FIRST REPORT

Andy Stirling, 29th November 2006

INTRODUCTION: Background to the Advisory Group Process

This is the first of a series of Annual Reports offering independent commentary on emerging directions for ‘science in society’ research under the European Commission’s Seventh Framework Programme (2007-13). It takes the form of a series of broadly agreed comments developed in discussion among eighteen members of the European Commission ‘Science in Society Advisory Group’. These individuals bring a range of professional experience from twelve European countries, all with expertise in fields related to ‘science in society’. The Advisory Group is chaired by Professor Mariachiara Tallacchini.

Time constraints have required a rather more compressed schedule for production of this First Report than is envisaged for its successors. In particular, the present final agreed version is produced after preparation of the final 2007 Work Programme itself. The Group would like to commend the hard work by European Commission staff under these pressing conditions, which allowed some attention to be given to the views of the Advisory Group in the emerging Work Programme, even before completion of this final Report.

Key points arising in the discussions of the Advisory Group are summarised in the three following sections. These correspond to the three ‘action lines’ identified for ‘science and society’ activities: (i) more dynamic governance of the science and society relationship; (ii) strengthening potential, broadening horizons; and (iii) science and society communicate. Discussion in each case focuses on areas of broad agreement among the Group. Key points are highlighted in bold italicised text. Further background on both substance and process is set out in an accompanying working document of Group.

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2 The process began with detailed discussions of the Strategy Paper of 3rd July at the first meeting of the Advisory Group on 7th July 2006. Members then circulated short papers summarising key observations and recommendations. These papers, together with the wider discussions at the first meeting, were then summarised in a Review (see note 3 below) by the Group’s Rapporteur. This was then itself discussed together with the Draft Work Programme of 20th September at the Group’s second meeting on 26th September 2006.
ACTION LINE 1:  **More Dynamic Governance of the Science and Society Relationship**

The Advisory Group welcomes the European Commission’s emphasis on the need for greater engagement between “organised civil society, scientists, policy-makers and the public at large” 4. The Group supports the Commission’s aims to “promote two-way communication channels that facilitate the general public and policy makers to engage with scientists, and for scientists to engage with the public.” 5. However, it is clear that these positive aims are in some ways ambiguous and raise a number of queries demanding social science and policy research. In particular, there are questions over the extent and conditions under which this ‘engagement’ is (or should be) about inclusive participation (‘better democracy’), extended peer review (‘better decisions’) or improved communication (‘better public acceptance’).

Against this background, it is the view of this Advisory Group that there is an urgent need for research to support wider and more active critical reflection on the **deep relationships between knowledge and democracy**. In this regard, the European Commission’s own emerging principles of good governance (including: ‘openness’, ‘participation’, ‘accountability’, ‘transparency’ and ‘effectiveness’) 6 are not only fundamental aspects of democratic process, but are also essential to the building of a truly robust and vibrant ‘knowledge based society’. These interlinkages have repeatedly been documented in fields of ‘policy analysis’ and ‘science and technology studies’. Just as democratic empowerment is intrinsic to the building of scientific and other forms of knowledge, so too is respect for the diversity of knowledges intrinsic to democratic governance. In the absence of such principles, then, efforts to create a ‘knowledge society’ risk (at least) irrelevance and inefficiency and (at worst) illegitimacy and conflict.

Accordingly, the Advisory Group holds these principles to be crucial not only for research in the area of ‘science in society’, but also for the governance of the Framework Programme and ‘European Research Area’ as a whole 8. In particular, more effective processes of public engagement can help ensure a direct focus on human needs and interests in our societies, not just as viewed by industrial ‘users’, but also as seen by consumers, citizens and civil society organisations. The European Union is, after all, not just an economic, but also a value community. Here, a particular emphasis should be placed on **the urgent and major policy challenges that Europe is facing concerning: climate and demographic change, novel health and environmental threats, globalisation and social cohesion and – more generally and throughout – on representing the interests of currently marginalised and excluded groups**. The resulting processes of ‘social guidance’ should not be seen as presenting constraints or obstacles on research and innovation. Rather, they provide a source of **opportunities and drivers** for more extensive forms of knowledge production and more socially legitimate pathways for innovation.

It is to these ends, that the Advisory Group recommends greater attention under the particular theme of ‘science in society’, to development and dissemination of robust and intensive procedures for citizen participation and stakeholder deliberation. This theme has been picked up elsewhere by the European Commission, in the concept of ‘**co-operative research**’. 9 This is a mode of research that is not only tightly focused-on and driven-by – but also engaged-with – diverse public interests. This agenda presents many challenges and requires much clarification: demanding greater emphasis than is currently indicated on critical research into the **different imperatives, rationales and contexts for**

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7 COM (2005) 24, February 2005
public engagement raised by the questions with which this section began. The aim of research in these areas should be to establish a variety of forms for ‘science in society dialogues’. These will be applicable not just at the level of individual projects, institutes and programmes, but at the highest levels of European Commission and member state research governance institutions.

In principal, there is no necessary conflict between these imperatives to greater public engagement and the existing value placed on the independence and autonomy of scientific institutions. Indeed, there is a sense in which a broadening and enrichment of the interlinkages between research and innovation on the one hand, and more diverse areas of wider society on the other, can enhance the mutually reinforcing relationship between democracy and science. Social and policy research shows repeatedly that real independence can be achieved more through pluralism in engagement than through narrower (and problematic) claims to some unique form of ‘objectivity’ in science. It is in this regard that the Advisory Group does observe a degree of tension between the stated need for greater engagement and the present parallel unqualified emphasis in the EC strategy document on fostering “trust and self regulation” in science. For this reason, the Group recommends that priorities move increasingly towards research that focuses directly on clarifying questions over ‘independence’ and ‘conflicts of interest’. In particular, there is scope for more research into the ways in which political and economic power is exercised under different modes of research governance – in areas like research evaluation, commercial confidentiality, intellectual property, the representing of uncertainty and the provision of science advice. Further important objectives that should be more highly prioritised in research, concern the achieving of more precautionary approaches to innovation, more sustainable technological strategies and more radically innovative solutions for present and future challenges faced by our societies (in areas like energy, transport, materials and biotechnology).

It is to these ends, that the Advisory Group recommends the adoption of broader visions of the benefits of research and innovation – moving away from exclusive preoccupations with narrow, linear, short-term notions of ‘competitiveness’. As sustainability imperatives grow more pressing, economic disparities more acute and global markets more complex and sensitive to social values, so adoption of wider understandings of human wellbeing can assist in early identification of long run opportunities for socio-economic success. It follows from the mutuality between science and democracy already noted that science is an important cultural activity in its own right. In just this way, then, we can recognise both the importance of increasing access to science as an aspect of shared culture and – at the same time – the importance of other forms of cultural activity as significant drivers for innovation, knowledge creation and learning. The Group believes these links between science and wider European culture are also promising areas for research, presenting important opportunities for application of science and technology that are at present insufficiently highlighted as areas of ‘science in society’ research.

**ACTION LINE 2: Strengthening potential, broadening horizons**

The Advisory Group believes that the European Commission has correctly diagnosed the main priorities in strengthening European capacity in science and innovation and broadening the horizons of research governance. However, there remain a number of areas in which suggested measures should be reinforced. Perhaps foremost among these is the presently unacceptable state of the gender imbalance in European research and innovation systems. Given the difficulties of recruitment in many key fields, this represents not just a serious matter of social exclusion, but a severe waste of valuable human resources. This is a pressing agenda for ‘science in society’ research, requiring a greater focus on the roles, experiences and attitudes of women – and especially young women – in research. Attention is also required to gender issues in science education among younger age groups – concentrating on learning key lessons, removing structural obstacles, identifying best practice and

empowering effective dissemination and accountable co-ordination. Further measures are also needed to ensure that ‘gender mainstreaming’ amounts to more than just rhetoric and that the gender perspective is properly addressed in all FP7 research programmes. This involves not only a focus on the position of women in science (science with women) but should also pay attention to research into the needs of female populations in Europe (science for women) and the gender dimension in research itself (science about women).

The imperative to extend and enrich participation in the European research system also involves other marginalised and excluded demographic, ethnic and cultural groups. This requires a distinct set of objectives for ‘science in society’ research activities, which the Advisory Group also identified as being presently somewhat neglected. One crucial focus in this regard aims at developing better understandings of the reasons for apparently growing disenchantment among young people for certain areas of science and technology. There are questions about the extent to which this may reflect misgivings over the wider governance of research, as discussed under the First Action Line (above). In this regard, there is scope for research to explore whether initiatives in this area might simultaneously address challenges of democratic accountability and the recruitment of new talent. An example in this respect (relating also to Action Line 3) might be the promotion of experiments in deliberative communication addressed specifically at young people involved (or interested) in higher education in science. As under Action Line 1, research in ‘policy analysis’ and ‘science and technology studies’ offers crucial insights concerning the many ways to focus attention on broader social and ethical implications of science from the earliest stages of education, through the practice of science training itself and on into continuing education in later life. In this way, ‘science in society’ initiatives may help not only to improve recruitment of scientists, but also to foster a more scientifically literate, engaged and positively empowered general European citizenry. At present, these potential areas of research activity seem under-represented.

This need to broaden and strengthen the European research system raises some further institutional challenges, which the Advisory Group also hold presently to be somewhat neglected. As is recognised in much discussion of the ‘Lisbon Strategic Goal’ 12, it is clear that the European research system itself (and as a whole) is in pressing need of radical restructuring. Here, the many different roles of the university in ‘research’ and ‘higher education’ warrant particular attention. More particularly, as recognition grows of the importance to successful innovation of engaging with business and wider civil society, so there grows a need to foster more pro-active and enterprising initiatives in university research and more flexible research partnerships. Here, there is a need to develop more varied academic career paths and more innovative approaches to education and teaching. All these areas require support from ‘science in society’ research, focussing both in the universities and on carefully targeted capacity-building outside the established research system.

One further potentially important issue that the Advisory Group is concerned may be insufficiently highlighted in the present Strategy, concerns the opportunities for simultaneously enhancing ‘social learning’, hedging uncertainties and avoiding premature ‘lock-in’ through the progressive diversification of research and innovation activities. All these benefits may be realised in common through the deliberate harnessing of existing aspects of European cultural and institutional variety and the judicious nurturing of further productive diversity. These kinds of possibility need validation and testing by carefully-targeted research of a kind that is again presently under-represented in the Strategy. Of course, such research activities should focus also on the countervailing potentially negative implications of diversity for efficiency, equity and accountability.

Although the primary focus of this – as other – ‘science in society’ research must necessarily be in (or on) Europe, the Group is concerned in general that horizons should be extended beyond the narrow European stage, to address where appropriate the global implications of these crucial issues. This is particularly true, for instance, of urgent policy agendas already discussed above concerning global poverty reduction and climate change mitigation.

**ACTION LINE 3: Science and Society Communicate**

As noted under the First Action Line (above), the Advisory Group is strongly in support of the European Commission’s stated priority of enhancing ‘two-way’ communication between science and society. However, the Group is surprised and concerned to find that the activities described under the Third Action Line (the one most explicitly focussing on communication) manifestly fail to deliver on this objective. Virtually all the initiatives envisaged in this area emphasise more effective one-way communication of science towards wider European publics. The role of the media in particular is approached rather paternalistically, as a means to correct perceived ‘deficits’ in public understanding. Communication in the other direction tends to be addressed only insofar as this facilitates a primarily ‘educational’ function. This mismatch between ‘two way rhetoric’ and ‘one way substance’ is a disappointing lost opportunity to ensure that the governance of European research really does listen to and understand society, as much as the other way around.

It is in this area, therefore, that the Advisory Group identifies the greatest potential for improvement in the current Strategy. In the Framework Programme as in all research, it is possible that innovation might proceed in a number of radically different directions. The prioritising of support for particular forms of science or technology over others may hold crucial implications for society or the environment. Against this background, ‘science in society’ research should include initiatives aimed at more rigorous understandings of public aspirations (and expectations) for science and technology. Rather than addressing public attitudes as being simply ‘for’ or ‘against’ pre-ordained directions of innovation – addressing only questions of “yes or no?” “how much?” or “how fast?” – genuinely ‘two way’ communication initiatives should instead explore more sophisticated questions over “what kind of innovation?” “according to whom?” and “why?”.

There is no shortage of potential instruments for supporting this complementary channel in genuinely ‘two way’ science communication. Rather than simply making the case for existing commitments, media initiatives could instead be aimed at catalysing debate over alternative directions and implications of research. Perhaps building on recent experience in ‘foresight’ and ‘science shop’ exercises, the internet could be used in innovative ways to foster public interaction in setting future research priorities and agendas. Prizes might be awarded not just for enhancing ‘public understanding’ of traditional modes of research (as at present), but also for success in the identification of missing opportunities or excellence in non-traditional forms of innovation.

It is important to be clear that these recommendations by the Advisory Group should not be taken to diminish the undoubted importance of supporting research directed at achieving enhanced public understanding of science. There is of course a significant need for more ambitious and innovative methods for the more effective communication of science itself. Among other benefits, this offers to help empower European citizens with more confident and sophisticated understandings of – and access to – the pressing scientific issues bearing on contemporary political choices. Where coverage of science tends to be sporadic, often over-simplified and unduly sensationalised, the role of the media is especially demanding of attention in this regard. Here there is a specific challenge to extend into other disciplinary areas (like physics and chemistry), the existing instances of ‘best practice’, such as those to be found in fields like natural history and environmental science.

None of this changes, however, the Advisory Group’s agreed central point of contention with regard to Action Line 3. This concerns the present serious imbalance between this ‘one way’ ‘educational’ function and the broader role of ‘two way’ communication activities in the governance of European research referred to by the Commission itself. It is on this issue, to conclude, that the Advisory Group identifies the greatest needs for further development of the present Strategy for implementing ‘science in society’ research in Europe.

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