

The European Research Area: New Perspectives

Introduction

1. The Royal Society of Edinburgh (RSE) welcomes the European Commission's invitation to debate about the future of the 'European Research Area' and is accordingly pleased to respond to the European Commission's Green Paper, *The European Research Area: New Perspectives*. This response has been compiled with the assistance of a number of expert Fellows of the RSE in the form of a small working party, under the direction of the Vice-President, Professor John Mavor.
2. The RSE approaches this issue in the belief that the European Research Area (ERA) should be conceived as emulating the EU's considerable success in establishing the Single Market. The key to success there was the removal of obstacles to fair and free competition, and the harmonisation of laws and competitive conditions among different states. In relation to research, the EU's approach should be that of seeking to remove or diminish obstacles to effective research. It should facilitate Europe-wide synergies by harmonising where necessary the conditions under which researchers work in different Member States and by removing obstacles to mobility of researchers and opening the doors to their free movement and to the free interchange of ideas and techniques. Without inhibiting the independence and creativity of researchers, research groups and networks, it should establish conditions favourable to avoiding needless and unfruitful duplication of research effort in different Member States.
3. The principle of subsidiarity is of great importance in this respect. There are tasks in the facilitation of research and the attainment of best value for public (or private) funds invested in research programmes that can be achieved only by action taken at all-EU level. These tasks must be entrusted to the Commission and the European Research Council (ERC), each operating within its appropriate domain.
4. It nevertheless will and should remain the case that the predominant bulk of public funding of the European research effort will be carried out through national and regional research support agencies. Thus in the task of ensuring desired degrees of mutual transparency and co-ordination across the boundaries of the Member States a key role will be played by EUROHORCS and the ESF as well as by the Commission and the ERC. In this regard, the ERA should be conceived as a kind of eco-system with regional, national and European components, in which each level contributes what is most appropriately done at that level.

5. It should never be forgotten that good research depends on the initiative of scientists and scholars with ideas and with adequate public or private financial support. Government at all relevant levels in Europe can facilitate but cannot command or direct successful research. (It can also stifle or inhibit good work by creating or by failing to abolish obstacles to it.)
6. The concept of the ERA was originally based on economic competitiveness of 'Europe' versus the rest of the world in the exploitation of scientific innovation. It envisaged a mobile research community based on 3% GDP, with 1% GDP flowing from public funds and 2% GDP from business and industry. From a UK perspective, it was recognised that the number of people likely to be involved in 'spending' a 3% GDP budget was in excess of those 'in training' during the delivery period of the ERA plan.
7. The RSE notes with some concern that the Green Paper appears to be largely silent on the issue of the share of research funding expected from business and industry. In the UK at least, and particularly in Scotland, public funding of research is relatively secure and buoyant. It is the business and industry share that is problematic. Also, in the Green Paper, 'research' appears to be primarily concerned with science and technology. However, the UK economy is driven by the service sector which also requires quality research.
8. There are some fundamental issues on which the Green Paper sets out from what appear to be arbitrary assumptions. These are not made explicit or opened for argument and discussion through deliberations on the Paper. Yet it is most important that assumptions be explained and tested, and that the evidentiary base for these assumptions is exposed and tested (or its inadequacy conceded). This criticism applies particularly to the support the Paper expresses for formally institutionalised European networks.

Realising a single labour market for researchers

9. The most appropriate and valuable contribution that the European Institutions (and the ERC) can make is as an enabler to the European research effort, which complements the distinctive roles which national and regional bodies play. In this regard, the RSE particularly supports the Green Paper's proposals for encouraging researcher mobility as well as the emphasis it places on very large infrastructural aspects of research. An important aspect that is often neglected is the fact that it is increasingly difficult to attract young people (early secondary school age) into science and technology. This has been a key theme in recent UK policy documents (Science and Innovation Investment Framework) and this is an issue in which the all-EU level could play a prominent and crucial role. The EU should not, however, attempt to micromanage European research effort.
10. Removing obstacles to easier movement of researchers throughout Europe would enhance the flexibility and dynamism of the European research effort by allowing the best talents to work with the strongest research groups. The facilitating of researcher mobility would also aid other motives in the

European agenda, such as the general Bologna process to harmonise higher education across Europe.

11. The RSE thus strongly supports the Green Paper's proposals that aim to facilitate researcher mobility across Europe. Further research is needed to establish what are the most serious obstacles and the best way to overcome them, but they may be presumed to include:
 - the employment policies of some states;
 - structures of academic employment that hinder open access to posts in universities and other research institutions, especially access to promoted posts;
 - Lack of pension portability (a very important factor for researchers); and
 - Lack of security and continuity of employment (but this must not be cured by means that lead to entrenchment of units or networks whose creative role is spent).

Developing world-class research infrastructures

12. European-level procurement of major research infrastructure, as advocated by the Green Paper, would be an enabler that could ensure the best research talents had continuing access to leading facilities. This applies to cases where the cost or degree of specialisation of a research base is such that it cannot reasonably be supported by a single state (particle physics and astronomy are traditional examples but the impact of technology now extends strongly into the biological sciences). This has obvious application to domains of big science that lie beyond the funding capabilities of even the largest states. At a somewhat lower point in the scale, there are levels of cost and of specialisation that may be manageable in the largest Member States but in respect of which other Member States would need collective means to establish or retain relevant research capability.

Strengthening research institutions

13. In the Green Paper there is an over-emphasis on specialisation in interdisciplinary areas. The best and most innovative interdisciplinary work always depends on the continuing sustenance of core competence in each or all of the disciplines that contribute to the collective effort. Sustaining this is a pre-requisite for the rapid assembly of bespoke interdisciplinary teams that possess the specialisation required to achieve competitive advantage in pioneering new research or its translation.
14. Networks also require to be promoted in a way sharply different from that which the Green Paper espouses. Networks should be fostered and encouraged as a response to specific research projects and need not continue beyond the completion of a project. They should not be formally institutionalised structures with a life that extends beyond the need or opportunity to which they were a response. Participants must be free to seek new opportunities in different frameworks of collaboration, otherwise originality and innovation will be stifled.

15. The ERC has the potential to be a major influence in strengthening fundamental research capacity in the universities, provided that the ERC is sufficiently well funded. It should be exclusively concerned with funding “bottom up” proposals, with excellence as the only criterion. It should allocate long term fellowships designed to attract the best research talents and as a means of developing a stream of researchers who will create the backbone of European research in the 21st century.

Problems concerning Intellectual Property

16. The RSE is well aware of the problems the Commission has faced in trying to harmonise approaches to Intellectual Property Rights (IPR) in the EU. The EU patent in particular is long overdue. Even with good will on all sides, EU research and development collaborations run into great difficulties over issues of IPR, and much effort is wasted. We strongly support the Commission’s continuing efforts in this area and believe this is an area on which the Member States must focus attention through the Council. The political obstacles to the achievement of this goal have proved formidable, but cannot be insurmountable. If the impasse is not resolved, research institutions and businesses will continue to pay too high a price in their efforts to make an impact on the market.

Sharing knowledge, optimising research programmes and priorities

17. Good co-ordination of research programmes and priorities among the Member States should be the norm, but is not an end in itself. Better coordination of research programmes and priorities is important but not if it is pursued in such a way as to be confined to the strait-jacket of centrally defined research initiatives. There must be room for innovation, diversity or serendipity. History has taught us that curiosity-led activity, often with unforeseen outcomes, give rise to the largest step-changes, most obviously because the benefits could not have been anticipated before the new knowledge was uncovered. Research needs the freedom to develop as it sees fit and to form alliances on a global basis.
18. The RSE supports European coordination and planning capability to identify, develop and support globally-significant research projects. The European Science Foundation model of facilitating cross-border cooperation and collaboration, which combines “top-down” and “bottom-up” approaches in the long-term development of science is a working method which could be adopted.
19. Above all, co-ordination depends on openness and transparency of information about ongoing and planned research programmes and activities. Networking and interaction among different researchers and teams in different countries can lead to beneficial pooling of knowledge and dissemination of new techniques among researchers working in cognate fields. The RSE has considerable experience of making research grants on a small scale to facilitate research collaboration between research teams in Scotland and those in other parts of the EU – and indeed beyond the EU. A comparatively small

expenditure proves sufficiently great to enhance interactivity among researchers in a way that helps to prevent wasteful reduplication of effort and to maximise the value added by different teams working in different places on similar problems.

Opening to the world: international cooperation in S&T

20. The RSE applauds the Green Paper's commitment to opening the ERA to the world and its commitment to addressing global challenges at a global level. With regard to this, we recognise the importance of multilateral cooperation and interaction at the international level.
21. However, we reiterate the belief that the ERA should be conceived as an ecosystem with regional, national and European components, with each level contributing what is most appropriately done at that level. The most appropriate and valuable contribution that the European level can make is as an enabler of research effort and output.

Additional Information and References

22. In responding to this consultation the Society would like to draw attention to the following Royal Society of Edinburgh responses which are of relevance to this subject: The Royal Society of Edinburgh response to The Office of Science and Technology consultation on 7th EU R&D Framework Programme (2004).
23. Copies of this response and of the above publications are available from the RSE's Consultations Officer, Mr. William Hardie (email: evidenceadvice@royalsoced.org.uk) and from the RSE web site (www.royalsoced.org.uk).

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