

DINNER/DISCUSSION SUMMARY

“Crossing discipline boundaries – integration of the UK science, arts and humanities base”

Held at the Royal Society, 6 Carlton House Terrace, London SW1Y 5AG
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In the Chair: **The Rt Hon the Lord Jenkin of Roding**
Chairman, The Foundation for Science and Technology

Speakers: **Dr John Taylor OBE FRS FREng**
Director General of the Research Councils, Office of Science and Technology, DTI
Sir Brian Follett FRS
Department of Zoology, University of Oxford
Sir Christopher Frayling
Rector, Royal College of Art

DR JOHN TAYLOR introduced the subject – the relations between science, engineering and technology and the arts and humanities – with a summary of the background. A strong science base already existed in the UK which would benefit from major investments in the next few years. What was needed was greater interaction between science and the humanities and more commonality in the research undertaken in the two disciplines. Following Sir Ronald Dearing's recommendation in 1999 that an Arts and Humanities Research Council should be set up to promote a UK wide input into such research, The Arts and Humanities Research Board (AHRB) was created as a Company Limited by Guarantee. Subsequently the Council for Science and Technology recommended that the Board should become a full Council to which research projects might be submitted regardless of discipline. In September 2001 Margaret Hodge, launching a review, acknowledged the importance of research in the arts and humanities and the scope for cross-disciplinary projects. Finally the publication of the latest report of the Quinquennial Review of the Research Councils included a recommendation to the same effect.

Dr Taylor turned next to the nature of research into the arts and humanities. It entailed an examination of synergies and interfaces. The work of the Economic and Social Research Council was closer to the humanities than to arts research. Dearing had made a helpful contribution by distinguishing between research into the arts, research through the arts and research for the arts. Action research financed by the industrial development fund was an example of the second of these, and research concerned with painting, drawing and composing, of the third. Dr Taylor referred to a definition of research as an artefact in which thinking is involved in the output. He added that, for the disciplines to work together, it was important to understand the differences between them. It was also important to judge what projects were worth funding and where funding might be saved. Dearing had recommended the setting up of the Industrial Technology Fund. The arts and humanities were looking for Research Council technologies – infrastructure, peer review and the machinery of grant applications.

Reviewing the scale of collaboration already undertaken Dr Taylor referred to a joint invitation on the part of EHRC and AHRB for proposals on creative designing for the 21st century. Knowledge programmes were becoming relevant to arts and humanities. OST was fostering the creation of a debate for the new millennium and Dr Taylor instanced the field of drama. At the Cheltenham Science Festival two performances – “Hey Mr DJ” and “Science can be murder” reflected this. The recent Quinquennial Review report had noted much innovative work of the boundaries both within and across disciplines. A strategy group – The new RCUK – was needed with the following roles: first, to provide a voice for all the Research Councils in the dialogue with stakeholders; second, to

develop a strategic road-map for funding; and third, to drive forward a programme for integration between the work of the Research Councils. Dr Taylor welcomed the proposal to convert the AHRB to a Research Council, provided it was done for the right reasons.

Summing up, Dr Taylor concluded that the priorities were to achieve excellence, in both people and projects, to develop the vital element of peer review, in which there was still scope for much improvement, to prevent boundaries interfering with development, whether those of institutions or disciplines, and to make the best use of public money. The three outcomes which needed to be achieved were new knowledge, trained people and the fostering of knowledge transfer. There were already signs of these, but the scale needed to be increased; pull from potential uses in industry and elsewhere was needed in addition to push from the researchers themselves. A reorganisation of science and industry was needed to maximise that pull.

SIR BRIAN FOLLETT opened by emphasising that academic researchers needed funding for time and research resources. Both of these elements flowed from external resources, mostly from the taxpayer. Starting from a disappointing position in the 1980s, the aim over the last sixteen years had been to allocate funds on merit. The result had been to produce “well-professionalised” university research. Sir Brian displayed a table based on the relative positions of 100 universities from the last Research Assessment Exercise which showed that over the period reviewed, two-thirds of the top 40 had barely changed their position, the top six and eight out of the top ten being entirely unchanged. In the 20-30 group, six had remained. Overall, one third had moved up or down, but sometimes only for one year. The picture was one of stability with only relatively limited movement. Turning to the financial position, of the funding of the top ten universities, one-half was devoted to research. In the next 20, the figure was one quarter. The figure progressively diminished in the remaining 70, all of which were teaching-led.

The position for arts and humanities research had now improved. The UK had closed the loop. All subjects were now benefiting from outside funding, and the AHRB would be providing £60m of funding from April. Sir Brian expressed thanks to the individuals, institutions and Ministers who had contributed to achieving this outcome. The experience of the AHRB reflected that in other Research Councils. Project applications were fiercely competitive, and grants were calculated to buy research time for academics. There was a 50% success rate of applications. The nature of the system tended to inhibit inter-disciplinary projects. Of 60 projects, 54 were in single subjects, leaving only half a dozen spread across multi- or inter-disciplinary studies. Sir Brian attributed the absence of cross-disciplinary applications to the preference of undergraduates for single-subject degrees which had resulted in much rigidity,

notwithstanding the growth in sixth forms of multi-disciplinary courses straddling both science and the arts. For example, there was an absence of any existing machinery to bring together studies of neuro-science and the mind, ideal for a multi-disciplinary approach. But psychology was within the jurisdiction of the Social Sciences and physiology of Medicine. One promising development was the challenging new Psychology, Philosophy and Physiology (PPP) course introduced in Oxford University. An imaginative instance of what might be possible was the "Centre of Cognitive Studies" introduced into David Lodge's latest novel, "Thinks". Overall, however, despite the attempts of the AHRB to stimulate inter-disciplinary linkages, it had not so far proved possible to provide sufficient breadth. New development and new structures were needed. As only one instance, Warwick had created no new department over the past twenty years. Reviewing the balance-sheet of achievement, the UK had done well in fostering competition between universities and in their partnership with government, in the universities' openness to the world and in curiosity-driven research. It had done much less well in creating structures of inter-disciplinary study. The only examples of these were business schools, geography and food sciences departments, and the Departments of Environmental Sciences at UEA and Southampton.

SIR CHRISTOPHER FRAYLING started with an anecdote illustrating the lack of success at the Royal College of Art of a course of four lectures on aesthetics given by an Oxford philosopher. He emphasised the most promising field for research was design rather than art. A recent report "Imagination and Understanding" [Council for Science and Technology, 2001, www.cst.gov.uk/cst/imagination.htm] had emphasised the growing importance of research for economic change.

The relations between science, technology and design were at the heart of economic growth. He quoted the creation of a Media-lab at MIT. The existing institutional separation of funding, however, was likely to discourage cross-fertilisation and limit the access of art and design research to industrial funding. The close relations of engineering to such funding should be matched in such fields of art and design as graphic design, music, dance and the performing arts. For this there were strong grounds for putting arts and design research together with the other Research Councils. Sir Christopher characterised engineers as interested in principles and designers in prototypes, affording scope for interdisciplinary approaches. He instanced a project of the RCA entitled "Design Age", studying design for older people. There was a great scope for work aimed at helping the problems of gerontology and ageing. Sir Christopher argued that the phrase "creative industries" was misleading. There was a need to encourage creativity across the whole spectrum. A 1999 mapping document had identified visual art, design, fashion, music, museums and galleries, publishing and heritage as fruitful fields for collaboration. A key argument in the document was that the work of individuals is not cheap and it represents an important element in wealth creation. It was important to blend the two economies. Indicators of welcome trends were that design and technology was the fourth most popular subject in GCSE, the truancy rate in that subject was the lowest and 93% of boys and 24% of girls said they wanted to design computer games. These developments were opening new prospects, putting aside the older prejudices in the creative field against Higher Education. Higher Education can now broker relationships with big industry. The old university attitude of design being critical of industry was giving way to a new attitude of design stimulating industry.

The universities could be a bridge between the new and the old. The disciplines of art and design were volatile – in periods of economic recession there was a movement to teach. But they were also flexible and practitioners were at home with the digital universe and in tune with future market trends. They were also five times more likely to be self-employed.

Sir Christopher referred to the conclusions of a recent report, "Higher Education – business interaction survey" [Centre for Urban and Regional Development Studies, December, 2001, www.hefce.ac.uk/pubs/hefce/2001/01_68.htm]. The implications for government were that a very varied approach was needed. Some practitioners were limited to a small number of big businesses. There was currently an over-emphasis on technology transfer and big multi-nationals. There was a need for more data, both quantitative and qualitative. There was a need for research into the field of intellectual property. The location of an AHRC alongside the other Research Councils would serve to ensure that shared expertise can spread across all disciplines. This would lead to old and new universities recognising the importance of understanding

business, and to placing arts and design in an important position in relation to future economic growth.

In the discussion which followed attention was drawn to ambiguities in the meaning of terms, some of which, such as "science" and "arts", were central to the issues in question. The adoption of over-specific definitions of these could be just as damaging to the formulation of research policies as excessively rigid institutional and disciplinary boundaries. The reality of this risk was recognised, the answer to which would be the adoption of an essentially pragmatic approach, proceeding step by step. An example was given in the problem of distinguishing between research of, and research into, creativity.

A theme related to the possible skewing of policies resulting from ambiguous definitions was the risk that over-emphasis of inter-disciplinary approaches might be at the expense of traditional fields such as history and literature. Biology was quoted as another discipline suffering similarly. There might be a danger of producing a research culture in which Research Councils were run by academics for academics, creativity was stifled and disciplines such as translators and developers fell behind. These anxieties were acknowledged but it was pointed out that 70% of AHRB funding went to traditional humanities research. It was a mistake to think of such research as qualitatively different. A distinction needed to be made between the need to encourage research into fields of creativity and the need for greater inter-disciplinary effort. Efforts in this latter direction fell seriously short.

Attention was drawn to the fact that there were other sources of funding for cross-boundary research than Research Councils. The "SciArt" programme of The Wellcome Trust had been funding some ten projects a year in inter-disciplinary fields for the last three or four years. The programme in its existing form would come to an end shortly, but the matter was under review to establish how it might be replaced. The Wellcome Trust was instanced as an example of interdisciplinary activity founded as it was on a historical medical collection.

One theme of the discussion echoed the two cultures debate. It was contended that the problem of an arts dominated culture needed to be addressed at a much earlier level than the Research Councils; as far back as primary education. The 1851 exhibition and what immediately followed it had been a notable interdisciplinary exercise but the impetus had been lost and replaced by rigid compartmentalism, not least in the universities. A side effect had been the growing unpopularity of science, fostered by the media. Universities were guilty of erecting disciplinary boundaries. In fostering research it was important to ignore boundaries. The question was raised what machinery was needed to further an inter-disciplinary approach. It was felt that the answer lay in the universities. The pressure had to come from below, associated with economic pressures and curiosity driven research.

For the future, the matter had to be considered administratively, financially and professionally. Administratively the question was where the AHRB should be located in Whitehall. There had originally been doubt about putting it in the Office of Science and Technology but a recent survey had shown overwhelming support. All that remained was to achieve Research Council status. Financially, funding was available. The question was how it could be better spent by maximising linkages. Professionally the need was to overcome the resistance to change in universities and forge closer relations between departments, and to achieve a recognition that research should be wealth producing. Steps in these directions had already been taken. Examples given were of the appointment of a psychologist at the Royal College of Music and a physicist as Pro-Rector of the Royal College of Art. Links between engineering and design were close but should be improved. There was a consensus that the conversion of the AHRB into a Research Council would be a further important development.

Sir Geoffrey de Deney KCVO

The discussion was held under the Foundation's Rule that the speakers may be named but those who contribute in the discussion are not. None of the opinions stated are those of the Foundation which maintains a strictly neutral position.