowledge to be debated, unlike the first phase of the jury process on young people and exclusion.

#### Box 1: The Nanojury process

To recruit a diverse group of people – 25 in total – the PEALS team selected some jury members randomly from the electoral roll, and others from a variety of community organisations in West Yorkshire. 'Expert' witnesses – for, against or ambivalent on issues relating to nanotechnologies – were invited to share their perspectives with the jury. Each witness talked for up to 15 minutes, and then jurors were free to ask for clarification on any of the points made. When the witness left the room, groups of jurors worked with a facilitator to discuss the issues raised and produce questions for the witness. The witness was then called back to answer their questions, in an open space for dialogue and debate, facilitated to ensure that everyone had their say. After hearing all the witnesses, the jurors developed a series of recommendations on the development of nanotechnologies.

Power relations between organisers and jury members pose a challenge to the future design of public engagement processes. Organisers do provide a link between the jury and policy makers. But at the same time the dynamic between organisers and the jury needs to be more interactive, less rigid and engineered. As Davies and her co-authors suggest in *Citizens at the Centre*, 'in seeking to instate citizen deliberation in a context of handling strategic issues of policy direction, clarifying the grounds on which the citizens are being asked to speak – creating jointly with them, an expertise space... is fundamental' (Davies *et al.*, 2006).<sup>4</sup>

Our reflection on the Nanojury is that the range of organisers created a complex dynamic, with differing claims on how the Nanojury process should be conducted. How successfully these multiple agendas achieved the wider objective of democratising science requires further analysis by jurors, facilitators and others.

### Critical reflections on upstream engagement

Upstream engagement such as the Nanojury can open up the discussion around emerging technology. Through the Nanojury, the jurors gained insights into where and how decisions regarding nanotechnology are made, and were able to comment on the developments. In this respect the Nanojury opened up the policy arena on nanotechnology to the public. What is unclear, however, is the influence that the Nanojury has had on policy development. As it stands, it is up to the power holders in business and government to voluntarily 'take on' the findings from the jury; there is no direct accountability to respect their recommendations and perspectives. The DTI's promise, made in September 2005, to provide a response to the Nanojury's provisional recom-

<sup>3</sup> Available online via [www.nanojury.org.uk](http://www.nanojury.org.uk)

<sup>4</sup> Reviewed in this issue, In Touch section, p.138.

## “Power relations between organisers and jury members pose a challenge to the future design of public engagement processes.”

mentations ‘in the short term’ has neither been fulfilled, nor its absence explained.<sup>5</sup> The jurors and organisers of the Nanojury would welcome a response by the DTI to the Nanojury’s provisional recommendations – and to be informed how the public involvement via the Nanojury has influenced policy and development in the nanotechnology field.<sup>6</sup>

### Two ‘one-way streets’ – science and society

Science policy makers claim to respond to the problems and needs of society. However, if they cannot hear the voices from the ground, how can they direct their research to meet those problems? Jurors mentioned that they were concerned about crime and the state of education and drug use, especially among excluded young people. In this context, it is these views and issues, not just debate about high-tech futuristic developments, which should be helping to inform the science-policy agenda. Yet the mutual engagement encouraged by the Nanojury failed to materialise on the side of policy makers. While scientists and policy makers took part in the process to encourage non-specialists to engage with their spheres of work, these experts missed an opportunity to be part of a mutual learning process on issues on which local people had developed their own expertise and wanted urgent policy changes.

A major lesson from this dual engagement process concerns the science-society divide. Some of those involved in commissioning the Nanojury seemed to perceive a neat distinction between scientific and social issues, and gave more significance to the jurors’ perspectives on social matters. Upstream engagement can give the veneer of involving the public in governance of technology, while key concerns about the direction in which science is taking society, and how to reorient science towards fulfilling our social and human needs, are not addressed by the current government agenda.

### Towards a community development model

The Nanojury succeeded in ensuring that people living in an area of recent economic decline had an opportunity to

determine an issue on which they wanted action. The urgent concerns they raised were more directly related to their locality. Some jurors certainly seemed to us to be demanding that future technological progress should be grounded in the values of community development. We believe that the jurors would not have been able to draw such a conclusion if it were not for the two-way street engagement process.

It is important that the Nanojury experience is presented to highlight the political dangers of framing issues solely around technology, rather than human and environmental needs. The jury, and participatory initiatives in general, are subtle and intimate processes that touch the lives of the people they seek to involve. With such intimacy, it is crucial that engagement is done respectfully and that its practitioners show themselves to be acting in solidarity with the lives of all those who are participants in the process (Dean, 1996). Upstream public engagement fails to holistically engage with the public in this way.

### Moving out of the polluted stream

It doesn’t matter how far you move upstream if the stream is polluted – that is, if it is unable to meet the needs of the people and if it is weak on issues of justice. Will upstream public engagement continue to be a force in policy development and continue to foster public mistrust in science? There is an urgent need to move beyond simplistic upstream-downstream thinking, with its unfortunate connotations of gravity-driven inevitability.

Initiatives are needed that move into community centres, youth clubs, places of worship, pubs, football pitches, parent and toddler groups – to where the people are and where they have created communities. The Nanojury did move into these community spaces and heard what people needed, but most nanotechnology specialists, social scientists and policy makers only listened to the discussions directly about nanotechnology.

We need to learn this and other lessons from the Nanojury in order to build diverse strategies to overcome the science-society divide. One way we could do this is by adopting a community development model, a model which identifies the needs of people and attempts to respond to these needs. If we want to see developments in science that are accepted and of real value to the public, then we must learn from the community development model and identify the needs of the community. Past attempts at science shops – particularly in the Netherlands and Denmark – have, in part, adopted this strategy, as have participatory crop

<sup>5</sup> <http://nanotechweb.org/articles/news/4/9/14>, Institute of Physics Publishing, London.

<sup>6</sup> See article in [Nanotechweb.org](http://Nanotechweb.org), ‘NanoJury gives its verdict.’ 27th September 2005: <http://nanotechweb.org/cws/article/tech/23208>.

**Table 1: Differences between a standard model of upstream engagement and a community development or co-inquiry approach**

Upstream engagement	Community co-inquiry
Participants intended to be a cross-section of a particular population or region, often at random.	Participants chosen non-randomly to be fully inclusive of groups that experience oppression or marginalisation.
Lay people (i.e. non-specialists) invited to discuss a potential scientific or technological development pre-determined by the organisers via the facilitators.	Mixture of specialists and non-specialists begin by discussing what issues matter to them in their lives and what they'd like to change, without any imposition of ideas from the organisers or facilitators.
Non-specialists asked to reach judgements, having been presented with scientific 'facts' from specialists.	The perspectives of non-specialists and specialists are valued equally, as they all draw on rich experience and are open to be debated by the group.
Specialists act merely as informers of non-specialists.	Specialists and non-specialists work with citizens on an equal footing in reaching conclusions.
Process happens in facilitated sessions totalling around twenty to fifty hours, usually spread over a few days or weeks.	Open-ended process that continues for as long as participants remain interested.
Form of output (usually a report) determined by funder and/or facilitator.	Form of output decided jointly between, funder, facilitators and participants.

breeding programmes in India and elsewhere (Pimbert, 1994).<sup>7</sup>

The community development model we propose (see Table 1) should ensure that proposed solutions are analysed in relation to current political reality and that solutions are shaped by a co-inquiry with the people they are meant to benefit. It should be accountable and open to interrogation and the outcome should change if required. The technology's objectives should be co-produced between specialists and the non-specialist members of the public.

For instance, a recent community x-change experiment brought people together to discuss and find solutions to climate change (Eady, Singh, Taylor-Gee, Wakeford, article 6, this issue). It ensured that there was community and expert analysis on climate change, but that these analyses and areas of knowledge were exchanged. It emerged that climate change could only be challenged if solutions were integrated into solving community-defined problems, such as feelings of powerlessness and a lack of collective meeting centres. A community co-inquiry model would use people's experiences as a valuable tool in shaping solutions to development, not keep solutions to problems in isolated boxes labelled 'science' or 'society'.

### Final thoughts

The Nanojury gained media attention as a pioneering process of upstream engagement. The BBC *Today Programme* was so impressed they commissioned their own citizens' jury from PEALS that focussed on the issue of youth crime and respect.<sup>8</sup> But the Nanojury did more than just open up a new area of science to public deliberation. With its dual process, it has highlighted the limitations of public engagement as the developing technology is discussed in isolation from the main concerns of people's everyday lives (see also Eady, Singh, Taylor-Gee, Wakeford, article 6, this issue). It appears that science development occurs in isolation to people's everyday concerns.

As this journal was going to press, we noticed that a leading UK university was advertising for a public engagement officer whose job was to 'undertake public relations on behalf of stem-cell researchers'. With the growing momentum of upstream engagement, the experiences of the Nanojury should serve as a gentle reminder of the need to ensure that public engagement is not a expensive public opinion survey, or worse a marketing exercise, but a worthy attempt to strive for democracy.<sup>9</sup>

<sup>8</sup> See: [www.bbc.co.uk/radio4/today/reports/politics/citizenjury\\_reading\\_20050908.shtml](http://www.bbc.co.uk/radio4/today/reports/politics/citizenjury_reading_20050908.shtml)

<sup>9</sup> See e.g. [http://practicalaction.org/?id=technology\\_democracy](http://practicalaction.org/?id=technology_democracy) and [http://en.wikipedia.org/wiki/Public\\_engagement](http://en.wikipedia.org/wiki/Public_engagement)

<sup>7</sup> See [www.scienceshops.org](http://www.scienceshops.org)

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