

Mr Rickatt:

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Over to you

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Prime Minister:

To be aware of
the timing.

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24/6.

MF

MR. FLESHER

House of Lords Select Committee on Science and Technology

Thank you for your minute of 21st June about the response to the Select Committee's report. In the light of the Prime Minister's comments, the text of the Government's response to the Select Committee's report has now been revised. I attach a copy as it has been sent to the printer. We have consulted House of Lords officials about laying the White Paper. They have confirmed that it would be appropriate for it to be laid before Parliament by the Prime Minister: the Lord Privy Seal is content with this. Management and Personnel Office officials will be in touch with the Parliamentary Unit and the Press Office in No. 10 about the necessary arrangements. On present form, it is intended that the White Paper should be laid on Tuesday, 6th July.

2. I am sending copies of this minute and its attachment to the Private Secretaries to all the members of the Cabinet.



D.J. Wright

24th June 1982

COMMAND PAPER

GOVERNMENT RESPONSE TO THE REPORT BY THE SELECT COMMITTEE OF THE HOUSE OF LORDS ON SCIENCE AND TECHNOLOGY ENTITLED "SCIENCE AND GOVERNMENT"

The Government are grateful to the House of Lords Select Committee on Science and Technology for their valuable and stimulating review of the arrangements for scientific advice to government. In general, the Government fully accept the main thrust of the Select Committee's report; that the Government has a responsibility to secure an adequate scientific and technological input to policy-making. The Government concur with the Committee's outline of departments' need for advice (paragraph IV.2) and their view that what is needed is a strengthening of the centre rather than wholesale reorganisation (IV.6). As the Committee say, the machinery by which advice is to be tendered is less important than the ability, will and perseverance to seek and use such advice.

2. This response, like the Committee's report, covers the fields of science and research, and their relation to technology: but it does not cover the wider aspects of the Government's approach to technology.

3. Excellence in the development and exploitation of science and its applications is essential if the economic prosperity of the country is to be advanced in the coming decades, and if companies based on science and technology are to play their part in providing new employment opportunities. These objectives, which the Government regard as being of high priority, demand effective management of the limited resources (of both skills and cash) available, and mechanisms for ensuring that Government policies take full account of scientific opportunities and implications. The measures described in this paper are designed to aid their implementation.

Departmental Responsibility

4. The Select Committee believe that the integration of science and technology into policy departments is beneficial, and consider that there should not be a separate executive department responsible for all aspects of science and technology. The Government agree; it would be wrong to weaken the present responsibility of each Minister for securing the scientific advice he needs and for ensuring that his department commissions a suitable research programme. The changes set out below build upon this responsibility and on the customer - contractor principle for applied research*.

Chief Scientist, Central Policy Review Staff

5. The Committee recommend that a Government Chief Scientist should be appointed at Second Permanent Secretary level (IV.12). The Government accept the need for a senior scientist at the centre to fulfil the general role set out in paragraph IV.13 of the Select Committee's report. The post of Chief Scientist, Central Policy Review Staff was given an extended remit (the current job description is at Annex A) and was upgraded to Deputy Secretary when the present incumbent was appointed, not long before the Committee reported; its holder has, as the Committee recommended (IV.14) he should have, the right of direct access to the Prime Minister.

* as described in the Rothschild Report, Cmnd 4814, 1971, accepted by the Government in Cmnd 5046, 1972, and reviewed in Cmnd 7499, 1979.

6. The Government will await experience of the new arrangements before drawing a conclusion as to any further changes in the grading or title of the post. Meanwhile the Government accept the Committee's conclusions (IV.14) that the Chief Scientist, Central Policy Review Staff, will require a small unit to support him, and this will be established. The costs are within the totals given in paragraph 26.

Central Advisory Machinery on Applied Research

7. The Select Committee recommend (IV.15-IV.22) the establishment of a Council on Science and Technology (CST), with a remit that would cover the whole of scientific and technological endeavour and its implications for the policies and strategies of Departments and Government as a whole. However, the Committee consider that the Advisory Board for the Research Councils (ABRC) should be retained. The Government accept the need for high-level independent advice and for the retention of the ABRC, but consider that the improvement in the central advisory machinery should mainly be achieved by encouraging the Advisory Council for Applied Research and Development (ACARD) and ABRC to broaden their fields of study so that there is no gap in the coverage of the research spectrum.

Advisory Council for Applied Research and Technology (ACARD)

8. ACARD has recommended, in the light of the Select Committee's Report, that its own terms of reference should be revised and extended. They should enable it to cover the fields of applied research, design and development and the application of research and technology, together with the coordination of these activities with basic research. The Government accept ACARD's proposal, which goes a long way to meeting the Select Committee's recommendations, and have given it the following new terms of reference:-

"To advise the Government and publish reports as necessary on:-

- applied research, design and development in the United Kingdom;
- the application of research and technology, developed in the United Kingdom and elsewhere, for the benefit of both the public and private sectors in accordance with national economic needs;
- the coordination, in collaboration with the Advisory Board for Research Councils, of these activities, with research supported through the Department of Education and Science;
- the role of the United Kingdom in international collaboration in the fields of applied research, design and development related to technology".

Advisory Board for the Research Councils (ABRC)

9. The Government agree with the Committee (IV.23) that there should be no change in the ABRC's present role in the management of the Research Councils and in advice to the Department of Education and Science on that part of civil science supported by the Science Budget. The Government take note of the other points made by the Committee about ABRC (IV.23-24). In future, a member of the Secretariat of ABRC will be contributed by the Cabinet Office Unit which services ACARD, and a DES official will join the

ACARD secretariat. Joint secretariats of this sort should help to ensure coordination between basic and applied science, and between the two advisory bodies, without disturbing the present distribution of responsibilities.

An Annual Report for Science

10. The Committee proposed that their Council for Science and Technology would submit an annual "state of the nation" report (IV.16). The Government agree that such a periodic report would be valuable (though not necessarily as frequently as once a year) and will ask the Chairmen of ACARD and ABRC to present joint reports to the Government. These would, as the Committee recommend, review scientific opportunities and their implications, on a selective basis, as well as reporting on the Annual Review of Research described below. They will not necessarily be confined to activity in the public sector.

Departmental Chief Scientists

11. The Government accept the views of the Committee that Departmental Chief Scientists should have a wide-ranging role in Departmental policy making, and should not be too involved in detailed research management, (IV.26). They consider however that Departments are in fact making satisfactory provision for scientific advice, though arrangements will continue to evolve to meet changing needs. The Government do not accept the Committee's suggestion (IV.25) that the power and influence of Departmental Chief Scientists have declined, nor that all these posts have to be graded at Deputy Secretary level or above. The grading used must reflect the responsibilities allocated to the post and the needs of the Department. A Departmental Chief Scientist may be afforded the necessary access to top management and Ministers even though serving in a grade lower than that of Deputy Secretary. The Government's views on the particular arrangements noted by the Committee are set out below.

HM Treasury

12. The Select Committee noted (IV.36) the Treasury's need for access to expertise on science and technology in its scrutiny of departmental Estimates. The Government doubt whether a single Chief Scientist could advise over the whole range of spending programmes; in any case, decisions on priorities within PES blocks are largely for Departmental Ministers. However, the Chief Scientist, Central Policy Review Staff, will be available to advise the Treasury when required. Paragraphs 19-21 describe a procedure for Annual Reviews of Research which should meet the need to address the important questions with which the Select Committee thought a Chief Scientist in the Treasury would be concerned.

Department of Education and Science

13. The Committee suggested (IV.23) that the Chairman of ABRC should be invited to perform some of the functions of a Chief Scientist for DES. However, there are existing arrangements for the provision of advice on science teaching at all levels, by HM Inspectorate of Schools in relation to schools and maintained and voluntary further and higher education and by the University Grants Committee in respect of the Universities. The DES commissions only a limited amount of educational research. The arrangement proposed by the Committee would detract from the independence of the Chairman of ABRC.

The Scottish Office

14. The Government have, as recommended by the Committee (IV.29), considered the Royal Society of Edinburgh's proposal for a Chief Scientist in the Scottish Office and conclude that the aims of this recommendation can be better achieved by other means. It is impracticable to require a single Scientist to deal authoritatively with the whole range of scientific advice which is needed by the five separate Departments within the Scottish Office and to maintain the necessary close contacts with the policy makers in all the diverse areas of work to be covered; it would be difficult, if not impossible to recruit an appropriate person for such a job. There is, of course, a Chief Scientist in the Home and Health Department. However, Scottish Departments will require scientific advice beyond that available in-house. Experience has shown that expert advice is readily available from appropriate committees. In such a way, better and more selective use of expertise may be made than could be achieved from formal links to corporate bodies or societies. Nevertheless, there is no reason why bodies such as the Royal Society of Edinburgh cannot, on their own initiative, identify appropriate departmental interests and approach the Scottish Office directly.

Ministry of Agriculture Fisheries and Food

15. The changes in the arrangements for scientific advice in MAFF to which the Committee refer (IV.29) have been in effect for slightly less than a year. Already, however, it is evident that they are working well. The two Chief Scientists, in close cooperation with their Deputy Secretaries and their scientific staff, have improved the coordination of the Ministry's research programmes with its policy interests and have contributed to the increasingly close relationship of the Ministry with the Agricultural Research Council. The new arrangements allow scientific advice to be much more closely integrated into the process of decision making. The Government conclude that these arrangements should be allowed to stand.

R&D Funding: Mechanisms and Principles

16. The Committee are concerned that there is too rigid a distinction between basic and applied research, and that certain areas of research are being neglected. The Government note this concern and will ask ACARD and ABRC to review the links between basic and applied research and, in particular, to look at the arrangements for long-term but directed research - often known as "general research"* or, as termed in paragraph IV.30 of the Committee's report, "strategic research".

Inter-Departmental Coordination

17. The Committee consider that more constructive use of the general machinery for interdepartmental coordination is required (IV 34-35), and that there is a place for a forum at a level below that of the current Committee of Permanent Secretaries and Chief Scientists. The Government accept this proposal and are establishing a Committee of Departmental Chief Scientists, chaired by the Chief Scientist, Central Policy Review Staff. This group will be concerned with the overall framework of science within government, and particularly with coordination of research programmes; arrangements will be made for DES and the Research Councils to be represented.

* The Rothschild Report, Cmnd 4814, 1971

External Communication

23. The Select Committee were concerned (IV.48) at evidence which described as inadequate the current channels of communication between Government and the scientific and technological community. They recommend a review of relationships with outside bodies. The Government **accept** the importance of keeping these channels of communication open and effective. Indeed, the Government is probably more reliant on external advice in relation to science and technology than in relation to almost any other area. The Government **do not consider** that new formal machinery to articulate the formation of this advice is required, but will always consider carefully advice from scientific societies and engineering institutions as to issues which require further study. It is the Government's general policy to keep the structure of advisory bodies under regular review and to wind them up once their useful lifetime has expired. Such reviews will not overlook the wider benefit, in terms of understanding of Government, that membership of such bodies can bring.

24. The Committee also express concern (IV.50) - repeated in the subsequent debate in the House of Lords - over the lack of feedback to those who have given advice. The Government **agree** that members of advisory committees and similar bodies should always receive some indication of the outcome of their advice, particularly if it cannot be accepted.

25. The Committee also comment (IV.51-53) on the need to improve relations with the engineering profession, especially in the light of the establishment of the new Engineering Council (on which the Committee will no doubt have more to say in its further report on Engineering Research and Development); and on the need to improve the machinery for receipt and dissemination of scientific information from abroad. The Government **note** these points; international links will be a particular concern of the Chief Scientist, Central Policy Review Staff, in his strengthened role.

Costs

26. As the Committee say (IV.55), there will be some cost in establishing these improved arrangements for central coordination of science and technology. The Government estimate that around 6 new senior posts are required, which will cost about £1/4 million. These new posts will in the main be concerned with support to the Chief Scientist, Central Policy Review Staff, in the improved review and coordination roles described in this Paper, and in servicing ACARD and ABRC. The Government believe that the benefits of improved decision-making will more than justify this cost, which will be contained within the overall resources available for science & technology in Government.

A Central Minister for Science

27. The Committee **recommend** (IV.11) that a Cabinet Minister should be designated to speak for Science and Technology, in addition to other responsibilities. But, as they note (II.13), the Prime Minister has herself said, in a Written Answer (HC Deb. 29 Oct 1979 cc411-12) "Issues may arise which straddle the responsibility of several Ministers to such an extent that it would not be sensible to ask one of them to take the lead. In such a case I would myself play a coordinating role. I would also, where this was appropriate, answer questions in the House on broad scientific and technological issues involving several Departments".

18. The Committee recommended (IV.37-38) enhanced coordination between civil and defence research programmes, and further efforts to ensure that inventions developed by defence research are exploited for the benefit of the economy. The Government accept the need for improved coordination and to achieve this, the Chief Scientist, Central Policy Review Staff, and the Chief Engineer and Scientist, Department of Industry, will join the Defence Scientific Advisory Council as the Committee recommends (IV.38), and also the Defence Research and Intramural Resources Committee. At a lower level, Department of Industry and other civil departments are invited to join in the MOD's reviews of the programmes of their research establishments. Ministry of Defence officials are already involved with the appropriate Department of Industry Research Requirements Boards and will continue to be drawn into other departments' research-commissioning arrangements.

Annual Reviews of Research

19. A central theme of the Select Committee's recommendations (see, for instance, paragraph IV.36) was the need for more effective review of the broad deployment of effort in science and technology. In a financial context, the problem is a familiar one: how to take a horizontal look at particular types of public expenditure when the main control processes operate vertically by slicing expenditure into individual departmental programmes. At present, there is no overall review of Government R&D plans in the Public Expenditure Survey (PES) cycle. This is a significant contrast to typical private sector practice where research plans produced by operating divisions and by the R&D department are reviewed independently at Board level.

20. The Government have therefore decided to introduce a system of Annual Reviews of Research. Departments will submit a summary of their research programmes and budgets, to be reviewed inter-departmentally, with independent advice from ACARD, during the early months of the year; this timetable would allow Departments to revise their plans during the next PES cycle in the light of the results of the Review.

21. The analysis required will not be a facile choice of areas where more money should be spent. In the Government's view, overall UK expenditure on research and development as a percentage of GDP is sufficient. Skilful value judgements as to allocation of financial and manpower resources are, however, needed. This will involve distinguishing between vital and dormant areas, identifying gaps, disparities and duplications, and considering the opportunity cost of relinquishing certain areas of research. The emphasis will be on review of long-term plans.

Civil Service Issues

22. The Select Committee emphasise, in paragraph IV.39-IV.42, the need for changes in attitudes to science and technology in the Civil Service and more generally. They endorse the technological generalist scheme described in the Report of the Holdgate Committee* and call for a greater flow of scientists and others in and out of the Civil Service. The Government note the general points made and will follow them up in implementing the Holdgate recommendations which are being carried forward by departments in collaboration with the Management and Personnel Office (MPO)‡. The MPO will monitor progress on the technological generalist scheme and other recommendations against objectives agreed with departments, and will report to Ministers. Continuing efforts will be made to ensure that secondment and interchange arrangements succeed, and that staff are clear that such wider experience will be of real benefit to their careers.

* Review of the Scientific Civil Service (1980) Cmnd 8032,

‡ The Government Response to Cmnd 8032, CSD 1981.

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The Government believe that the stronger machinery at official level outlined above, together with this role of the Prime Minister, means that scientific or technological issues are unlikely to be lost or forgotten. They do not believe that there is - within the British system of Cabinet Government - at present an identifiable and viable role for a coordinating Minister, and accordingly, do not agree with the Committee's recommendation.

28. The Government are confident that the revised arrangements set out in this response will lead to more effective articulation of the UK's very considerable efforts in science and research, at all levels from basic research to product development, with other activities of government. They are in no doubt of the importance of science and technology in assuring the well-being of the people of the United Kingdom.

27 April 1982

THE REMIT OF THE CHIEF SCIENTIST, CENTRAL POLICY REVIEW STAFF

The Chief Scientist provides scientific and engineering advice for the CPRS and the Cabinet Office generally. He sits on the principal Committees which deal with the scientific and technological issues that come before Government except for those which are solely the concern of a single department. He is the Government's scientific representative on many international occasions.

A.2 **Cabinet Office.** The Prime Minister and the Secretary of the Cabinet looks to the Chief Scientist, Central Policy Review Staff, to provide, or organise the provision of, advice on scientific and technological matters, or scientific and technological aspects of other issues, which come to the Cabinet Office.

A.3 **CPRS.** The Chief Scientist, Central Policy Review Staff, is a member of CPRS and is responsible for providing scientific and technological input to CPRS studies. However, he is not constrained by title and has the opportunity to contribute to issues which are not overtly scientific or technological.

A.4 **Government Committees.** The Chief Scientist, Central Policy Review Staff, is ex officio a member/assessor of the Advisory Council for Applied Research and Development (ACARD), the Advisory Board for the Research Councils (ABRC), and is also a member of the Committee of Chief Scientists and Permanent Secretaries. The Chief Scientist is the prime link between ACARD and the Government and plays a central role in planning ACARD's work.

A.5 **International Affairs.** The Chief Scientist, Central Policy Review Staff, has a general responsibility for coordination of international scientific and technological relationships, covering in particular:

- a. The UK's bilateral scientific and technological agreements with other countries.
- b. The European Community R&D Budget. The Chief Scientist is UK membre titulaire on CREST (the Committee that advises both the Council of Ministers and the Commission).
- c. The Chief Scientist is often asked to attend (or accompany Ministers attending) general fora on scientific and technological topics organised by bodies such as the OECD, UNESCO, etc.
- d. The research plans and budgets of other international organisations.

Finance
Committee Hansard

last Thursday.
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