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From the Physical Secretary and Vice-President, Professor John Pethica FRS

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Dear Mr Smith

Thank you for the invitation to contribute to the Triennial Review of the Research Councils. In preparing this response, the Society has consulted across its Fellowship. This letter offers a summary overview of observations on the current structure, governance and activities of the Research Councils.

The UK research ecosystem

The Research Councils are at the heart of the UK's research ecosystem.¹ This system brings together public, private, philanthropic and other sources of funding and support to underpin UK research. It has delivered significant benefits for the UK, both in terms of academic excellence (the UK delivers more high quality research per pound spent than any of its competitors globally), and in translating this research into innovative goods and services. The system is demonstrably successful and globally highly competitive.

In accordance with their Royal Charters, all of the Research Councils 'promote and support, by any means, high quality basic, strategic and applied research and related postgraduate training' in their specific disciplines. Under the terms of the 'Haldane Principle', Government distances itself from the direct allocation of research funding, on the basis that decisions on individual research proposals are best taken by researchers themselves through peer review. As the Minister for Universities and Science, David Willetts, said recently 'Ministers should not decide which individual projects should be funded nor which researchers should receive the money. This has been crucial to the international success of British science.'² The independence of the Research Councils from Government, and from its various agencies, is a key characteristic, which must not be eroded if world-beating research is to continue to be produced. The non-departmental public body status of the Research Councils is appropriate.

¹ See Figure 1.9 in The Royal Society's report, *The Scientific Century* (2010) for an overview of flows of funding in UK science.

http://royalsociety.org/uploadedFiles/Royal_Society_Content/policy/publications/2010/4294970126.pdf

² <http://www.publications.parliament.uk/pa/cm201011/cmhansrd/cm101220/wmstext/101220m0001.htm>



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The UK's strength in research comes principally from its competitive excellence, but also from its breadth and depth. The 2011 Elsevier report for BIS on the international comparative performance of the UK research base³ shows that the UK performs better than the world average in field-weighted citations across all fields of research activity. The seven Research Councils underpin this breadth of UK excellence, and ensure dedicated funding streams for research across the whole of the UK's research portfolio.

The Research Councils are an essential component of the dual-support system for Universities. This allows a balance between strategically planned research areas in Universities and funding of research projects initiated by individuals. There is always a tension between these 'top-down' and 'bottom-up' approaches to research, and the Research Councils generally do a good job of balancing the approaches. The proportions should, however, be kept under review to ensure sufficient resource for investigator-driven research is maintained.

Working together

Since the 2001 Quinquennial Review of the Research Councils, the seven Councils have been working together, with collective engagement on international issues and in sharing services. This has been done both through individual Council partnerships, but most visibly through 'Research Councils UK', which has provided a platform for sharing intelligence and taking joint actions.

Research in multi- and interdisciplinary spaces are increasingly important and in need of better support, which requires better cross-Council mechanisms. The Councils continue to improve their capacity to work together (through, amongst other instruments, 'cross-Council themes', 'sandpits' and 'discipline-hopping awards') to fund those broad areas which might otherwise fall into the disciplinary cracks between Councils. This is obviously important for Mathematics, which underpins all the scientific disciplines. Ensuring that the Councils can collectively and individually support research wherever it might emerge in an ever-changing research landscape is something that requires constant monitoring and strong and flexible actions by each of the Councils, and their working in collaboration.

The interplay between different Councils can also be advantageous, allowing comparison of strategies, ideas and effectiveness, and giving some competition.

There is no evidence that restructuring the existing configuration of Councils, into fewer bodies for example, would be more effective than the existing structure; it would be disruptive and detrimental.

Scientific governance

It is to be expected that seven independent organisations, despite shared services and joint initiatives, each have different governance and operational structures that address their own constituencies, disciplines and infrastructural requirements. This is appropriate. However, general principles, such as peer review and obtaining well-informed strategic advice are common to all the Councils. There is a need for the Councils to share best practice, and there are some areas where analysis of the differences in practice between Councils will be useful:

- **The use of experts:** The Councils should be more consistent in their approach to the scientific governance of their portfolios. This does cause concern amongst research communities. Some Councils retain standing

³ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/32489/11-p123-international-comparative-performance-uk-research-base-2011.pdf

expert panels to guide scientific direction and priorities for individual subject areas, whereas others have more ad hoc arrangements to identify and use expertise. This latter approach can mean that strategy and decisions are not consistently underpinned or validated by the best available scientific understanding of the matters at hand. Scientific decisions should not be made without the best expert advice. ***The Royal Society urges the Research Councils to ensure that they are all making the most of the UK's high quality research base and experience at all stages of their decision-making processes.***

- **Communication and engagement:** Recent examples of public disagreement between sections of the research community and some of the Research Councils have highlighted weaknesses in lines of communication between the Councils (and in particular the Executive) and their communities. ***The emphasis for the Councils should be on bi-directional engagement with their communities, rather than communicating decisions already made.*** It is inevitable that not all in a research community will agree with every decision or strategic move. However, it is essential that decisions are transparent, that lines of responsibility for making decisions are clear *and* use the best available expertise, and that Councillors have full control of the actions of their Council.

One way of facilitating this sharing of best practice might be to supplement the existing collaboration at Executive level, as in RCUK, with a forum in which the Chairs and representatives of the seven Councils could meet, along with other senior stakeholder representatives from the research communities. Such a high level advisory grouping would also enhance the inter-Council co-ordination developed since the 2001 Quinquennial review, and would also support the DGRC in strengthening the research capacity of the UK. The Royal Society would be happy to discuss with the Research Councils how such a forum might be best convened.

The Research Councils do an essential job in supporting the UK's researchers and research infrastructure. The system is one of the best in the world, and should not be disrupted. There are opportunities to improve the functioning of the Councils, and to better use and maximise the potential of the UK's demonstrably excellent and world-leading research base.

If the review team would like to discuss these or other matters relating to the Research Councils with the Royal Society, please contact Laura Dawson in the Science Policy Centre (laura.dawson@royalsociety.org). We would be very happy to meet with the review team.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'John Pethica', with a long horizontal flourish extending to the right.

John Pethica FRS