

For information at this stage.

Ref. A07102

PRIME MINISTER

Select Committee on Science and Technology: Report on Science and Government

The House of Lords Select Committee on Science and Technology published its report on Science and Government on 9 December 1981.

2. The principal recommendations of the report can be divided into three categories:

(a) Central

- (i) A Cabinet Minister should be designated to speak for science and technology.
- (ii) The post of Chief Scientist, CPRS should be developed into a post of Government Chief Scientist, to operate in concert with the Head of the CPRS and the Secretary of the Cabinet.
- (iii) ACARD should be developed into a Council for Science and Technology (CST) with a part-time independent Chairman.
- (iv) The CST and Government Chief Scientist should co-ordinate Departmental activity more effectively.

(b) Departmental

- (i) The Chairman of the Advisory Board for the Research Councils (ABRC) should also function as Chief Scientist, DES.
- (ii) Departmental Chief Scientists should clarify their role in policy-making and shed responsibilities for R and D management.
- (iii) Certain Departments should create Chief Scientist posts or upgrade existing ones.

(c) Civil Service

The Holgate Committee concepts of Technological Generalists and interchanges within the scientific Civil Service should be pursued more vigorously.

--- A fuller summary of the report's conclusions and recommendations is attached.

3. I have asked Mr A M Fraser (Management and Personnel Office) and Dr R B Nicholson (Chief Scientist, Central Policy Review Staff), consulting other Departments and Chief Scientists as appropriate, to prepare recommendations for the Official Committee on Science and Technology (STO) to advise Ministers on the action to be taken and the reply to be made to the Select Committee. I shall submit the STO's advice and the draft reply to you, copying it to Ministers in charge of Departments, for Ministerial approval. Ministers may be able to clear the Government reply in correspondence; if not, it can go to Cabinet or a Cabinet Committee.



ROBERT ARMSTRONG

8 January 1982

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Parliament

10 DOWNING STREET

From the Private Secretary

MR. WRIGHT
CABINET OFFICE

Select Committee on Science and Technology:
Report on Science and Government

The Prime Minister has noted without comment Sir Robert Armstrong's minute of 8 January on the House of Lords' Select Committee Report on Science and Government.

M. C. SCHOLAR

11 January 1982

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HOUSE OF LORDS SELECT COMMITTEE ON SCIENCE AND TECHNOLOGY

SCIENCE AND GOVERNMENT

The following is a summary of the conclusions and recommendations of the inquiry into the provision and coordination of scientific advice to government.

The aim must be to make the maximum effective use of those who nationally are fully conversant with S and T, have access to someone of technical expertise and can advise opportunities with a ready understanding of the business of Ministers. (4*)

The Committee accept that the present system of scientific advice to the United Kingdom government, is, by chance or design, going quite a long way to meeting the prime objectives. Nevertheless, the Committee share in the widespread feeling of unease about the present system based on concern about quantity and in some cases the quality of scientific advice and the readiness with which it is sought, the channels of communication and the reception of the advice. (6)

The Committee recognised that

- there are strong traditions of non-intervention and decentralisation in British Government;
- ultimate solutions to improve the reception of scientific advice involve education from school onwards and are necessary long-term;
- at the highest levels of policy determination personalities inevitably play a bigger part than structure;
- S & T policy advice and management, of for example R and D programmes, are best kept separate. (7)

CENTRAL STRUCTURE

a. Minister for Science and Technology

The Committee do not support the concept of a separate "Department of Science and Technology" (8)

It is essential that there is a strong voice in Cabinet for S & T ensuring that advice, free from special Departmental interests, is provided for the Prime Minister and Ministers collectively. This could be achieved in one of at least three ways

* Refer to paragraphs in chapter IV of the Committee's report.

- collective briefing, for example by a Chief Scientific Adviser in Cabinet Office, through CPRS or from a central council on S & T;
- by a designated Minister for Science and Technology;
- through the direct action of a Prime Minister appropriately briefed and advised (9)

A Minister for Science and Technology would focus advice but not have executive powers or direct managerial responsibility for S & T or R and D. The Committee believe that Ministers collectively should be enabled to decide whether levels of expenditure of particular branches of S and T are commensurate with the strategic and national importance of the policies they serve, especially where responsibilities or benefits are divided between Departments and agencies. (10)

The Committee believe that a Cabinet Minister should be designated for S and T (in addition to other responsibilities). A case without an advocate is liable to be lost or forgotten. It is preferable that an existing member of the Cabinet should have this responsibility. (11)

b. Government Chief Scientist

The Committee have been impressed by the evidence in favour of a strong central science adviser in the Cabinet Office. They recognise that success in any such post is closely dependent on the personality, abilities, standing and contacts of the person concerned and on his or her formal and informal relations with the Prime Minister and/or Minister for Science of the day and with organs of the Cabinet Office. A Government Chief Scientist should be appointed to operate in concert with both the Head of the CPRS and the Secretary of the Cabinet in bringing forward scientific and technological advice of all kinds to the attention of Cabinet, whether at their behest or on his or her own initiative. The appointment should be at least at Second Permanent Secretary level, for reasons of comparability within the Cabinet Office and other chief scientists, standing and recruitment. (12)

In addition the Government Chief Scientist should help co-ordinate Departmental effort in S and T; encourage the progressive development of concerted programmes of research - civil and defence; provide a focal point for reception of advice to Government and be responsible for developing and implementing international links necessary to support the comprehensive system of scientific advice to government. The Committee recommend accordingly that such a post be established in the near future. (13)

The Government Chief Scientist should work from within the CPRS, filling a double role in concert with both the Secretary of the Cabinet and the Head of CPRS and adequately supported. Whatever the precise arrangements, he or she needs ready and independent access to the Prime Minister. (14)

c. Council of Science and Technology (CST)

Both effective Ministerial review of S and T and strengthened provision of advice to Cabinet collectively by a Government Chief Scientist would be substantially helped by a CST. Accordingly, the Committee recommend the establishment of such a Council (15)

The CST should present an annual "state of the nation" report on S and T to Parliament covering scientific opportunities and implications, resource allocations and the cost-effectiveness of research programmes supported by the public sector, bearing in mind the contribution of the private sector. At a time of financial pressure when Departments defend their own efforts vigorously and independent CST has a key role to play in helping Ministers review and concert the national scientific effort. (16)

At present there is a vacuum at the centre which, for example leaves the work of the Research Councils and universities and the scientific advice they can provide ineffectively linked with either Departmental policies or with the scientific and technological needs of industry and its contribution to research. The CST ought to fill this gap. It should also act as a spur to high technology transfer from the defence sector into civil industry. (17)

The new Council would need to be carefully constituted, served by a small, full-time secretariat. It should be geared to central machinery but must be encouraged to preserve a healthy independence from it. The Council should have an independent, part-time chairman and should report to the most senior Minister speaking for S and T in Cabinet. The Government Chief Scientist would be a member. (18)

Membership should be drawn from Government, industry, universities, Research Councils and scientific and engineering bodies. It would include the chairman of the ABRC, the chairman of the UGC, one or more Departmental Chief Scientists and an officer of the Royal Society. Links with NEDC and with the Treasury would be desirable. Working Sub-Committees could draw more widely from the scientific community and industry and perpetuate ACARD's achievement in bringing into Government the resources and talents of industry and technology. (19)

The Chairman of CST would need access to Government at the highest level. The CST must have reasonable access to papers prepared in Government and be made privy to normally conventional matters relating to issues it was addressing. (20)

The CST should be regarded as an evolutionary development of ACARD. It should absorb ACARD's functions and take its place. (21)

The ABRC has an essential role in relation to the management of the Research Councils and the Secretary of State for Education and Science's responsibility for the Science vote; and neither the Research Council nor DES would benefit from severing the link between them. While ABRC reports to an executive department it cannot take on the role of CST. ACARD has also done a worthwhile job, provoking public discussion of specific issues relating to the future of British technology, through its series of reports. This job could be done by CST. Increased standing of the new council might encourage the government to take more notice of its advice and some of the drawbacks of a rigid distinction between basic and applied R and D in ACARD's terms of reference could be avoided. CST will range over all S and T with emphasis on advice and the implications of S and T for policies and strategies of Departments and government as a whole. The working relationship should be agreed with ABRC. ABRC should assist in the preparation of the annual report to Parliament. Co-operation with the Royal Society and the Fellowship of Engineering as the principle spokesmen for science and engineering would also be expected. (22)

DEPARTMENTAL RESPONSIBILITIES

a. Advisory Board for the Research Councils (ABRC)

The Committee recommended no change in their ABRC's role in the management of the Research Councils and in advice to DES on that part of science supported by the Science Vote. This educational link must not obscure the relevance of basic research to industrial and other fields of government policy. The Chairman of the ABRC should have a more nearly full-time appointment as well as being a key member of the CST. The Chairman should be invited to perform for DES more of the functions envisaged for Chief Scientists in other Departments. (23)

ABRC and DES should be geared to move faster to meet immediate national needs and pursue the part that universities can play in national issues with scientific content. (24)

b. Chief Scientists

The power and influence of Chief Scientists has declined over the past five years and there has been an erosion and down-grading of the posts which the Committee deplores even though they recognise that the system has not been entirely successful. (25)

The problem of effectiveness is largely because Chief Scientists are too much involved as research managers and too little as policy advisers. Their role is crucial but Departments must take a wider view of that role. They must be integrated into the decision-making machinery and should not be restricted to advising on issues which have a "scientific" aspect. They should steer clear of day-to-day research management problems and avoid being identified as producers of R and D menus. (26)

All Departments concerned with S and T should have Chief Scientists at Deputy Secretary levels or above. (27)

The Secretary of State for Scotland should consider the proposal to establish a Chief Scientist structure in his office. (28)

The Committee regret MAFF's decision to abolish the single Chief Scientist post at Deputy Secretary level and consider that, unless a trial period shows the new structure to be an obvious success, a reversion to a single post at Deputy Secretary level. (29)

R and D Funding: Mechanisms and Principles

There is too rigid a distinction between basic and applied research - with the resulting assumption that the former, however relevant to the development of Departmental policy, has to be funded through the Science Budget of DES. Much strategic research, some applied research of immediate relevance to industry and some research of importance to more than one Department may be endangered for lack of a full assessment of the implications or of overall priorities. (31)

The DOI reorganisation of its Requirements Boards is a much-needed opportunity to develop a more positive line on medium to longer-term areas of strategic applied research and "generic technologies" where initiatives cannot be expected to arise directly from industry. The new structure should point the way to the growth of inter-departmental customer boards and the management of research programmes spanning Departmental interests and responsibilities and to a re-examination of the ratios of Government spending on fundamental research, applied research and all subsequent development phases. (32)

If research contracts are being delayed or vitiated because of unsuitable conditions, these should be considered. (33)

The Departmental Co-ordination

There is little overall co-ordination of scientific effort between DOI, D/Energy and D/Environment. The British Technology Group, NEDC, the Research Councils and the universities could all be involved more closely in co-ordination. (34)

The CST would play a significant role in helping to define an overall government strategy for the support of R and D and in monitoring its success but its management will require a much more constructive use than hitherto of the general machinery for interdepartmental co-ordination. The Committee recommended that the Government give early consideration to how this might best be effected. Co-ordinating machinery at a slightly lower level than the Committee of Permanent Secretaries and Chief Scientists might be more productive. (35)

Two specific aspects of interdepartmental co-ordination relating to the Treasury and to the MOD concern the Committee. In the absence of scientific advisory bodies to the Treasury, the Committee hope that there will be contact between the Government Chief Scientist and the Treasury Minister in weighing the advantages of proposals from a Department against their monetary and economic cost or benefit. (36)

The Committee had not given detailed attention to the relationship between science and government specifically in the role of defence. (37)

Structured co-operation in reviewing, for example, the DOI R and D support programme and the MOD programme would be appropriate and the Committee recommend that the Departments for Industry and Energy be represented on the Defence Science Advisory Council. The Government Chief Scientist should have some concern with Defence, at least as far as ensuring links between civil and defence science and their application. (38)

CIVIL SERVICE

a. General Conclusions

The paucity of scientists and engineers coming through as potential Permanent Secretaries is a structural weakness. (39)

There is an overwhelming case for a changed attitude to science and scientists in the civil service and for a higher civil service which makes use of all the talents. (40)

The Committee are convinced that a change of attitude to S and T ought to be induced within the civil service so improving the impact of S and T on industry and society and incidentally increasing the likelihood of more scientists and technologists seeking to contribute to government administration and policy. (41)

It is most desirable that all pupils in schools are at least taught about science and technology and their impact on society. (42)

b. Technological Generalists

The Committee was pleased to note the Government's response to the Holdgate Report and pressed the Government to institute a "technological generalist" scheme as soon as possible. (43)

c. Inter-change

The Committee accept the desirability, in principle, of an improved mobility of manpower between sectors of employment and periods of secondment are one means of achieving this, albeit on a short-term basis. (45)

It must be made apparent that secondment is in the interests of the employee, that it is likely to lead to career improvement not impairment, and that the scheme is more than cosmetic. (47)

d. External Communication

The Committee are concerned that the channels of communication between government and the general scientific and technological community are inadequate. (48)

The situation has been made worse by the recent reduction of scientific advisory bodies. (49)

The Committee recommend that the Government review their relations with outside bodies in the interests both of improving scientific advice and providing the opportunity for such bodies to offer, and have accepted, unsolicited advice to Ministers and Officials, formally and informally whether or not it is geared to current government objectives or inquiries. (50)

The Committee believe that the Government should review its relations with the engineering profession, inter alia through the new British Engineering Council; consider how it might improve liaison between senior staff and technology advisers in government and technical staff in industry; and promote the dialogue between industry and the academic world on training and research. (51)

The proposed CST should give early consideration to the international aspects of scientific advice to government. (52)

SOME OTHER CONSIDERATIONS

b. Administrative and Financial Effect of Recommendations

An implementation of the report would mean an increased demand on resources, but in relation to the sums dispersed by government in scientific, technical and related matters the extra cost is small and will be more than compensated by the returns from better application of public expenditure. (55)

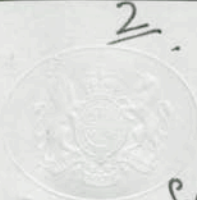
CONCLUSION

Many of the functions which the Committee have identified as necessary are in fact being carried out by one means or another. The Prime Minister is her own Minister for Science and Technology. Dr Ashworth was less than a Chief Scientific Adviser but he undoubtedly approached the role envisaged by the Committee and his successor's remit and higher rank go some way to acknowledge this. The Committee are not content that all functions of CST are carried out at present but they note a tendency of ACARD to interpret its terms of reference as widely as possible. This is one area where positive change is required. (56)

The suspicion between the scientific community and the Administrative Civil Service is very disturbing and must be dispelled. In the short term, mobility in and out of the Civil Service and more positive career management for scientific civil servants will bring immediate gains and the government have a good opportunity in their discussions and action on the Holdgate Report. But effective action is needed to improve the climate of scientific and technical advice. (57)

Ref: A06272

MR. WHITMORE



2.

Prime Minister

The conclusions of the
Select Committee are on
page 32 (flagged).

MS.

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The Chairman of the House of Lords Select Committee on Science and Technology has asked me to let the Prime Minister have the attached copy of the Select Committee's Report on Science and Government.

2. I shall be submitting in due course a summary of the Committee's conclusions, and recommendations for action and for the Government's reply.

RA

Robert Armstrong

10th December 1981

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10 DOWNING STREET

From the Principal Private Secretary

SIR ROBERT ARMSTRONG

The Prime Minister was grateful to you for drawing her attention, in your minute A06272 of 10 December 1981 to me, to the report of the House of Lords Select Committee on Science and Technology.

FW.

14 December 1981

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