

# Report of The Science Communication Conference

Organised by the BA in association with Copus – The Science Communication Partnership

Held at The Institute of Electrical Engineers, May 30-31, 2002

Report commissioned by Copus

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## Introduction

This new Science Communication Conference replaced the old Building Bridges conferences and is intended to become an annual event. It aimed for a “more inclusive” look at ways of communicating science, and to mix practitioners and academics interested in science communication.

There were five sessions over a day and a half, each consisting of three 10-minute talks followed by about half an hour of wider discussion. Many issues arose, the most obvious being the meaning and use of ‘dialogue’ - the explicit theme of the conference. The communication of social science – both to science communicators and the wider public – was also raised repeatedly, as was that familiar topic, the role of the media.

In her introduction to the conference Helen Haste made reference to the hope that science communication would progress from the interactions between such an inclusive group of people. Whether the conference lived up to this hope, we will just have to wait and see. What can be said fresh from the event was that progression was an issue for the conference, and the question of how much science communication has progressed over the last decade or so came up more than once.

Related to this, another (perhaps less overt) tension in these discussions appeared along the lines of whether science communication is a coherent enterprise, which can be tied to researchable methods, procedures and results - or whether it ought to be used as an umbrella term for a whole set of efforts, with differing aims, objectives and agendas. It is probably no surprise that the latter seemed more plausible.

To turn these discussions into a clear narrative would be a bit fanciful, as well as being over-selective in a report which was called for as a record of the meeting. But at the same time, a blow-by-blow account of the proceedings would not make for a rewarding read.

So the following pages steer a middle path, taking the sessions in order, but mixing up the issues when it seemed helpful to do so. I have summarised the formal presentations pretty brutally - fuller details of many of them are posted on the BA website - and devote most space here to the discussions. This remains one delegate’s summary, though, so apologies if anyone (invited speakers and audience alike) feels under- or mis-represented by the report.

## Keynote address

### Engaging in dialogue with NGOs

*Dr Geraldine Schofield - Head of Regulatory Affairs, Foods, Unilever R&D (<http://research.unilever.com/>)*

An industry that wants people to buy a product, not just once but again and again, needs some understanding of their possible consumers. For companies like Unilever, this now means more than just marketing strategies. They recognise that the market place does not consist of simple transactions between buyers and seller, but is "a network of multiple linkages" (a metaphor which recurred in other contexts later). With technically innovative products (e.g. GMOs) a company endangers its "brand-trust" if they ignore the gap between scientific and public perceptions of risk - stick only to what the scientists say is safe or dangerous and the public may not only distrust a particular product but shun the brand entirely. So part of Dr Schofield's work involves 'dialogue groups' with NGOs and sponsorship of social research. These have been an important basis for corporate learning, both about the nature of public views and about how to deal with social science.

Dr Schofield noted how the first piece of Unilever-sponsored social research (Uncertain Worlds, University of Lancaster, March 1997) had predicted the 1997 media hype over GMOs, highlighting underlying public worries that were "simmering", ready to be sparked into something bigger. This research was initially "viewed with some doubt and difficulty in the company itself", but events seemed to bear it out. Calls to Unilever's consumer care line went from around three a day to 3,000 a day at the height of the GM-food controversy.

This prompted some discussion of the role of the media, but the critical comments made were difficult to weigh-up as science communicators who work primarily in 'the media' were not present. In the media's defence it was emphasised that the press only feeds into ideas that already exist in society, and are there to sell papers, not science (a point reinforced by Nick Ross that evening - "the media are in the business of entertainment", and Peter Dunn the following day in session four).

For the first time (of several) during the conference issues regarding the social sciences were raised. Here it started as a question of widening the audience for social science. Steve Rayner pointed out that although the content of the Unilever-sponsored reports were novel to industry in the mid-late 1990s, many of the ideas had been circulating in more academic contexts much earlier.

Dr Schofield agreed there was a reception problem for social science: results of qualitative research are difficult to incorporate into strategic plans, senior managers and economists "much preferring numbers", hence their enthusiasm for the 'multi-criteria mapping' techniques developed at the Science Policy Research Unit in Sussex. At the same time, working together was a key to gaining confidence of people who were still marked by a perception going back 30 years or so that "social science was what you did if you failed everything else".

But it was not just a matter of "reception". Later on, social scientists were criticised for shying away from the "grubbiness" of industry or the media. It was also noted that few social scientists take on the role of "public intellectuals" on science in society issues, with eminent scientists filling this slot. Whether such scientists would welcome any strong social-scientific interventions is another matter, of course. But this question of

the public role of academics outside natural sciences goes wider than discussions about science and society issues, as was discussed in more detail by Michael Worton in session four.

## Session One: Dialogue in practice

Debating science in parliament: a positive experience

*Diana Garnham, Chief Executive, the Association of Medical Research Charities (AMRC)*

(<http://www.amrc.org.uk>)

This was a specific case study of communicating with MPs over stem-cell research. The AMRC discovered much about the style of communication the MPs liked: being talked to directly rather than "blurred at"; all written information limited to one page, not the 100 pages one scientist sent in; trusted individuals to weave through opposing views of experts (for which the AMRC found the lay-expertise of patients useful).

The Dana Centre at the Science Museum: new national focus for public-science dialogue

*Dr Graham Farmelo, Director, Dana Centre, Science Museum (<http://www.sciencemuseum.org.uk/>)*

Dr Farmelo started with the reservation that 'dialogue' was in danger of becoming little more than "the feel-good science communication word of the moment". He hopes one venue where dialogue could mean something is the Science Museum's new Dana Centre (which should open September 2003). Their plans centre on bringing in new audiences and addressing new themes. It is obviously a bit early to say exactly how this will be done, but the museum is progressing through a thorough pilot programme.

Dialogue in theory and practice in the US and UK

*Dr Steve Rayner, Director, Science in Society Programme, Economic & Social Research Council:*

(<http://www.sci-soc.net>)

Dr Rayner compared public-engagement work in the USA, where he spent the last 20 years, and the UK and suggested we had (despite a late start) "leap-frogged" the States. What had become clear in the USA was that "authentic engagement works", but that communication with stakeholders in technical decisions is a complex, multi-faceted affair – those networks again. He outlined some of the aims of the ESRC Science in Society programme he is leading. He cautioned against risk assessment and modelling becoming substitutes for political choice.

Picking up on the idea that "dialogue" is becoming (merely?) a buzzword, there was some discussion on the meaning and objectives of dialogue. Diana Garnham's suggestion was that dialogue is simply small communities talking at different levels. Dr Farmelo suggested it would be wise to ask what is different about what we do now, as opposed to earlier more one-way concepts of communication. Would it be fair to suggest that there is now a more "level playing field" between scientists and publics? Or that there is often a meaningful outcome (i.e. public policy) not just "the dissemination of information"?

Steve Rayner was wary of one size fits all prescriptions: "life is messy and ambiguous, so why shouldn't our discourses be just as messy?" He emphasised that most people don't care about most of science – why should they? What they care about, in his view, are debates over social issues conducted in the

idiom of science. He advocated a form of public "scientific connoisseurship". This meant, in part, the ability to evaluate the quality of scientific expertise, but it was not immediately clear how this could be achieved.

The discussion continued on the relative merits and practicalities of preaching to the converted versus trying to encourage other less obvious audiences 'through the door'. One view was why should we want to pull anyone through doors in the first place? As Steve Rayner said "Why should we get people interested in what they are not already interested in? We need to be wary of scientific and political elites telling the publics what they should or ought to care about."

Should we be developing programmes led by the issues the public are already interested in rather than (as Dr Farmelo worried) sticking to the standard science communication topics it is easy to get funding for? While there may be limited value in dragging people into set-piece scientific debates with pre-set agendas, an entirely responsive programme would be difficult to contrive. And what is wrong with showing somebody something new? One example was given by a member of the audience who had worked on the Science Museum's Naked Science programme (part of the Dana project). She described how students at the neighbouring Royal College of Art were "hooked" into a discussion about IVF by a museum actor in role as a pregnant man, and how much they had enjoyed the process (even though "they'd normally be so more concerned with not having babies"). This example is despite the Dana project's explicit aims of a visitor-led programme. This may appear contradictory, but is this a tension that the science communication community has to live with or address? Perhaps this is one more meaning of "dialogue" - it tackles the problems of an entirely top-down or entirely public-led communication by allowing a mixture of the two.

Session Two: Issue specific communication

Looking outwards: the creation of the Engineering Technology Board

*David Worskett, Executive Director, ETB Formation Unit (<http://www.eteachb.co.uk>)*

David Worskett's has been helping transform the old Engineering Council into the new Engineering and Technology Board (ETB). This involved careful thought about communicating with the new Board's various constituencies, and he felt the lessons learnt were generally applicable – face outwards, not inwards, don't patronise, and do lots of listening. Oh, and avoid preaching to the converted.

### **Communication about animal experimentation**

*Dr Mark Matfield, Executive Director, Research Defence Society - Understanding Animal Research in Medicine (<http://www.rds-online.org.uk>)*

The RDS, operating in a highly contentious area since 1908, finds limitations in 'dialogue'. However, research into public opinion shows two questions affect views on animal testing: is it necessary and is it cruel? The necessity question is normally tackled by groups such as RDS but Dr Matfield feels that getting the public to believe animal testing isn't cruel could be much more fruitful. In the belief that the public will trust people they've met, the RDS has therefore been actively encouraging public-scientist interactions, through laboratory open days, for example.

Why are scientists that work for NGOs trusted when others aren't?

*Lord Melchett, Policy Director, The Soil Association (<http://www.soilassociation.org>), environmental consultant and former Executive Director of Greenpeace UK*

Lord Melchett's answer to the title's question being: well, because NGO scientists are more trust-worthy - open about mistakes (e.g. Greenpeace and Brent Spa) and with a broad expertise (as opposed to specialists who'll often voice unsupported views outside their own research area). Further, science from European governments is still tainted by big cases such as BSE, and industrial groups such as Monsanto do aim to use 'scientists' to mislead.

In discussion, it was suggested that one thing which united these three talks from organisations with very different agendas was that the basic rules for communication, perhaps even science communication, were quite simple. Why, then did applying them cause such difficulty?

This turned into a debate on how much science communication had progressed, as Steve Rayner bemoaned the move from the morning's debate (which "opened an arena on publics and multiple viewpoints, networks and policy end-points") to this session's focus on message-delivery. He suggested it was "a retrograde step, returning to an old model" and that he should perhaps take back his point about the UK being ahead of the USA. Mark Matfield's response was that new models for public understanding of science do not have to supersede old ones. Instead we should think in terms of additional methods, ones that can be taken up and applied as or when required for the multitudes of agendas for communicating science.

Related to this idea of progress in science communication were points made in David Worskett's talk. His comments were directed not at 'science' nor 'the public' but what he described as the "science communication community". He suggested that just as Engineering had to look outwards more to engage with wider society (including industry) and work more coherently and so on a larger scale, so should Science Communication, which he described as "insular" and suffering from "initiative-itis" and from too many "worthy but ineffective penny-packet projects". He suggested communicating science would be well served from thinking more in terms of selling products ("even if this doesn't fit with the Great Cause of Science Communication") and warned that science communicators were in danger of "talking only to themselves".

One question that arose from Worskett's strictures was whether a "science communication community" actually exists? Obviously enough for a conference to be held under the title! But there are more working in science communication than the people who would attend a conference like this. For example, science teachers are unlikely to be interested in all the talk of 'policy end-points' and public engagement. In fact, they're more likely to be concerned with message-delivery. But they are no less communicators of science for it. Distances between science teachers and this conference is one consequence of the way in which science communication interests are organised more generally - and not necessarily a positive one at that.

Worskett may want coherence, but just as Science contains a diverse set of sometimes opposing groups, so does Science Communication. As Steve Rayner argued: the world is messy – why shouldn't our discourses be? Similarly, why shouldn't the practice of science communication also be messy? However it remains that people calling themselves Science Communicators exist. We don't call ourselves the promoters of the Public

Understanding of Science any more (as Helen Haste remarked at the start of the conference). But perhaps we need to think more deeply about what exactly is this thing called Science Communication?

### Session 3: e-Democracy: the way forward for dialogue?

Lessons from UK Parliament and Government online

*Dr Stephen Coleman Director of the e-Democracy Programme at the Hansard Society (<http://www.hansard-society.org.uk/eDemocracy.htm>)*

Dr Coleman sketched a history of computers in parliament, from fad to hype to a new, mature phase in which we "are on the verge of reinterpreting democracy" as the technologies of the net allow us to re-think the notion of representation. Successful UK experiments included the recent on-line consultation on stem cell research.

Finding consensus in dialogues

*Dr David Newman, School of Management & Economics, Queens University Belfast  
(<http://www.qub.ac.uk/mgt/staff/dave/>)*

Dr Newman's experiences in Belfast suggests that simply using computers to facilitate dialogue can be simple, and how computer-aided tools for decision making can produce sets of compromises between opposing groups who would scarcely be able to converse at all otherwise. It is amazing how far second-choice voting will get you in apparently intractable disputes. Dr Newman was bullish about how computers could solve problems of engaging in dialogue, going as far as to say that: "in Northern Ireland we've developed ways of running meetings and voting that reach agreement between members of Sinn Fein and the DUP, so animal rights should be a pushover".

Towards a greater public accountability? Critical reflections on developments in e-democracy

*Dr Simon Joss, The Centre for the Study of Democracy, University of Westminster  
(<http://www.wmin.ac.uk/csd/Staff/sj.htm>)*

e-Democracy implies a means of making communication more efficient, and shrinking the distance between government and public. Dr Joss also covered several of the challenges for successful e-democracy, such as ensuring social inclusion and fair treatment within virtual discussion spaces.

There was some discussion on what the 'e' means to the democracy, that is how the internet is changing public engagement in decision-making processes. To Dr Coleman, MPs were a great idea when it took several days to get from London to Manchester, but there is less of a need for such a spokesperson when it takes seconds to be heard in Westminster, regardless of where you happen to be physically. But there are issues still to get round. For example, there is no point in any of it if these e-dialogues cannot be applied to policy (a point developed in session five). Dr Coleman believes legislation should be passed "to institutionalise government departments' responsibility to listen".

Dr Joss emphasised that it is important not to think about democracy in terms of the 'pillars' of governmental institutions, the big name departments and acronyms. Both Dr Coleman and Dr Joss suggested that if e-democracy can do anything, it could help us work in the space between such pillars, citizen-to-citizen interactions not just models of top-down or public-politician debates. Dr Joss emphasised a need for a network of these public spaces for policy debate.

One audience member asked whether the Internet really is the tool for mass engagement we think it is (perhaps we are still caught up in the era of hyperbole?). That is, rather than reaching out to those shut out by current democratic institutions it is the same old middle classes getting their message across. Most of the answers to this disagreed, suggesting that the Internet can be actively brought into spaces accessible to those otherwise excluded. Dr Newman referred to work in some of the poorest areas of Belfast using public computers. Also it must be remembered that other methods of public engagement are liable to be just as exclusive as the Internet.

"e-outreach" is also one of the new things the Dana Centre hopes to develop. Graham Farmelo thought it could give a "semi-permanence to real-time events" such as talks and debates, and would help extend the building's audience from what he called "the usual suspects". So it is worth remembering that the Internet can mean more to science communication than just e-democracy programmes. All sorts of science communication work currently use the web, and questions about the value of the internet's are worth asking across this spectrum.

## Session 4: Communicating Research

Meeting public expectations about research communication

*Professor Julia Goodfellow, Chief Executive, Biotechnology & Biological Sciences Research Council (<http://www.bbsrc.ac.uk>)*

Professor Goodfellow started by reaffirming that effective public communication about research must be actively grounded in the public's agenda: "Science communication cannot be simply the development of ever more sophisticated ways of answering questions nobody is asking in the first place". She then went on to outline some of the BBSRC's programmes, emphasising her idea that the best communicators of science are the researchers themselves.

The poor relation now? The challenge of the public understanding of the arts and humanities

*Professor Michael Worton, Art and Humanities Research Board (AHRB) member (<http://www.ahrb.ac.uk>) and Vice-Provost, University College London (<http://www.ucl.ac.uk/vice-provost/worton>)*

It may appear odd that science and scientists have undertaken an intensive programme of public awareness whereas the arts and humanities have only recently started to tackle the issue of "public understanding" (to use the same term as Professor Worton). The AHRB are actively addressing this, working on "how to contextualise their research" and transform it into "an attractive and understandable format".

How to make your press officer's life really miserable

*Peter Dunn, Press Officer, University of Warwick (<http://www.warwick.ac.uk/services/publicity/hpeter.html>)*

This talk consisted of general advice to academics (don't use jargon, etc) with the overall message that the media is not a tool for science communication but has its own separate agenda. His advice was to think of science-media relations as a "mutually-parasitic relationship".

The audience brought up several issues of academia not wanting to "dumb-down" for the press (or other media for communication). The problems of how to fit media/ communication training into researchers' workload were also discussed. For example, some thought younger academics the best able to communicate research, but then they have heavy workloads, and insecure enough careers to be particularly vulnerable to accusations of dumbing-down. Any solutions to this problem tended to involve wide-scale change in the general culture of academia, one which science was seen to be developing already, and that the AHRB hopes to foster elsewhere.

Michael Worton had suggested "story-telling" as a way of presenting research to the public, which prompted some debate over the general process of communication. If there is something different between a Nature article and a write up of it in the more popular press - how can we conceptualise this difference? If we want to use a metaphor for the work of a science communicator, is "translation" a good one? Professor Worton (well placed to answer this as a professor of French Language and Literature) emphasised that translation is a rather complex metaphor and that with any translation some change

always occurs. So do we want to change the meaning of research (however subtly) during the process of science communication, or is it impossible not to? Is this why Professor Goodfellow wants researchers to communicate directly?

Further, is this process (translation or otherwise) what characterises the practice of science communication? If so, will the advent of a 'Public Understanding of Arts and Humanities' movement dissolve Science Communication into a more general subject of Research Communication, or will the division between arts and sciences keep them separate? Where do those who communicate science and society issues fit in? Or don't we need such boxes to fit our careers into? (In which case why were we at a Science Communication conference?)

To pick up on Peter Dunn's description of a "mutually-parasitic relationship", if science communication is matching the self-serving agendas of scientists to the self-serving agendas of the media where do the publics' agendas fit in? And how do they relate to those of campaigning groups like the RDS and Greenpeace? Outside education, pretty much all science communication is issue-specific, driven by organisation interests of one kind or another. No-one really works with Science as a whole, and it is hard to see how they could. In that sense at the very least, science communication can never be a value-free enterprise.

So should science communication be about marketing our own ideas alongside others and letting the public decide? How could the public do this? It cannot be as simple as only listening to those trustworthy NGO scientists. Perhaps this is where the idea of "scientific connoisseurship" could come in, but we probably need more examples of how it might work. It is not as if science is simple enough to give out readable maps as to what makes a good or bad scientist (or science communicator) and where to find them.

## Session 5: When to engage in dialogue?

Where in the research process can dialogue begin?

*Caroline Hurren, Head of Consultation and Education, The Wellcome Trust (<http://www.wellcome.ac.uk>)*

Caroline Hurren went through the Wellcome Trust's multi-layered model for thinking about public engagement in their work. She also discussed some general questions surrounding public engagement in research. For example, does public involvement change research? Caroline Hurren's answer was "of course, there's no point otherwise!" But they don't always change the research in the way expected, which is another reason for embarking on such programmes.

Decision contexts: the key to public engagement

*Professor Jacqui Burgess, Department of Geography, University College London*

*(<http://www.geog.ucl.ac.uk/~jburgess/>)*

Jacqui Burgess favours a process of "deliberation" over dialogue, so started by explaining what a deliberative process is and how it differs from dialogue. She also discussed more pragmatic issues such as the importance of resources of time, money and skills to any worthwhile work in public engagement.

Exploring issues raised by bioremediation technologies: stakeholder dialogue and the use of the ethical matrix

*Dr Kate Millar, Centre for Applied Bioethics, School of Biosciences and Institute for the Study of Genetics, Biorisk, and Society (IGBiS), University of Nottingham (<http://www.nottingham.ac.uk/bioethics/>)*

Here an example of one of the BBSRC projects Julia Goodfellow had mentioned was outlined. A one-year study examining the use of a bioethics tool called "the Ethical Matrix" as an aid to public consideration of biosciences issues.

After a day and a half of talking about dialogue, it is worthwhile going over Jackie Burgess' ideas of deliberation, which she described as "argumentative dialogue". As Professor Burgess pointed out, "in the rather touchy-feely overcrowded field of public participation there are few processes that genuinely seek arguments". She suggests dialogue processes over-emphasise sharing and consensus, and so lead to "group-think", an atmosphere that actively stifles opposition and individual opinions. In contrast, deliberation can include rhetorical stunts and tricks as opposing views "seek the last word", forever spinning out many possible ideas but never agreeing on one singularly right one.

One of the first questions raised in the debates on e-democracy was how could any discussion in virtual space have a meaningful effect on policy. The same point came up here, and the two discussions mirrored one another somewhat. One suggestion was that consensus conferences were great for the participants (something backed up by Kate Millar's evaluation of her project) but of little wider use as the results never get as far as policy-making. This could be a problem with deliberative experiments in general.

Similarly, the e-democracy speakers worried that participation in virtual discussion spaces will just show up how little the government listens to their voters and make the public feel even less heeded. Stephen Coleman suggested that even if government does not listen there are other powerful groups (e.g. lobbyists) that do, and so people are still making meaningful contributions even if they are not simply fed into policy.

Similarly, Steve Rayner suggested that it is too much to think in terms of overt policy outcomes, and that consensus conferences (and their like) do at least encourage cultural change in engagement between citizenry and government.

However Jackie Burgess pointed out that it is hard to recruit publics to take part in dialogues without the possibility of a practical outcome, and frustrating for everyone involved: "I don't know about you lot, but I'm fed up with being involved in processes which go nowhere – so imagine how the stakeholders feel". The learning that accrues from a public-science-policy dialogue is all very well, but people want to get things done too! Kate Millar felt it was important to have "a focussed route of dissemination for the results" so that those involved know it will at least land on desks and know whose desks they are.

## Concluding remarks

The conference did not really draw conclusions, but a report should have one. As you might expect after this summary, the conclusion will offer more questions than answers.

Everyone at the conference was conducting communication of some sort. The sort of things science communicators think about can have applications away from science, as highlighted by Michael Worton's talk on developing a "public understanding" of arts and humanities. This raises a question about the distinctiveness of science communication, or research communication. Even if it is all *wissenschaft*, what is special about the problems of dealing with specialist knowledge, specialist language and esoteric research?

It is also worth considering this in terms of the conference's final comments on how results of consensus conferences or other deliberative events could be "disseminated". If simple dissemination of knowledge is bad science communication, and social scientists should communicate as enlightened scientists do - where does that leave those wanting to get the results of public-policy-science deliberations to 'land on desks'? What, if anything, is distinctive, about science communication dialogue, as compared to other areas of debate, both in terms of the expectations which may be raised, and the difficulties of delivering policy results that satisfy stakeholders?

Further, many of those attending the conference were explicitly engaging in dialogue - especially in the audience discussion sessions. Or was it more a case of "deliberation" than "dialogue" - not reaching any real compromise (nor attempting to find one) but everyone retaining their own individual opinions and agendas; maybe gaining greater perspective but avoiding "group think"? In which case was the conference full of a set of lone agents/ agencies, or does a "community" in science communication really exist?

If there are so many different 'agendas' behind attempts to communicate science then maybe the task for those whose aims are to serve lay publics is to work out how to assist public ability to navigate through all these agendas - thinking towards Steve Rayner's "scientific connoisseurs" perhaps? Or should we take David Worskett's provocations and contemplate how science communication works and make it more coherent?

But then several speakers complained that science communication tends to spend hours debating new ideas rather than getting anything done and applying them. And it shouldn't be forgotten that the point which started the arguments on whether there had been any progress in science communication (see session three) was that we sometimes seem to learn little but often ignore the basics – listening as well as talking, not just preaching to the converted.

Much of the impetus for the conference was to bring academics and professionals together, and there was a sense that there were things to learn on both sides. But it is worth finishing by asking whether some more systematic effort is in order to access academic perspectives and findings, and perhaps put them into a form that science communicators can use?