



Science Communication Conference, 23-24 May 2005

Jointly organised by the British Association for the
Advancement of Science, and the Royal Society

This report provides a description of session on **DAY TWO** of the conference.

Separate documents detailing the notes from individual workshops and the strategy recommendations formulated at the conference can be downloaded from www.the-ba.net/scicomm.

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Welcome and summary of day 1

Professor Kathy Sykes of the University of Bristol summed up by saying that the previous day had been amazing, and that progress on key actions from the 2004 conference was impressive.

What had come out of the day, she noted, was how important it is to share good practice relating to dialogue; to get some clarity and purpose about what dialogue actually is; to build up case studies and more information about costs; and to look at the impacts of different approaches. From this, and from working more closely with practitioners of dialogue, we could establish a shared vocabulary.

Also emerging was the need to ask funding bodies and institutions to come together and think harder about reward and recognition, especially of departments, groups and universities. Culture change, both within funding institutions and other organisations is crucial.

Continuing on from last year, Kathy Sykes concluded, it's clear we need to value the public's voice, to work on training and skills, and to find innovative ways of working with the media. It is still disappointing that we have not managed to attract representatives from industry, either as delegates or speakers.

Session 5: Government strategy for science and society

Dr Tony Whitehead, director for science and society at the Office of Science and Technology (in place of Sir Keith O'Nions)

Putting science at the heart of society: the challenge for science communication

The challenge, explained Dr Whitehead, is to engage with society and shape science and technology for the UK's future so that in ten years' time we will have made substantial progress towards a society that is confident in the Government's regulation framework.

Overall, he said, we seek to be one of the most competitive locations for research, development and innovation; to show the science community – and investors – that we're committed; to use evidence-based policies and to deploy early public engagement characterised by openness, transparency and honesty. This goes wider than public engagement: we need improved public support for science and innovation and increased public confidence in the way Government manages and uses science. We need enough scientists to run the UK's science machine. We need increased involvement of women and ethnic minorities. And we need to make sure that young people are also enthusiastic about science.

Tony Whitehead went on to illustrate the Government's 10-year plan for science and its correspondingly boosted budget, which includes a doubling of funding from the OST for science communication and engagement work. But how do we make best use of this money to ensure that all the above challenges are met?

By working with other organisations, he suggested, like the learned societies, other government departments, the research councils, NGOs such as the BA and the RS, and so on. We need to engage the public early, we need to improve the communication of risk and we need to adopt better approaches to globalisation, ethics and the environment.

The research councils, for example, are major engines for public engagement and communication. Two new units have been created under the RCUK umbrella: the science and society unit and the career training and development unit (on which more in the next presentation). RCUK also now includes the Arts and Humanities Research Council, which is a welcome new member. As for the learned societies, their main contribution is the independence of their perspectives. They are, said Tony Whitehead, at the pinnacle of the food chain, with access to huge numbers and ranges of people.

Government departments, meanwhile, have much to do in order to become more "joined-up" in their thinking. As a start, a science and society network is being forged across Whitehall and all government departments. And the NGOs – whether government-funded or not – must also be allowed to continue operating autonomously while maintaining links with them.

How successful are we now? The 2005 Mori survey showed that 85% of adults think that science makes a positive contribution to society. The government was pleasantly

surprised by this, revealed Tony Whitehead. We must also remember, he added, that while some subjects are suffering, the uptake for science as a whole is increasing, and we must get that message across.

As for the way ahead: the government has made a better go of addressing the issue of nanotechnology, by engaging the public earlier and producing a forward-looking response to the Royal Society/Royal Academy of Engineering report, and it is proposing a new, cross-governmental group to look at all aspects of nanoscience, including safety.

We are about to respond to the CST report; we have set up the ScienceWise grant scheme and we are supporting science and engineering ambassadors, he added. But there is still a need to look to the future and maintain horizon-scanning activities that allow strategic long-term planning and prioritisation. This should be done by raising awareness, challenging perceptions, informing and improving our strategies and always providing and using tools for good practice.

Questions for Tony Whitehead were plentiful and wide-ranging. The issue of poor career prospects for research scientists was raised, to which Tony Whitehead responded that yes, there are many factors needing addressing, including the short-term nature of contracts and the dearth of women in science, but that work is underway to this end. Another delegate thought it disingenuous to gloss over the crisis in the physical sciences by only looking at the broader picture across all of science. Tony Whitehead agreed that the health of disciplines is certainly an issue, but that it is nonetheless important to correct impressions of science as a contracting enterprise.

Much discussion took place about the problems associated with increasing the workloads of scientists by asking them to undertake communication duties as well; a spokesperson from HEFCE said that they are looking at ways of working with higher education institutions and other organisations to find ways of achieving this without increasing the burden.

Another audience member highlighted problems associated with communicating controversial science, citing some research involving nano-particles in food, where the researchers felt discouraged about talking externally because of possible negative ramifications. Tony Whitehead suggested that the Royal Society might want to look into such situations where they exist; David Boak of the Royal Society responded by saying that the final decision about communication in such cases should rest with the institution.

Session 6: Implementing science in society policy

Professor Ian Diamond, Chair of Research Councils UK and Chief Executive of the ESRC

RCUK: Science in Society

Professor Diamond began with an introduction to Research Councils UK and the councils themselves, and moved on to say that the RCs are more often working together now, where appropriate, and seeing the benefits from "joined-up best practice in cross cutting areas" alongside close liaison with the OST's science in society team.

The RCUK's science in society programme has a number of strategic aims, outlined Ian Diamond. It must account for investment in research by keeping the public informed of developments and by sustaining public confidence in the research councils' independent approach to research. It must also foster debate and identify public attitudes that should be considered in the conduct of research and use of its outputs.

Another objective is to engage young people with contemporary research so that more pursue science studies beyond 16 and follow R&D careers; and that more are able to act as informed citizens. For this, explained Ian Diamond, researchers must be encouraged, supported and rewarded for engaging with the public and opportunities must be created for greater integration and linking with other bodies involved in science in society activities. It's also necessary to ensure that science in society activities undertaken by the RCUK partnership are evidence-based.

Two new units were created on 1 April 2005 to help fulfil these aims. The RC Science in Society Unit will work with other actors to ensure maximum impact (which will be measured) and shared best practice, to oversee contracts for public engagement activities, and to arrange public dialogue events such as the recent "Science Race 2005," (a real-time, on-line science quiz open to all secondary schools in the UK that aimed to engage young people with contemporary research).

The Research Careers and Diversity Unit will address the supply of scientists and engineers and diversity within the scientific research workforce, and will promote and support cross-council collaboration on research careers as well as fostering relationships with OST, HEFCs, the Wellcome Trust and the UK Resource Centre for Women in SET, as examples.

Ian Diamond then spoke on the subject of best practice in public engagement, based on his ESRC experience and expertise.

He started by asking: Is there a crisis of public confidence in science? Polls show that 70-80% of the public agree with positive statements about science and 85% agree that scientists and engineers "make a valuable contribution to society" but there are certainly public concerns: 35-45% say science and technology are moving too fast and 55-75% are concerned that scientists may ignore risks.

Ian Diamond suggested that these issues relate to the governance of science, rather than to science itself, citing a 50-year trend of declining deference to authority in

general. This can manifest itself as a lack of confidence in science, in the institutions that practise it and in the scientists within them. He went on to explain how the theory of deficit models has been used to understand the situation, not necessarily successfully. In this context, framing issues of governance as scientific reduces complex problems of political organisation to “deficits in the relationship between science and the public”.

There are three versions of this deficit model currently in circulation. The first says that the problem lies in a lack of understanding of scientific facts and that it can be solved by providing factual instruction through science communication programmes. The second says the problem is a lack of understanding of scientific processes and proposes a solution in which people are educated about the processes of science.

In the third, the problem is expressed as a lack of trust in science and its institutions; in this one, science communication is used to restore trust. All three of these models reduce structural issues of the science-in-society relationship to process issues of science communication. In doing so they neglect the need to consider aesthetic and ethical judgement in the policy process and to look closely at established patterns of authority, decision making and power structures.

So what is the solution? Public participation (in the form of focus groups, consensus conferences, citizens’ juries, constructive technology assessment and so on) is often put forward but there are conflicting claims about its success. “Upstreaming” the participation process – to allow earlier public involvement – is the latest buzz, but this is not new: in the Netherlands and Canada, for example, participatory technology assessment using computerised envisioning tools and GIS is well established. And anyway, participation is fraught with problems, as evidenced by 20 years of social science experience. The most common problems lie in the areas of representation (who and how to select), resource issues, agenda framing, effectiveness and evaluation.

Perhaps an alternative is to promote a new approach: scientific connoisseurship, a concept that allows non-practitioner expertise in science to be formally acknowledged, that explicitly embodies relevant values and in which the connoisseurs (pundits, critics, mavens, etc) initially learn whose judgements to trust, rather than the nuts and bolts of the science itself.

The era of commissions and authorities solely comprised of the great and good is drawing to a close, suggested Ian Diamond, and the issue of science in governance and governance of science is much deeper than any science communication programme acknowledges.

The public acceptability of controversial technologies and the social licence to operate requires serious rethinking of democratic institutions and procedures and nothing short of the reinvigoration of representative democracy for the 21st Century. RCUK cannot do this alone, and is committed to dialogue with all actors.

The question session that followed touched on by now familiar subjects: how to reward scientists; the need to impress on scientists that communication will benefit them as well as their audience; and the need to capture and celebrate successes.

It also moved into more challenging areas, debating, for example, the need—if democracy is to be reinvigorated—to equip people for dissent as well as for agreement, and to redefine the 15% of people who are not confident in science so that they are not simply termed “disengaged.” Irrespective of differing opinions on these themes, there was broad agreement that time was short, and that input from social scientists would be valuable.

Session 7: Four workshops examining the practical delivery of the science in society agenda

7a: Influencing policy: Working in partnerships to feed into policy

Melanie Smallman, Small Talk

Richard Wilson, Involve

Both Melanie Smallman and Richard Wilson are sponsored by DTI's ScienceWise initiative to explore the tension between institutions and participation, and between science and society by means of two separate projects. Each aims to identify the options for balancing two often opposing requirements: first to ensure that institutions are accountable and responsible and second to ensure that engagement activities are dynamic and inclusive. Melanie is exploring these options through a specific example of engagement called Small Talk, and Richard in the course of his work with the Nanotechnology Engagement Group (NEG), which is examining the practice of upstream engagement across the UK.

Both projects address the challenge of ensuring that public engagement leads to real change. They are also exploring the partnerships that are needed to form the basis for that change. In this session Melanie and Richard examined how partnerships can be forged between institutions and engagement practitioners to ensure that a learning culture is nurtured between the two.

They described the gap between the rhetoric and the practice of public engagement – particularly in the science policy arena.

They observed that while science policy development is dominated by entrenched power structures and established institutions with traditional values, the emerging practitioners of dialogue and communication are honing a new craft and developing principles to maintain their own good practice. Tensions have emerged between these two cultures. So, they suggested, a partnership is needed between institutions and practitioners, one which enables the practitioners to innovate and the institutions to build their internal capacity.

Many of us aspire to influence policy and it is an area that really demands sharing of experience and best practise. To explore the topic further the workshop split into groups to examine the following questions. Some of the answers put forward are listed beneath.

Question 1: What framework(s) already exist that enable us to work together to attempt to influence policy?

- Nothing – certainly not as collective
- Some - e.g. ScienceWise – but doesn't advise collaboration
- Institutions not seen as a framework, maybe agents
- There are government groups, but these don't encourage or foster collaboration

Question 2: What do we need in place to enable us to work together more effectively?

- Transparency (Who makes policy? Where is the point of influence?)

- Buy-in from policy makers
- Connectivity (Note that some are doing it already; how do science communicators know when it is timely to input into a policy process)
- Should there be a jointly funded body?

Question 3: How can we learn from one another and share experiences to increase impact?

- Publish studies: numerous ways
- Distil important information (more case studies)
- Increase impact (and develop an understanding of what works and what does not)
- Share our learning with the with community

Question 4: How have we engaged with policymakers – and how can these processes be improved?

- Find better ways of identifying policy makers (examples of regional processes RGS Geological Survey)
- Establish what comes first (dialogue with decision makers; publish policy impacts widely)
- Influencing policy is difficult – how can we track if our policy proposals have been incorporated?

Question 5: How do we feed back what policy impact we have had to people who come to events?

- Describe who, where and when
- Establish means of measuring policy impact – but local policy changes harder to track

7b: A vision for schools enrichment: Regional hubs for school STEM

Keith Mannion, Sheffield Hallam University

Steve Smythe, SETNET

Keith Mannion introduced a new initiative to create regional hubs for science, engineering, technology and maths (STEM) in schools. This initiative was conceived by Sir Gareth Roberts (outlined in the Roberts Review). It aims to correct for the lack of coherence in the science education market as perceived by schools and to help improve on the low level of uptake of STEM initiatives.

To this end, Keith Mannion and colleagues at SHU carried out research and met key stakeholders to discuss and test ideas for coordinating STEM provision within regions of England. They agreed that each region should have an administrative centre, which should be located near the science learning centre in the region, should be managed by the relevant SETNET director and should have a board comprising local teachers and other educational providers.

A pilot is being set up in the Yorkshire and Humber region which will benefit from excellent links with and support from the regional development agency, in the form of

help to develop a regional STEM education strategy and £8m in funding over four years. A second pilot will be tested in the South East.

Steve Smythe continued the presentation to talk about ways in which SETNET initiatives so far have helped overcome the difficulties experienced by schools in engaging with the STEM agenda. He described a recently launched project called the Islington Science Alliance, in which partnerships between local organisations will lead to a range of science-related activities available to all schools.

Suggestions for good practice emerging from the discussion:

- Include teachers in decision-making
- Commission Advanced Skills Teachers (ASTs) to deliver workshops (and tie in with the CPD programmes)
- Encourage engagement between schools and employers e.g. with industrial placements
- Develop a toolkit to evaluate impacts
- Create clear lines of communication
- Have clear aims
- Use quality assurance throughout project

Ideas for partnerships:

- With the DfES (and suggest it makes curriculum time provision for STEM activities a statutory requirement)
- LEAs and local schools
- Schools and Aim Higher (and similar organisations)
- Create broad networks that include museums, business, libraries and schools
- With Learn to work/Connexions
- Between local institutions offering similar services
- Cross-curricular partnerships
- With the 'Science Live' web site.

7c: Evaluation and impact: Evaluation: friend or foe?

Sheila Anderson, Head of Communications, NERC

Dr Suzanne King, People Science and Policy

Evaluation is often feared by those delivering science communication projects but used well it can be a true friend. It can help to demonstrate the things that projects have achieved and enable us to achieve more in the future.

This workshop highlighted the need for evaluation and the role it can play in project management. The presenters distributed a guide to good practice in evaluation, "RCUK Evaluation Guide for Science and Society projects". (This may be downloaded as a pdf file at <http://www.rcuk.ac.uk/documents/evaluationguide.pdf>)

The guide has been specially designed to meet the needs of those running science communication projects.

The authors then presented a brief overview of the key points to bear in mind when designing an evaluation strategy. The rest of the session was dedicated to discussion and specific questions from the audience, who wanted to know about how to selecting people to perform evaluations, what questions to ask, how to analyse responses and how to report on findings, as well as the more strategic issues of when to conduct an evaluation and which methods to use.

7d: delivering inclusion in science communication (DISC): Report of findings from DISC, year 1

Malleh Dangan, DISC National Project Coordinator

Paula Edmonson, DISC regional coordinator, Birmingham

Delivering Inclusion in Science Communication (DISC) is a new joint project of the BA and the African-Caribbean Network for Science & Technology (ACNST). DISC's purpose is to provide opportunities for ethnic minority groups and the science communication community to work together to enable greater participation in science. DISC is committed to working with all the key stakeholders to make this inclusive vision a reality.

Science communication organisations have an invaluable role to play in the democratisation of knowledge, in social inclusion and in the promotion of public participation in decisions about science and its impact on society. Through engaging science communication organisations and ethnic minority groups in consultation and dialogue, DISC has exposed the wide gulf that currently exists between both groups. However, DISC has also shown the inclusive landscape that can be achieved if the two groups work in partnership to address the inclusion of ethnic minorities.

During year one, in order to understand the barriers and challenges that people face, a number of workshops were held in Exeter, Manchester, Birmingham, Sunderland and London. Separate workshops were held for science communicators and black and ethnic minority groups.

A surprisingly high degree of congruence between ethnic minority groups and the science communication groups was found on the key challenges and barriers faced by both groups. A high degree of consensus was also found among the suggestions of effective strategies for implementing change.

Barriers/challenges identified included:

- current organisational culture and limited strategic approaches
- representations of science
- restrictive formats of engagement
- lack of willing scientists
- lack of market intelligence
- lack of resources
- lack of confidence - both groups simply don't know where or how to start
- lack of awareness of science occurring in developing countries

Paula reported on two additional research projects she was undertaking as part of the DISC project.

Representations of science

Through this project Paula will produce a list of Black and Ethnic Minority (BME) science communication resources including: a list of BME scientists and their achievements (current and historical), images of BME scientists and information on how to link schools curriculum to BME contributions to science.

Market Intelligence

Paula is coordinating the gathering of information on community groups interested in getting involved in science communication in London, Birmingham and Manchester. She will use this to produce guidelines and advice on how to link science communicators and BME groups to create sustainable and productive partnerships.

Session 8: Four workshops examining real life tales of partnerships with scientists

8a: Scientists and industry

Dr Jane Gregory, University College London

Dr Gregory spoke of the attitudes within companies to public engagement – which she had gleaned from interviews conducted with people in a variety of posts (such as research, marketing and management) in a range of companies, large and small, from a variety of industries.

She described a spectrum of enthusiasm ranging from the negative (“the public just aren't interested”), through various middle ground views to the positive (“those in the lead will reap commercial benefit; critical feedback gives better products”).

Companies identified two main publics: their customers and NGOs (by which they generally meant environmental protestors). They did not perceive a need to engage with “non-customers”. Jane Gregory summarised this with a table of the factors that encourage (and discourage) industry to engage, and based on this research, has drawn up some guidance at <http://www.techforum.org.uk/guidance/> for companies engaging with public concerns and aspirations relating to science and technology.

A number of points were made in discussion from both industry-based audience-members and others. They included:

- Attitudes to public engagement may not be consistent throughout an individual company
- The scientific communication community must build better links with industry – and that can include building links between professionals in industry and similar professionals in non-industry – e.g between STEMPRA (which represents science and technology PR professionals in the not-for-profit sector) and CIPR Science and Technology division (which represents PR professionals in industry).
- Industry does not always need to or sometimes cannot interact with public audiences over science issues – but can be interested in dealing with stakeholders or intermediaries such as the media, MPs, NGOs etc, who can act as a lever
- There might be use for a “How to persuade industry to work with you” list and an early draft was proposed:
 - * Know, and research, the business of interest
 - * Find the argument will make them say yes (for example it could help them address a skills shortage; give them a licence to practise; produce product feedback; give greater understanding of their public impact; encourage potential investors, etc)
 - * find the correct person to talk to in a particular business - they could be in PR, education, CSR or another department
 - * make sure your proposal is relevant to their business (e.g. in subject) and ensure that any benefits are clear
 - * demonstrate that you can protect their brand – i.e. that you are credible

Workshop 8b – Scientists and the artists

David Buckland, Cape Farewell project

Is it relevant to talk about the subject of climate change in terms of an art conversation or do we perceive it as falling solely within the domain of science? We know that climate change exists because scientists have predicted it, measured the changes and drawn a conclusion. The world is warming and that change correlates directly with increased levels of CO₂ and other green house gasses and that there is no other plausible answer that these increases are man-made. So the activity of man is causing the planet to warm and the consequence of this will be climate change. Mathematical models go some way in predicting the consequences of this string of actions but the amount of variables make this a very 'inexact science', will the ice melt causing the seas to rise? Will the global conveyor belt reverse causing an ice age? Will the very difficult task of predicting the weather become even more impossible due to aggravated climate change? Is it at all likely that scientific practice can provide these answers and in time to affect the changes necessary?

The change is easy to achieve, just reverse the production of CO₂ to about 28% of its current levels and over time the temperature rises in the planet should balance out. Here lies the crux of my thesis, science has provided the knowledge, there is a clear sense of urgency in tackling the problem, but we seem to have a public, and politicians, and financial markets who are choosing not to hear the arguments or they are not understanding the message or they are not being told the reality of the situation. To be harsh, one could say that science is failing to communicate.

Artists are schooled in a rough world where having an idea counts for nothing unless you can find a way to get someone to listen and then be seduced enough to engage in the idea. We can shock, use beauty, beguile, tell stories but still then have to outmanoeuvre a highly complex market, obtain funding to produce, get the media/critics onboard and then, and only then does the original thought have the prospect of being truly tested to a large audience and over acres of time. Win and you are in heaven! [for now]

So maybe the artists have just the skill to effect change and get the public to listen and change their attitude and life styles and realise the complete necessity of the scientific argument. In my talk/debate I will show how both the scientific and arts communities, working high up in the arctic, have gained so much from the experience and how the artists have found elegant solutions to communicating scientific information. The demarcation lines often drawn between the two camps had a great tendency to merge, abstract ideas on the nature of ice were easily discussed as was the complex and interwoven understanding of how nature manages to balance itself and it is us who are the temporary fixture.

The main discussion points in this workshop were:

- Partnerships to take forward to link up scientists and artists:
 - Royal Society of Arts
 - ArtsAdmin
 - ICA and their dance performances

- To speed networking the Arts in Residence scheme where artists are based in science research departments within universities.

Workshop 8c: Scientists and the media

Toby Murcott, Times Columnist and Chair of the Association of British Science Writers

Risk and the concept of scientific risk produces more debate than almost any other topic within science communication. Seminar after seminar have been dedicated to attempting to find ways of getting the concept of risk across to a wider audience. However, everyone understands risk and makes risk/benefit judgements every day of their lives. The problem as Toby sees it is not that people don't understand risk but that risk is perceived differently depending on who presents it and what involvement people have had in producing the risk assessment.

Workshop 8d – Scientists and the public

Sarah Macnaughton, Momenta

Andrew Norton, MORI Social Research

The MORI report for the Office of Science and Technology, Department for Trade and Industry on "Science in Society" was released in March 2005 (Download at <http://www.mori.com/polls/2004/pdf/ost.pdf>). The research clearly shows a largely positive attitude among the UK public about science and perception of science issues. The report, which examined public attitudes to science and scientists, found that over 80% of adults think science makes a good contribution to society and that science will make our lives easier. More than half (56%) of UK adults have taken part in a science-based activity in the last year, outside work. There has been an increase in the level of trust in scientists in recent years, however, only four in ten people feel informed about science. Eight out of ten are supportive of public consultation, and the public is keen for consultation to be followed by action on the outcomes. The media can play a key role in informing and engaging people. Television and newspapers are the most commonly used method for people to find out about science, but seven out of ten people think the media sensationalises issues.

MORI conducted the research programme in three phases: desk research, followed by discussion groups between 21 July and 29 July 2004, and quantitative research among a representative quota sample of 1,831 adults aged 16+ across the United Kingdom. Interviews were conducted face-to-face, in-home between 20 September - 21 November 2004, in 253 sample points (paired adjacent Output Areas) in Great Britain and 10 sample points in Northern Ireland.

The main discussion points in this workshop were:

- What can we learn from the data?
- How does this survey compare/contrast with the 2000 Wellcome Trust/ Office of Science and Technology survey 'Science and the Public: A review of Science Communication and Public Attitudes to Science in Britain'?
<http://www.wellcome.ac.uk/doc%5Fwtd003420.html>
- Who are the circa 15% of those surveyed who do not think that science makes a good contribution to society? Do we need to engage this group? Is this group

- not actually sufficiently engaged in science already to have reached such a strong conclusion on science?
- The OST has already commissioned further research from MORI, investigating further aspects of Science in Society and how public experiences and views are reflected in different socio-demographic sub-groups.

Session 9: Closing session

Professor Kathy Sykes

This session summarised the strategy recommendations emerging from the conference and identified mechanisms to take them forward. Kathy Sykes offered a summary of some initial impressions of the salient points, which were based on observations from a number of participants, and reminded the audience that this was a participatory process, calling for comments, additions or alternative points from the audience.

There were four key points arising from the two days:

- The importance of sharing good practice
- Desirable actions from funding bodies
- The need to engage with industry
- Development of the recommendations from the 2004 conference

On sharing good practice

It was agreed that we should aim to have greater clarity of purpose; capture case studies, record the successful projects and the less successful ones too; develop a shared vocabulary about engagement and especially its impacts; explore the true costs of engagement (both in terms of the percentage of research funding it requires and also how this translates to tangible impacts); and do all of the above with the wider dialogue community and social scientists. One question remaining was: how can we achieve all this?

There were some suggestions from the audience:

Ecsite-uk said it would offer its web site as a place for others to publish their evaluation materials – and would arrange to password protect them if required.

An audience suggestion regular workshops along the lines of “lessons learned,” and another suggested that the ScienceWise grants require that projects be written up and captured as case studies.

The Royal Society committed to working more with social scientists and extending their activities to the wider dialogue community.

There was a call for capacity building in the area of skills provision and training, this could be met partly by the BA's Working Lunches

On actions for funders

They should embed and report on change within their own organisations; they should capture and share the impacts of this and other activities that they fund (especially where they are positive) and report back to higher education institutes.

Ideally HEFCE, the Wellcome Trust and the research councils should come together to develop a strategy for rewarding and recognising the engagement work of institutes and departments.

From the audience came a call for more bursaries for postgraduate studies in science communication (backed up by a 2:1 vote) and a request that external organisations that promote and encourage engagement also be rewarded – for example museums and charities.

There were also a number of comments expressing disappointment that the conference itself did not practise what it preaches, i.e. that it only allowed the “big names” a prominent voice and did not facilitate genuine dialogue between a representative mix of people and groups. There was a call for the next conference to have trained facilitators and a new format. Kathy Sykes asked that such comments be included and expanded on in the feedback sheets for the conference.

On working with industry

Working with industry has been an objective from the outset but we have failed to achieve it. Kathy Sykes asked: why is this? We should ask representatives from industry how we can better engage with them and what we can offer them.

Suggestions from the audience included stop calling industry a separate category; promote the conference more actively to industry; undertake analysis to understand the constraints placed on industry by the need for it to satisfy its stakeholders; talk to industry bodies such as the ABPI; bring in industry PR bodies and not-for-profit PR bodies such as STEMPRA; and overcome the preconception that public organisations do communication whereas business does PR, because in fact both do both.

A point was made that the conference is also lacking in representation from the science teaching community and there was some debate as to whether science education could be included in the conference strategically rather than as an optional session.

On developing the recommendations from conference 2004

We are agreed, said Kathy Sykes, that it is important to reward scientists for engaging with the public. What we've learned here is that it is equally important to reward higher education institutions and departments within them. We should continue what we started last year but broaden the agenda.

Regarding providing sufficient funds for engagement activities: we've realised we need to explore the real costs of engagement. We can't ask for more without knowing how much we might need.

Regarding recognising the value of the contributions of the public: one idea that

emerged is to build and fund a framework that links science communication networks and policy-making networks. Audience members agreed that bridging the gap would be worthwhile but doubted whether a whole new framework needed to be funded.

On ensuring that those emerging from university studies are equipped to play leadership roles, be good communicators and explore the ethics of their work: it was agreed there should be training opportunities to help scientists start articulating ideas about the ethics of the work they do – without making them feel defensive.

On bringing the science, social science and dialogue communities together – it was agreed to do more of the same. Now is a good time to get linked into the social sciences because they've finished their work in science in society and are ready to disseminate. A series of Seminars linking the ESRC Science in Society research projects with scicomm practitioners are being planned for autumn 2005 by the BA.

As far as working with the broadcast media to reach and interact with the public – it was agreed to continue with discussions already underway with the BBC and others.

The discussion that followed reiterated the importance of forming partnerships. It also reinforced the importance of appropriate training – which could ultimately result in some scientists being as credible and comfortable with working in communication as they are in research. There was mention of science communication becoming a profession in itself. The session drew to a close with a final request from Kathy Sykes for further comments and suggestions following the conference, so that the issues could be followed up in a genuinely inclusive way, with input from everyone who has something to say.

To close the conference, Roland Jackson of the BA reflected on some aspects of the conference that had made an impression on him. He marvelled at the range and number of people taking part and acknowledged the challenge that this presented for the organisers, who had to put together something with relevance for all.

Admitting that they had not got that aspect quite right yet, Roland Jackson reminded the audience that the situation had moved on considerably compared with two years ago. Then, he said, there was not even a clear enough idea of what and who we were as a community to argue about the direction in which we were going. He called on everyone to put forward suggestions, adding the reminder that the conference was a place to step back and take a broader view. For narrower and deeper dialogue there are other events, for smaller groups, that participants might want to consider.

Roland Jackson finished by extending his thanks to everyone who took part, particularly the speakers and also the teams at the Royal Society and the BA for so superbly and ably putting together arrangements to make the conference a success.