

## ROUND-TABLE DISCUSSION SUMMARY

Science and Society programmes – what are the best ways of measuring success?

Held at the British Academy on 16<sup>th</sup> October, 2014.

hash tag #fstscienceandsociety

**Chair:**           **The Earl of Selborne GBE FRS**  
Chairman, The Foundation for Science and Technology

**Speakers:**   **Sir Roland Jackson Bt**  
Executive Chair, Sciencewise  
**Professor Nick Pidgeon MBE**  
Professor of Applied Psychology  
School of Psychology, Cardiff University

SIR ROLAND JACKSON said the theme “What are the best ways of measuring the success of science and society programmes?” raised three fundamental issues: first, given the wide variety of dialogues about public engagement on different policies, what does success mean? Second, even if we know, how do we measure it in terms of cultural change and new attitudes? And, third, is there some overall measure of success, or can it be related only to specific programmes?

The report chaired by Lord Jenkin of Roding on Science and Society published in 2000 by the House of Lords Select Committee on Science and Technology<sup>1</sup> emphasized that public trust depended on meaningful dialogues with diverse groups without predetermined solutions. But it did not call for a reconstruction of the institutions deciding policies so that they embraced wider interests. A dialogue must have a purpose – was it to tell the public something, listen to the public views, or, best of all, collaborate with the public in determining policies. Time and context were vital if we were to achieve cultural change in both the public and institutions. Of course, there will be advocacy to inform the public about why a policy is being considered and what it means, but impact depends on changes to policy proposals so success can be measured only for specific projects, although there may be a common approach.

PROFESSOR PIDGEON asked how far the remit in the House of Lords report, that the public must understand scientists and scientists the public, had been met. There had been progress since the report was published; many more

dialogues with the public had been held and there had been good evaluation of certain processes. But measuring impact of the engagements was very difficult; how did one find specific evidence that the dialogue had been effective? The effects of the dialogue could be both indirect and subtle, as in changing preconceptions and habits of thinking about issues, wider than the proposal in question.

There had also been technical improvements in running the dialogues, through the use of interactive tools. But critics alleged that public engagement was not suitable for wide-ranging, complex national issues, but were suitable only for more local concerns. With the former, – such as energy policy – the danger was either closing options in order for only limited, and actually feasible, options were discussed or in exploring wider options which were not feasible. Critics also doubted whether any chosen group of participants could be representative of the whole, and doubted whether the Sciencewise procedures yielded results which were authoritative enough to be recognized by peer reviewing academic journals.

The following points were made in the discussion:

1. Impact in many cases was impossible to establish because the data, both quantitative and qualitative was so poor. Often this was due to insufficient provision in project budgets for impact measurement.
2. There was not a single public, but many different ones; so those engaged in a dialogue may not be responsive to concerns of other publics. Notably not enough effort had been made to include those who suffered from social

<sup>1</sup> [www.publications.parliament.uk/pa/ld199900/ldselect/ldscitech/38/3801.htm](http://www.publications.parliament.uk/pa/ld199900/ldselect/ldscitech/38/3801.htm)

exclusion or deprivation in impact studies.

3. Impact is what happens when something is done or happens. Culture change and altering mind sets may or may not result in a different policy. Evidence of culture change is often self-reporting. People appear to respond to advocacy, persuasion, marketing, even intimidation, but then act independently – consider the Scottish referendum

4. For any public engagement, first decide who is your target audience, whether they are likely to be receptive and direct effort to it – “fish where the fish are swimming”. Understand and publicize motivations, both for the audience and for the nation. Relate your efforts to the size of the audience you want to accept your message.

5. Be clear what the purpose of your engagement is, and marshal the evidence to support it. For example many efforts have been made to persuade girls to do physics. The result? Fewer girls study physics now than in the past. All that has been established is a point of view that more girls should do physics but past means or techniques for persuading them to do so have not been persuasive. So learn from this lack of impact and understand that success can only come from using different methods of persuasion.

6. Public engagement on major national issue such as energy policy must start with an understanding of what drives policy makers – such as a belief in the catastrophic effects of global warming – which others may not accept. Even if they do, methods of dealing with it will excite strong opposing views. For any engagement with the public there needs to be an overall agreement with stakeholders about options which can be pursued and how consensus might be sought. Evaluation of such an engagement, if its purpose is to inform and possibly modify policy, need not be of such rigour as would fit a peer reviewed journal. Ideally, any such evaluation should chime with academic research, but there can be shades of rigour.

7. The impact of public engagement may be short term – decision on a power plant – medium term – a steady increase in students doing STEM subjects – or long term – an acceptance that the use of fossil fuels must be limited. So no evaluation may capture the full impact of engagement, without considering impact over different time periods.

8. The effects of public engagement cannot ever be isolated from the numerous other factors that influence behaviour and action. These are often irrelevant to any evaluation or

study of impact. So accept the limits of evaluation.

9. We need to know what is best practice in developing the process of public engagement. Best practice should not lead to box ticking as it is a dynamic procedure, building continuously on experience. But it should lead to better value from studies. It is not incompatible with open discussion of options with the public, and could make use of marketing methods to make better connections with the public.

10. Any evaluation must take account of unintended consequences of any policy decisions, however influenced by public engagement or debate. We know government is not trusted by the public to speak openly and honestly; fortunately science has greater trust but it is fragile and depends crucially on scientific institutions showing that they are worthy of the trust of the public(s). Too often institutions refuse to acknowledge doubts or failures because of a desire to protect their reputation. They expect the public to be open about options, but will not always disclose full information themselves.

11. Can any evaluation be done objectively by the team carrying out the public engagement? Any such evaluation may well be driven by subjective concerns, and, in particular, by a desire to secure a further tranche of funding. But taking evaluation away from the team is demotivating and risks loss of insight into the process.

12. It is too narrow to expect public response to be based on reason. Preferences are developed from many different sources, such as desires for amusement or taking risks, and subliminal emotions.

13. There is an underlying ethical question in public engagement where research or innovation is present. It is the issue of responsibility – responsible research or innovation. Responsibility issues can arise both in whether the research or innovation is wrong morally or invading privacy or inadequately supervised. It is an issue which will be in many minds in public engagement and not ignored.

SIR ROLAND JACKSON concluded the discussion by observing that all participants agreed that public engagement and subsequent evaluation was crucial. But even if the purpose and nature of were clear, there was no easy solution to the problem of determining the means for evaluating the process and its impact.

Sir Geoffrey Chipperfield KCB

---

Useful links:

British Science Association  
[www.britishtscienceassociation.org](http://www.britishtscienceassociation.org)

Cardiff University, Professor Nick Pidgeon MBE  
<http://psych.cf.ac.uk/contactsandpeople/academics/pidgeon.php>

Department for Business, Innovation and Skills  
[www.gov.uk/government/policies/engaging-the-public-in-science-and-engineering--3](http://www.gov.uk/government/policies/engaging-the-public-in-science-and-engineering--3)

EngineeringUK  
[www.sciencewise-erc.org.uk](http://www.sciencewise-erc.org.uk)

Higher Education Funding Council for England  
[www.hefce.ac.uk](http://www.hefce.ac.uk)

Institute of Physics  
[www.iop.org](http://www.iop.org)

Institution of Civil Engineers  
[www.ice.org.uk](http://www.ice.org.uk)

Institution of Mechanical Engineers  
[www.imeche.org](http://www.imeche.org)

Ipsos MORI  
[www.ipsos-mori.com](http://www.ipsos-mori.com)

Lloyd's Register Foundation  
[www.lrfoundation.org.uk](http://www.lrfoundation.org.uk)

King's College London, Professor Louise Archer  
[www.kcl.ac.uk/sspp/departments/education/people/academic/archerl.aspx](http://www.kcl.ac.uk/sspp/departments/education/people/academic/archerl.aspx)

Research Councils UK  
[www.rcuk.ac.uk](http://www.rcuk.ac.uk)

Royal Academy of Engineering  
[www.raeng.org.uk](http://www.raeng.org.uk)

Sciencewise  
[www.sciencewise-erc.org.uk](http://www.sciencewise-erc.org.uk)

Scottish Government, Chief Scientific Adviser  
[www.scotland.gov.uk/About/People/Directorates/ChiefScientificAdvisor](http://www.scotland.gov.uk/About/People/Directorates/ChiefScientificAdvisor)

STEMNET  
[www.stemnet.org.uk](http://www.stemnet.org.uk)

The Foundation for Science and Technology  
[www.foundation.org.uk](http://www.foundation.org.uk)

The London School of Economics and Political Science, Professor Martin W Bauer  
[www.lse.ac.uk/researchandexpertise/experts/profile.aspx?KeyValue=m.bauer%40lse.ac.uk](http://www.lse.ac.uk/researchandexpertise/experts/profile.aspx?KeyValue=m.bauer%40lse.ac.uk)

The Royal Institution of Great Britain  
[www.rigb.org](http://www.rigb.org)

The Royal Society  
<https://royalsociety.org>

The Royal Statistical Society  
[www.rss.org.uk](http://www.rss.org.uk)

Warwick University, Professor Eric Jensen  
[www2.warwick.ac.uk/fac/soc/sociology/staff/academicstaff/eric\\_jensen/](http://www2.warwick.ac.uk/fac/soc/sociology/staff/academicstaff/eric_jensen/)

Wellcome Trust  
[www.wellcome.ac.uk](http://www.wellcome.ac.uk)