



Nanojury Reflections and Implications of Recommendations

Douglas Parr, Chief Scientist

Nanojury UK was the first attempt to give ordinary members of the UK public a voice in relation to the development of this very wide-ranging technology. It is clear that the recommendations are very general in scope.

I argue here that the implications of the findings of Nanojury reach far into not just science and innovation policy in UK, but also the political model of economic resource deployment which underpins the technology commercialisation process.

Let's begin with some transparency. I look at these findings with a developed set of views of my own about science, society and nanotechnology. Inevitably I interpret the Nanojury findings through that lens. What I write here is not the Jury's findings but my interpretation of them. Further, my part in initiating the Nanojury was for a number of reasons:

- Concern that for many members of the scientific chattering classes, the broader issues of the GM debate had been drowned out by a focus on risk (as expressed through the medium of scientific information and studies)
- A need for civil society to achieve early influence on science and technology trajectories rather than trying to stop any messes that develop when political and economic commitments to potentially damaging uses of technology were strong
- A fashionable (but legitimate) trend in science and society circles to focus on the need for public involvement, including Government commitments to this, although often accompanied by a lack of clarity about how that would be done and what it would mean for decision-making processes.

I look at the Nanojury UK findings, at least in part, with those objectives in mind. A credible grouping of sponsors backing a deliberative public process at the very early stages of technology development seemed like the best way of achieving progress in these areas rather than endless Greenpeace policy papers.

Nanojury UK has received praise for its organisation and execution from the evaluators. It seems, therefore, to be a reasonable basis for asking for

Government and Research Council policy to respond to 'public' opinion. Focusing on those recommendations that received majority support, for me the lessons fall into 4 areas:

1. Public Involvement
2. Procedure and accountability
3. Research Priorities
4. Society and Technology Deployment

1. Public Involvement

The call from the Jury in General 6 is for further citizens juries in the development of nanotech, at moments decided by a multi-polar group (including non-expert members of the public and a broad range of stakeholders). The recommendation also distinguishes between public and private money – the public sector should listen, the private sector too. The sentiment here is that the process they have been engaged in is worthwhile, but that presumably there are many challenges to come which are not even on the radar. It reflects other work in the public engagement area advocating that public involvement moves 'upstream'. Also noteworthy is that the Jury advocate an on-going process. Public engagement cannot be reduced to a box-ticking exercise; done once and then considered done. The challenge to policy makers here is not to critique the specific proposal in the Jury's recommendations, but to imaginatively work out how decision making can be opened out to a wider set of people (including lay members of the public), and to have to justify funding decisions made. Especially to "ensure that particular technologies met human and environmental needs.....and were not just to make short-term profits". Perhaps underlying this explanation is a distrust of the underlying drivers around technology deployment (see below).

The challenge for the private sector, under current arrangements, is getting public sentiment integrated into product development, in the jury's words, to "at the outset of the research to look at the ethical and social/environmental impacts of the potential end products". As yet there are virtually no good business models of how to do this. Nor much sign that the private sector has a grasp on these issues. A recent attempt to stimulate exactly such reflective thinking in companies by the Royal Society of Arts foundered for lack of sufficient funding to make it viable. One might wonder how this is expected to work – even with the best intentions how does a company deploy technology for which there is no market or justify to shareholders stopping product development on the basis of vague ethical concerns?

2. Procedure and accountability

A number of recommendations deal with the accessibility of the process of technology development and consultation. General 3 calls for "more openness on where public money is spent on nanotechnology research". I believe this is about more than putting technical documents on the internet. There are no doubt large numbers of these available if one is prepared to search the web or ask the relevant bodies often enough. The members of the public on the Jury had spoken to expert witnesses, in some cases formed their own study groups, and had every reason to look into where money on nanotech was

going. But they – nor, strikingly, could any member of the oversight panel overseeing the process, who could all to some extent be considered experts in the area – give an overview of UK nanotechnology spend, the purposes and priorities to which it was deployed, where progress was most rapid or the potential for social impact high. Perhaps all of them could give some views. Perhaps there is a scientist or policy makers in the UK could give such an account from their head. But the striking thing about increasing public involvement (to which almost all in Government, business and civil society would sign up) is the dearth of intelligible analysis of what money is spent where, to what purpose, and with what ends in mind. ‘Debate’ in all its forms would be greatly enhanced by the availability of this kind of analysis.

In turn the form of such a document (or any other) should be coupled with General 6 where consultation “using plain English” was called for. This could well stem from the sentiment expressed unanimously from the jury that scientists need to improve their communication skills because of the “long words and acronyms” used. Some even professed to feeling patronised by some of the witnesses. This may seem rather like traditional call for scientists to be come better communicators - often with the implication that better performances in media debates would make controversial technologies more acceptable. The underpinning problem is that little of the literature produced by, or engagement activities undertaken by Science (with a capital S) are about getting feedback, as distinct from simply informing. It’s a different communication challenge to talk to people in such a way that they can respond drawing on their own experience and wisdom, compared to convey simplified ‘facts’ for wide consumption. It is not only the form of the communication which is problematic, but the underlying rationale which shapes it.

3. Research Priorities

A number of recommendations deal with the directions and purposes of scientific funding. Certainly one of the recommendations (General 7) appears in tune with, for example, the Governments 10 year strategy on science and innovation in calling for investment, education and training in areas that bring jobs to the UK. However this cannot be taken in isolation from the calls for funding to go towards “those technologies that contribute towards the solving of longer term issues, such as health and environmental problems” or from General 1 that public involvement “would ensure that particular technologies met human and environmental needs”. There was also a specific call for the development of solar cell technology through development, manufacture and use.

Combining those means that we should be looking to generate new jobs and employment in those sectors which meet environmental and social needs, not a simple hell-for-leather dash for whatever generates revenue. Support for technologies which provide new industry in areas of which we can be proud, perhaps. It is striking to me as an observer of science policy that there are few discussions about the role of deployed technology, the assumption being that existing markets are all that is required to guarantee the beneficial nature of new arrivals.

This can be combined with the call for nanoparticle testing before being allowed into the environment, and for nanoparticles (and by implication products containing them) to “be labelled in plain English, classified and tested for safety as if they were a new substance”. (Health 1) A cautionary approach not a dash for cash.

4. Society, and Technology Deployment

Finally it is impossible not to note that some of the recommendations go far beyond science, technology and innovation policy and apply to the social and institutional context for technology deployment. Underlying this maybe discontent with the observed technology deployment and impact observed around us.

Health 2 notes that “Any new nano-medicines proven to be safe and effective must be available on the NHS without discrimination” which may relate to current understandings of existing health debates but is also a context-setter for nano-medicines. Clearly nano-scientists cannot address this. But who can? Where does responsibility for this lie within the S&T community if it is key for the public acceptability of developed technology? If it doesn't sit with the technology policy community, who does it sit with? Such questions have already been raised in relation to a potential ‘nano-divide’. There appears to be no mechanism for even addressing them, never mind answering them. Very much the same argument, but with even more force, can be applied to General 8 “Nanotechnologies will only be good if they can enable us to have more quality leisure time including time for families and time for us personally” which appears to be expressing some discontent with the economic/employment model of which new technology (especially IT and new communications technologies) are a key part.

Conclusion

Whilst initially looking relatively anodyne and inconsistent, Nanojury UK throws down some very fundamental challenges to the conventional model of science and technology policy. In summary:

- There need to be on-going processes of public decisions over public involvement in new technology which should include not just the public but the private sector
- There need to be different forms of information available to inform public discussion. Communication needs to be re-framed and simplified to support broader involvement in consultation.
- Certain technology development should get financial and MARKET-based support if delivering health & environment benefits
- Technology acceptability is likely to be affected by factors which go way beyond Science and Technology policy areas.

Whether the relevant institutions have the skills or the determination to deal with these recommendations remains to be seen.