PREM 19/1407

Pay of Professional, Technological and Scientific Grades (covered by the IPCS). The possibility of a One Day Strike on 22 June.

Review of the Scientific Civil Service

CIVIL SERVICE

June 1979

Referred to	Date	Referred to	Date	Referred to	Date	Referred to	Date
~~20-6-79~~		~~24-7-80~~					
~~24-6-79~~		~~30-7-80~~					
~~27-6-79~~		~~8-8-80~~					
~~29.6.79~~		9.7.81					
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~~16.5.80~~							
~~4.7.80~~							
~~10.7.80~~							

PREM 19/407

SECRET

JU334

Cecil Sam

DEPARTMENT OF INDUSTRY
ASHDOWN HOUSE
123 VICTORIA STREET
LONDON SW1E 6RB
TELEPHONE DIRECT LINE 01-212 3301
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Secretary of State for Industry

7 July 1981

Barney Heyhoe Esq MP
Minister of State
Civil Service Department
Whitehall SW1A 2AZ

Dear Barney.

THE GOVERNMENT'S RESPONSE TO THE HOLDGATE REPORT (COMMAND 8032)

Thank you for your letter of 2 July 1981 giving me the opportunity to comment on the draft Government's response to the Holdgate Report.

2 I am content with this form of statement. Since the deployment of scientists in the Department of Industry is developing along the lines of a number of the recommendations set out in the Report of the Holdgate Review, I welcome the commitment to the implementation of its recommendations in the ways indicated.

3 I am copying this letter to those who received yours.

Yours

Civil Service

MINISTRY OF AGRICULTURE, FISHERIES AND FOOD
WHITEHALL PLACE, LONDON SW1A 2HH

9/7

From the Minister

The Rt Hon Barney Hayhoe MP
Secretary of State
Civil Service Department
Whitehall
London SW1

9 July 1981

THE GOVERNMENT'S RESPONSE TO THE HOLDGATE REPORT (CMND 8032)

TPM

Thank you for sending me a copy of your letter of 1 July to John Nott enclosing the draft of the Government's response to the report on the Review of the Scientific Civil Service.

I am generally content with the text. There is however one point I wish to raise. This is on paragraph 1.4. This paragraph embodies the assumption that "the majority of scientists ..... wish to remain at the bench". I wonder whether it is right to make such a bold assumption. After all the whole of the Holdgate Report is about giving scientists in Government service wider opportunities in scientific and technical administration. Thus what is said in the first part of paragraph 1.4 appears to take away from the overall impact of the Government's response.

All that is required is a very small amendment so that the first three lines of paragraph 1.4. would read

> "In establishing this priority the Government have not overlooked the importance of positive career development for those scientists - the majority - who remain "at the bench" .....".

I hope you will be able to accept this new presentation.

I am sending copies of this letter to the Prime Minister for information and to Willie Whitelaw, Keith Joseph, John Nott, Michael Heseltine, Mark Carlisle, Norman Fowler and George Younger.

PETER WALKER

BF 13/7

cc. A. Duguid.

Civil Service Department
Whitehall London SW1A 2AZ
Telephone 01-273 3000

Minister of State

The Rt Hon John Nott MP
Secretary of State
Ministry of Defence
Main Building
Whitehall
LONDON SW1

18th July 1981

Prime Minister 1

I have asked John Ashworth for his comments. But he has been, and still is, in Salford and will not be able to comment until 8 July. Content subject to his views?

WR 6/7

Dear John,

THE GOVERNMENT'S RESPONSE TO THE HOLDGATE REPORT (COMMAND 8032)

The report on the Review of the Scientific Civil Service (Command 8032) was published in September last year and CSD has been in the lead in following up its recommendations.

At a meeting with Paul Channon on 21 November the IPCS urged the Government to make an early and positive statement welcoming the Report's recommendations and committing itself to their early implementation. Subsequently, in a letter to the IPCS I undertook to make a statement covering the main issues, and in a PQ on 1 April the Prime Minister said that the Government's response would be published as soon as consultations had reached an appropriate stage.

Consultations have now been completed at official level, and I have also discussed the major issues with a number of senior Government scientists. We are now in a position to make a statement along the lines of the enclosed draft. Subject to colleagues' agreement I propose to send a copy to the IPCS and to announce the response in answer to a written PQ accompanied by a Press Release. Copies will also be sent to the relevant Select Committees and placed in the libraries of the two Houses. Copies will be available to the public on request to the CSD.

I should like to make the response early in July and I will assume that you are content with the draft if I do not hear to the contrary by Wednesday, 8 July.

I am copying this letter to the Prime Minister for information, and to Willie Whitelaw, Keith Joseph, Michael Heseltine, Peter Walker, Mark Carlisle, Norman Fowler and George Younger whose comments would also be appreciated.

Yours ever

Barney

BARNEY HAYHOE

GOVERNMENT RESPONSE TO THE REVIEW OF THE SCIENTIFIC CIVIL SERVICE

INTRODUCTION

1.1 The Government welcomes the Review of the Scientific Civil Service (Cmnd 8032). Its analysis of the vital contributions that scientists make to the work of Government will help to promote a wider understanding of the role of the Service. The Review points the way to changes in the management of the Service to increase its effectiveness and improve the job satisfaction of its members. This paper sets out briefly the Government's response to the Review's recommendations.

General Response

1.2 The Government regards the contribution of scientists to policy as of particular importance and it accepts the conclusion of the Review that "the limiting factor in securing the development sought is likely to be the supply and career development of individuals of outstanding quality; and that this can be improved by using the existing management tools more effectively" (para 8.2).

1.3 The Government is therefore giving priority to the development of procedures to ensure that the Service contains people of high ability with "both technical knowledge and management skills able to operate at most senior levels". The careers of such "technological generalists" - those who have added an understanding of management and administration to their professional abilities as scientists - must be planned to assign them to challenging jobs which will improve their generalist skills and provide them with a better insight into the relationship between scientific work and the needs and purposes of Government.

1.4 In establishing this priority the Government has not overlooked the importance of positive career development for the majority of scientists who wish to remain "at the bench" and the importance which they too should attach to an appreciation of the wider context in which they work. It recognises that not every

scientist has the aptitude and inclination to do administrative work, and that policy formulation and management at senior levels will involve only a minority.

1.5 For this relatively small minority a balance must be struck recognising that in a scientist's early years - usually a period of high creativity - time spent preparing for the future will reduce the contribution to present scientific needs; and transfer to other duties at senior levels will be at the expense of their own specialisms. The precise balance will depend on the needs of departments and the abilities and aptitudes of the individual concerned. The right balance will be achieved only if both parties use to the full the personnel management tools available to them.

1.6 The primary responsibility for the good management of the Scientific Civil Service must rest with employing departments. But the Civil Service Department is responsible for overseeing the general implementation of those recommendations which are accepted by the Government. It would not be sensible to impose a uniform set of measures across departments which have differing needs and structures and for whom the recommendations will have different resource implications. The CSD is therefore discussing the details of implementation with departments as appropriate to their individual circumstances.

2. THE SHARE OF THE NATION'S SCIENTIFICALLY EDUCATED MANPOWER EMPLOYED IN THE CIVIL SERVICE

2.1 The statistical analysis of the Scientific Civil Service shows that the share of the nation's scientists and engineers employed by the Civil Service is not disproportionate and is unlikely to hamper recruitment by industry except perhaps for the few very able individuals and a few disciplines in short supply.

2.2 The Government also notes that about half of those recruits to the Civil Service who are trained in science enter other parts of the Service. Their early career in the Service is clearly

* In 1979 the Civil Service as a whole employed 5% of the nation's qualified scientists, and about 3% of its engineers. [2]

different from that of a practising scientist but they are demonstrating the positive advantage of scientific training in non specialist areas and are opening up career opportunities for those who undertake it.

3. RECRUITMENT

Publicity (para 8.11)

3.1 As a result of the Review, the Civil Service Commission has revised its recruitment literature and presentations to increase the emphasis on the diversity of work in the Scientific Civil Service, including the involvement of senior scientists in management and policy. In the context of recruitment, the Report also recommended that Departments should consider whether they could do more to draw attention to the scientific activities and achievements of their staff. The Institution of Professional Civil Servants (IPCS) has also pressed for this and the Government will consider any detailed suggestions they may make. CSD will discuss this subject further with departments.

Recruitment machinery (para 8.12)

3.2 The Report recommended that the CSD and the Commission consider more decentralisation of recruitment. The recommendation is in line with the Commission's continuing activity to improve the recruitment machinery. Departments are being asked to indicate what, if any, further scope exists.

Rate of recruitment (para 8.13)

3.3 The Government recognises the problems introduced by "stop-go" recruiting. There will, however, continue to be periods when the level of recruiting will be determined more by overriding manpower considerations than by departmental needs.

Payment of removal expenses (para 8.14)

3.4 The Report recommended that CSD explore the possibility of paying removal expenses to those coming into the Civil Service from

other sectors of employment. Action has been taken on this and it is now open to departments, where there is an acute shortage of suitable applicants for any post in the Civil Service, to ask the Commission for permission to pay removal expenses to recruits within prescribed limits.

Over-qualification of Assistant Scientific Officer (ASO) recruits (para 8.17)

3.5 The Report recommended that departments, when submitting ASO candidates to the Commission for certification, explain their reasons for recruiting anyone to this grade having the qualifications appropriate for appointment as Scientific Officer. A joint CSD/IPCS review of the ASO grade is examining the extent of the problem and expects to complete a report this summer.

Short term appointments (para 8.18)

3.6 The Report recommended that the Commission and CSD explore the case for short period fellowships or other temporary appointments. Departments have been asked to indicate what needs they foresee for such appointments; preliminary indications are that a major increase in numbers is unlikely.

4. STRUCTURE

Criteria for classification (paras 8.15, 8.19)

4.1 The Report recommended that there should be clear criteria for the classification of posts in different occupational groups and that the criteria should be applied consistently at both recruitment and higher levels. Departments have therefore been invited to review the classification of Science and P&T posts to ensure that they are appropriately allocated. Particular difficulties will be dealt with as they arise.

4.2 More generally, the Government notes the comment that the Report advocated no change in the structure of the Scientific Civil Service or its frontiers with other occupational groups (para 8.2) because, the Group "could see no benefits to justify

the perturbation that restructuring would cause"(para 7.2). But the Government accepts that the structure should not be considered immutable and, as suggested, is continuing to keep the structure of the Scientific Civil Service and its relations with other groups under review.

The role of Chief Scientists (para 8.22)

4.3 The Report recommended that the terms of reference and organisation of departmental Chief Scientists' commands should be reviewed in the light of the role proposed for them. Departments with Chief Scientists have been invited to do this and some have already completed their reviews.

5. CAREER MANAGEMENT

Broader development of Scientists

5.1 Most of the recommendations (paras 8.24, 8.27, 8.32, 8.34, 8.35, 8.38, 8.39, 8.40) in this section of the Report relate to the more positive career development of scientists, particularly to improve their abilities to assume management and policy advice functions at senior levels. As indicated in para 1.3 the Government is giving priority to improving the supply and deployment of "technological generalists" (defined in para 1.3).

An interdepartmental working group has been set up to advise how the development of "technological generalists" can be provided efficiently, without narrowing career options prematurely, and whilst ensuring that departmental needs for specialist work are met. This will involve considering in detail the various proposals made on career development procedures and appropriate postings, the place of training schemes like SPATS[1], and the need for inter-departmental transfers. An important aspect of any improvement will be the need for line managers to take a broader view of career possibilities and the needs of the Service, and to improve reporting, assessment and boarding procedures, as recommended in the Report.

[1]The SPATS (Senior Professional Administrative Training Scheme) is already under review.

The purpose of the study will be to evolve the principles which should guide departments in meeting their needs. Individual departments will develop particular ways to meet their needs (and, indeed, some departments have already initiated schemes to this end).

Departments have also been invited to indicate their needs for scientists in policy posts. The Government's aim will be to match the numbers of scientists with appropriate ability and experience with the foreseeable needs.

Heads of Profession (8.25)

5.2 The Report recommended that Heads of Profession (HoP's) within departments be formally designated. The Government considers that the needs for and roles of HoP's must be decided by departments in the light of their particular circumstances. CSD has asked departments to describe the roles of their HoP's where these exist. The Department will consider, in the light of the replies, what central co-ordination or advice would be most helpful.

Opportunity Posts (para 8.37)

5.3 The Government accepts the desirability of widening the use of opportunity posts as one way of providing experience for scientists (as well as other specialists). As a first step departments have been asked to define more clearly the present difficulties so that these can be tackled. The problem extends beyond the Science Group and it is hoped that the unions will co-operate in pursuing a policy of improving the use of opportunity posts generally. One means of achieving this would be for management deliberately to place selected scientists in appropriate opportunity posts rather than to invite applications from self-selected candidates.

Manpower planning (paras 8.28-8.29)

5.4 The Report urged that efforts to improve manpower planning should continue. CSD is encouraging departments to adopt manpower

planning techniques more widely to assist in evaluating options in the recruitment, promotion and deployment of Science Group staff as for other professional groups across the Service. Departmental needs vary and, in particular, methods of applying the techniques to small groups of specialists and the benefits of doing so will need further discussion.

6. SUPPORT ACTIVITIES

Support for Technical Progress in Industry (8.42-8.43)

6.1 The Government agrees that, whatever the distribution of R&D functions between the public and the private sectors, mutual understanding and co-operation are essential if the full benefits of R&D are to be realised. The Report's recommendations have been commended to departments and the Government will continue to look for ways to promote staff interchanges with industry.

Support for Government Regulatory Functions (8.44)

6.2 The Government agrees that the continuing success of regulatory processes will depend on a high standard of professional support from scientists and others. Here, as elsewhere, the need for "technological generalists" is accepted.

Support for Government Research and Development (8.45-8.49)

6.3 The Report makes recommendations on the management of departmental Research Establishments; and on the needs for "strategic" research and international collaboration. The practical impact of these recommendations in particular circumstances is for departments to evaluate according to their individual needs and circumstances and they have been invited to do so. But, in general, the Government agrees that a proper balance between short term and long term needs and effective interdepartmental and international co-operation are essential to make the most economical use of the Government's R&D capability.

7. CONCLUSION

Scientists contribute in many ways to the formulation and the execution of Government policy. The Government agrees that their careers should be more positively managed to enhance those contributions and old attitudes will have to change. Scientists themselves (including line managers) as well as personnel officers and senior administrators will need to work together to ensure that scientists' skills are adequately developed and that their talents are used effectively to meet departmental needs. For its part the Government both welcomes the Report and is committed to implementing its recommendations in the ways indicated above.

8. SUMMARY

The following lists all the recommendations (giving the paragraph reference to Chapter 8 of the Report) and indicates action being taken.

i. Recommendations on which appropriate action has been taken:

8.11(a), 8.13, 8.14, 8.16, 8.23, 8.30, 8.36, 8.39, 8.40.

ii. Recommendations under consideration by the Working Group studying ways of developing "technological generalists":

8.20, 8.27, 8.32, 8.34, 8.35.

iii. Recommendations which departments have been invited to consider because appropriate action falls to them:

8.15, 8.19, 8.22, 8.24(a), 8.29, 8.31, 8.38, 8.42, 8.43, 8.46, 8.48, 8.49.

iv. Recommendations on which departments have been asked for information as a basis for considering further action:

8.12, 8.18, 8.25, 8.37.

v. Recommendations being considered further by the Science Management Committee and CSD:

8.11(b)[2], 8.17, 8.24(b)[3].

[2] 8.11(b) Publicity for Government science.

[3] 8.24(b) Exchanges with non-departmental public bodies and between Government departments.

MANAGEMENT IN CONFIDENCE

DSG
Civil Service

file

cc: Cabinet
CO
D/TRANS

8 August 1980

The Lord President minuted the Prime Minister earlier today about the award of the Civil Service Arbitration Tribunal for the Civil Service Scientists. This is to confirm that the Prime Minister agrees that the award should be implemented.

I am sending copies of this letter to the Private Secretaries to members of Cabinet and to David Wright (Cabinet Office).

J. P. LANKESTER

Jim Buckley, Esq.,
Lord President's Office.

MANAGEMENT IN CONFIDENCE

MANAGEMENT IN CONFIDENCE

PRIME MINISTER

1980 PAY REVIEW FOR CIVIL SERVICE SCIENTISTS

In my minute of 8 July I reported that the April 1980 pay review for Civil Service scientists was heading for arbitration. We have now received the award of the Civil Service Arbitration Tribunal. The overall increases given average some 15% against 12.2% for the offer and 23% for the claim.

The award in substance confirms our case that there should be a marked downward shift in the pay of scientists relative to other civil servants. This applies particularly for the senior grades.

This is not quite as good as I had hoped for but better than I had feared. Given that this award can be met from the existing cash limit provisions for Civil Service pay, I believe that we should implement it. Subject to your views I intend to authorise that.

Copies of this letter go to Cabinet colleagues including the Minister of Transport and to Sir Robert Armstrong.

S.

SOAMES

8 August 1980

MANAGEMENT IN CONFIDENCE

MINISTRY OF DEFENCE WHITEHALL LONDON SW1A 2HB

TELEPHONE 01-218 9000
DIRECT DIALLING 01-218 2111/3

MO 2/4/2

30th July 1980

Dear Paul,

REVIEW OF THE SCIENTIFIC CIVIL SERVICE

I agree with the proposal in your letter of 18th July that you should publish the report on the Scientific Civil Service by a working group under Dr Holdgate.

The scope of the review has been limited by the terms of reference and composition of the working group, with important aspects such as pay being excluded. But the report makes, as you say, a number of useful recommendations concerning internal personnel management. I agree that officials should pursue these, and I hope that they will lead to improved arrangements.

As your proposed introduction makes clear, scientists have an important role to play in the activities of Government. You are right, of course, to emphasise the importance of their contribution to policy formulation: within my Department they also play a key part in the management of the equipment procurement process - from research to production - involving very large expenditures. Notwithstanding all that has been said in recent correspondence I am afraid that I remain unconvinced that the outcome of pay research adequately reflects the importance of their role - which in many areas they play alongside and often interchangeably with members of other

The Rt Hon Paul Channon MP

occupational groups. I remain of the view that we need on management grounds to pay more attention to the horizontal relativities.

I am sending copies of this letter to the Prime Minister, the other recipients of yours; and to Sir Robert Armstrong.

Francis Pym

BR

file

cc CSD

Civil Service

10 DOWNING STREET

THE PRIME MINISTER

24 July 1980

Dear Sir John,

Thank you for your letter of 4 July about the recent pay offer to scientific Civil Servants. As a Government we are committed to doing all that we can to persuade able people to seek careers in science and technology and I do not agree that the offer is in any sense incompatible with that objective.

You are no doubt aware of the general principles of Civil Service pay determination. There is no suggestion that the rates we have offered are less than is generally available outside Government. We simply cannot pay more than the rest of the community for equivalent work.

So long as we have the present broad groupings of staff, determining the pay for each of them will present management difficulties at the margins. I do not underestimate those difficulties. But I am quite clear that we cannot just abandon the evidence of the market when it is inconvenient, and level up rates of pay.

Yours sincerely,

Margaret Thatcher

Sir John Mason, FRS

BR

with compliments

MINISTER OF STATE

Press Office to see and return

MP 21/VII.

CIVIL SERVICE DEPARTMENT
Whitehall London SW1A 2AZ

Telephone 01-273 5563/4086

P.a.

Civil Service Department
Whitehall London SW1A 2AZ
Telephone 01-273 3000

Minister of State

Rt Hon Francis Pym MC MP
Secretary of State for Defence
Ministry of Defence
Main Building
Whitehall
London SW1

18 July 1980

Dear Francis

REVIEW OF THE SCIENTIFIC CIVIL SERVICE – Report in separate folder.

The attached report on the Scientific Civil Service, commissioned in 1979 under the last administration, has been prepared by a Working Group of officials under Dr Holdgate, Chief Scientist, DOE/Tp.

The report is largely concerned with internal personnel management issues and none of the recommendations involves any major changes of policy. The recommendations will be discussed in due course at official level using the normal machinery.

When the review was announced the Press Notice said a report would be published, and the Working Party has done its work with publication in mind. A draft has already been seen by the IPCS. In the circumstances I propose to publish it at the earliest convenient date with the attached introduction. I will assume that you and copy addressees are content for me to go ahead unless I hear from you by 31 July.

I am copying this letter to Willie Whitelaw, Keith Joseph, Michael Heseltine, Peter Walker, Mark Carlisle, Norman Fowler and George Younger, who have substantial responsibilities in this area, and to the Prime Minister.

Yours,

PAUL CHANNON

Paul

INTRODUCTION TO THE REPORT ON THE REVIEW OF THE SCIENTIFIC CIVIL SERVICE

I am very grateful to Dr Holdgate and his colleagues for producing a most constructive review of the Scientific Civil Service. I am sure the report will result in a better appreciation of the valuable role that scientists play in Government and the wide range of activities that they undertake. Their contribution to policy formulation is particularly important and is rightly a central theme of the report.

The Government will give careful consideration to the recommendations to ensure that we have a Scientific Civil Service well equipped to meet the needs of the Service in the years ahead.

PAUL CHANNON

Minister of State

Civil Service Department

MANAGEMENT IN CONFIDENCE

REVIEW OF THE SCIENTIFIC CIVIL SERVICE

Note by Chairman of the Working Party

1. The report of the Working Party has now been approved at official level, for submission to Ministers.

2. In putting it forward, I would like to make two general points. First, although the report and its recommendations carry the firm support of all members of the Working Party, there is, as always, with committees selected to reflect a wide range of views, an element of compromise and the more divergent opions have been somewhat blunted. Second, again in common with other documents of its kind, it contains a mixture of proposals on policy and management which differ in importance (although there will not be uncertainty about their ranking order).

3. To help Ministers analyse the Report I have prepared the attached paper. It states the issues I believe to be most important. Other members of the Working Party (who have seen this cover note, but are not committed to it to the same extent as they are to the Report) would very possibly place the stressess somewhat differently, but I think they would agree with the broad approach.

4. I shall of course be very willing to try to explain any point on which Ministers have questions.

16 June 1980

M W HOLDGATE

MANAGEMENT IN CONFIDENCE

THE SCIENTIFIC CIVIL SERVICE

Note by the Chairman of the Working Party

1. This paper summarizes the Report of the Working Party and highlights its main conclusions.

The role of scientists in the Civil Service

2. Scientific and technical factors are central to the industrial, environmental and social policies of any modern nation. In Government, as in industry, it is essential that they are properly considered by people with knowledge that is up-to-date and sufficient.

3. The central task of scientists in the Civil Service is to provide this sound professional contribution both to the formulation and the implementation of Ministerial policy. Although many people think of scientists in the Civil Service and related parts of the Public Service as doing only research and development, the fact is that over half of them work on policy, defence projects and the provision of specialist services.

4. This report stresses the importance of strengthening this professional input to Civil Service policies and management, even at a time when the overall size of that Service is declining. Without it, there is a risk of costly errors of judgement.

5. But scientists have to be trained to make such a contribution. Those with the right potential have to be identified while they are still young, and given periods of experiences in Departmental headquarters. They have to develop skills in presenting complex issues simply and clearly, without distorting facts. They have to learn how Government works, and how advice is prepared for Ministers. They have to become able to deploy their professional insight in a wider context.

6. It has been a cause of concern to the authors of several previous reports (such as Lord Fulton and Lord Rothschild) that the Civil Service has been bad at producing these "technological

generalists". The schemes adopted following the Rothschild Report (Cmnd 5046) are commonly spoken of as failures for scientists. It was this that provoked the present report. The Working Party was asked to consider the share of the nation's scientific skills employed in the Civil Service, the effectiveness of recruitment, deployment, structure and management, and the ways the Scientific Civil Service could be used to support technical progress in industry, Government regulatory functions, Government research and development and the effective development of Government policy generally.

<u>The share of the nation's scientists employed in the Civil Service</u>

7. It does not appear to be true that the Civil Service grabs all the bright people (as is sometimes alleged). In 1979 the Civil Service as a whole employed about 5% of the nation's qualified scientists and about 3% of its engineers. In 1978, the majority of qualified scientists entering the Civil Service took posts outside the Science Group. Although some of these were involved in work related to their degree specialisims about half the total formed part of the normal graduate entry to the Administration and other grades. Even when recruiting was at its peak, the Civil Service and related public bodies as a whole took less than 10% of the yearly output of science graduates, although, taking all graduate entrants, an above-average proportion of these with first class degree were recruited.

8. There are no rigorous rules for judging whether such an intake is too big or too little. The crucial point must be to use out national talent most effectively, and the share of science skills that Government needs can only be decided once the functions Government is to undertake have been defined. Present policy is to reduce these functions and to slim the Civil Service: decisions on the scale and rate of the process are for Ministers. In the opinion of the Working Party, however, the future Civil Service will need good scientists and engineers: indeed the proportion of professionals "contributing to the formulation of Government policy generally" may increase. More research and development may be contracted out to the industrial and academic world, but "technological generalists" working directly on policy have to be in-house.

Government support for technical progress in industry and for regulation

9. Government "support" for industry must be achieved through partnership and has many elements including appropriate policies, collaboration in R and D, and the provision of skilled services. The report concludes that if the contribution of the Scientific Civil Service to technical progress in industry is to be more practical and effective, those helping Ministers develop the Government policies should have experience of the technological and industrial world. A similar blend of professional understanding and practical administrative skill is needed in those developing Government regulatory policy, which has to ensure the proper protection of employees, the public at large and the environment without imposing a damaging burden on the industry on which all depend. These are tasks for the "Technological Generalist".

Government Research and Development

10. The Working Party assumed that the primary purpose of Government research and development is to improve the foundation of information on which Minister's policies are built, regulations determined, and public investment apportioned. It provides an essential contribution to the specification and procurement of equipment for the Armed Services. In addition it can stimulate industrial innovation (especially in areas of new technology where the risks appear to far individual firms, or where industry is fragmented). Government support for the Universities and Research Councils finances most of our basic (or "curiosity motivated") research. The proper balance between the support of R and D in industry, in the academic world and in Government laboratories is a matter for Ministerial decision, but it is clear that the skills of research scientists in Government and the facilities of Government laboratories could be developed more than at present in partnership with industry, and that interchange of staff between Government and industry remains highly desirable.

11. The arrangements made following Lord Rothschild's report to establish the "customer" - contractor principle" in deciding the research programme of departments are working reasonably well, and there is no case for immediate reconstruction. This does not mean that there are no problems. Not all administrative Civil Servants and others who serve as "customers" on behalf of Ministers find it easy to recognize the problems that really need research. There is a danger that short-term problem-solving will dominate the programme

to the exclusion of continuing "strategic" research on themes which will clearly need to be understood if future problems are to be avoided.

12. It is the responsibility of a Departmental Chief Scientist to guide his colleagues to decisions that establish an effective, balanced programme of essential research that prepares for tomorrow's challenges as well as solving the immediate problems of today.

The role of a Chief Scientist

13. The Chief Scientist is also responsible for the quality of scientific advice within Departments. In many Departments, he is concerned with ensuring that the right mix of scientists is recruited, trained and deployed. He accordingly has a crucial interest in ensuring that scientists in Government are poised to contribute effectively to the development of policy, drawing on and applying the results of research and development (which will generally be supplied by the Chief Scientist's "opposite number", the Controller of Research and Development).

Recruitment; deployment and Management

14. All these general goals can only be achieved if recruitment, deployment and career management practices are right. This Report does not advocate a radical reconstruction of the Scientific Civil Service even though its frontier (in terms of disciplines and tasks) is not always sharply defined. It does advocate a good deal of adjustment of the management system in order to secure greater flexibility and more efficient career management.

15. Wide fluctuations in recruitment rates from year to year can harm the image of the Civil Service as a consistent employer and lead to an unbalanced age distribution. Recruitment may also be unbalanced by over-emphasis on research as an occupation for Government scientists: it is important that the full range of opportunities, including the prospects for contributing to policy are explained in recruitment literature. Specialists,

however, are likely to be attracted by the reputation of particular research establishments as "Centres of excellence", and the Working Party supports the principle (already largely established) of maximal decentralization of responsibility for recruitment to those centres, so long as this does not lead to their staff being cut off from the wider career opportunities offered by the Service as a whole.

16. It is not going to be easy to keep the stock of science in the Civil Service up-to-date in a rapidly changing world. The Working Party considered whether greater use of short-term appointments (maybe for periods of up to 10 years) would help, but concluded that, although appropriate in some circumstances, this device would cause more trouble than it cured if used generally. Hence suggestions for changes in recruitment procedures are relatively minor (for example the Report advises that payment of removal expenses might help staffing some places where recruitment is difficult).

17. The main aim of management must be to match individuals to jobs in a way that uses and rewards talent and enthusiasm as effectively as possible. This will be especially important in a Civil Service that is now contracting. While many scientists are likely to spend their whole career working within a single occupational field (this is especially so for those providing technical support or scientific services) it is less clear that research workers should expect life-long careers in R & D . For some this may be the right course, but for others transfer in mid-career to management or more general advisory tasks within central policy directorates may be better both for them and for the Service. The existing system of staff reports, job appraisal and career development can be used to identify people whose work might change in this way, and Departments should then provide them with training through . appropriate headquarters postings. While individual motivation must obviously be taken into account, the initiative should not be left so much as it is at present, for officers to respond to notices of vacancies. Proposals for changes of post should be made to a much greater extent than at present by management, as a component of deliberate career development. People who decline such opportunities will inevitably damage their prospects and must recognize the fact: it will be

necessary to see that local management does not contribute to such damage through an understandable but short-sighted desire to retain good people.

18. Flexibility in deployment is important. Especially in management and in the provision of a technical contribution to policy, scientists may well be interchangeable with members of other groups. It is likely to be in the best interest of the Service for there to be more "opportunity posts" open to people from different groups, the choice depending on the abilities of those available and the priority tasks (which may well change). Because much of the detail of policy is worked out at Assistant Secretary, Principal and equivalent levels, it is important that such posts are created especially at this point in the hierarchy. More movement of scientific staff between Departments, and between the Government service, industry and the academic world is also desirable in principle, and opportunities should be taken to remove the considerable barriers that now hamper it. Linking arrangements, so that Departments needing only a few scientists draw on larger pools of skill held by bigger employers are undoubtedly valuable, and could be extended to permit greater interchange between the Civil Service and the specialist Research Council Institutes. However, the evidence does not suggest that particular scientific disciplines should generally be managed centrally, across the whole series of Departments.

Conclusion

19. It is obvious that the Civil Service will have to change over the coming years, and these changes will affect its scientists. More progressive career development and management, more interchange with industry, more emphasis on applying scientific knowledge and research findings in policy, and more critical selection of the research Government needs to do will all help to ensure that scientists make an increasingly valuable contribution to the Service of the future. Certain aspects of management that do not appear to need changing now may require review later as developments proceed: among these are the structure of the Science group, its interface with other professional groups, the status of scientists whose work on policy advice and management is indistinguishable from that of other groups, and the relationship between research

establishment and Departmental Headquarters. But for the present the tactical adjustments proposed in this review, which can be implemented without major upheaval or delay, are advocated as useful steps on what must be a continuing road.

MANAGEMENT IN CONFIDENCE

3

Civil Service Department
Whitehall London SW1A 2AZ
01-273 4400

From the Private Secretary

18 July 1980

Tim Lankester Esq
Private Secretary to the Prime Minister
10 Downing Street
LONDON SW1

I have slightly amended the attached draft.

Dear Tim,

LETTER FROM SENIOR SCIENCE MANAGERS WHO ARE FELLOWSOF THE ROYAL SOCIETY

I attach a draft reply to the Prime Minister as requested in your letter of 9 July. My apologies for the delay.

It is, as you will see, short and rather tart. A number of the co-signatories are serving senior civil servants and their writing to the Prime Minister points up the general problem which faces us in respect of senior scientific management. I understand that there have been similar difficulties in the Department of Industry. There is a pressing need for Heads of Departments to grip senior scientific managers and make them act as managers. The view here is that they need to be brought to realise that their responsibilities run wider than an obligation to their scientists as such.

The offer for Civil Service scientists does not reflect any undervaluation of them by the Government - it is the outcome of following what the outside world pays. Overpaying scientists, as we have done for much of the past 20 years, has not in fact raised the level of scientific pay outside. It has merely brought the Civil Service pay system into disrepute. There does not seem to have been any suggestion that the proposed rates are in fact out of line with what is paid elsewhere for comparable work, more a concentration on internal relativities. You will recall the recommendations of the Pay Research Unit Board under Lord Shepherd on this aspect.

Yours sincerely,
Jim Buckley.

J BUCKLEY

MANAGEMENT IN CONFIDENCE

DRAFT REPLY FROM THE PRIME MINISTER

Thank you for your letter of 4 July about the recent pay offer to scientific Civil Servants. As a Government we are committed to doing all that we can to persuade able people to seek careers in science and technology and I do not agree that the offer is in any sense incompatible with that objective.

You are no doubt aware of the general principles of Civil Service pay determination. ~~We follow the market~~ try to. There is no suggestion that the rates we have offered are less than is generally available ~~in the community at large for the work in question~~ outside government. We simply cannot ~~There can be no question of the Government's paying~~ more than the rest of the community for ~~any equivalent sort of~~ the same equivalent work.

So long as we have the present broad groupings of staff, determining the pay for each of them will present management difficulties at the margins. I do not underestimate those difficulties. But I am quite clear that we cannot just abandon the evidence of the market when it is inconvenient, and level up rates of pay.

Management's role now is to explain to the staff, at all levels, the reasons behind the Government's offer. A great deal of information has been given to Departments about this. No doubt you will all ~~wish to~~ play a full ~~your~~ role in presenting management's case to your ~~people~~ own staffs.

Civil Service Department
Whitehall London SW1A 2AZ
01-273 4400

17 July 1980

The Rt Hon Francis Pym, MC, MP
Secretary of State for Defence
Main Building
Whitehall
LONDON SW1A 2HB

Dear Francis,

SCIENCE GRADES PAY

Thank you for your minute of 30 June about science grades pay.

I do understand, and have considerable sympathy with, the management problems which face you. As it is, the IPCS have asked to go to arbitration and we must of course go along with that. This does not, however, mean that our position is irrevocably fixed in the sense that we do have a couple of weeks before we need to put in our case to the Arbitration Tribunal.

Nevertheless, I am bound to say that having insisted that the science grades must go back into pay research we cannot ignore the evidence. Pay research is a disciplined system; it constrains both us and the unions. Only in the most exceptional circumstances of overriding national need should we depart from it. That was the case when we decided to hold down the increases due for other senior grades. But for the SPSO no increases are due. It would be quite wrong to treat these staff so much more favourably than the others by taking them above the proper rates when their colleagues have been depressed below them. Because scientists have not been in pay research for such a long time - only 3 times in the past 20 years, the last time in 1971 - this year we were bound to see a dramatic shift. We had to face that at some point and I doubt that we shall gain anything by deferment.

Having said that, I do see the problems which arise where staff from the science grades are interchangeable with those from the Professional and Technology grades, both having similar qualifications. I am therefore asking my officials to look at what might be possible in urgent consultation with yours, although I fear I must say that I hold out little hope.

I have also seen Lord Strathcona's minute of 10 July. In no sense do I underrate the problems faced by your senior Managers. But there is clearly a major task to be done in educating them to play their proper role as management. Neither we nor they can avoid that. My officials stand ready to do all that they can to assist you in that vital work.

Yours ever

Christopher

SOAMES

MINISTER OF STATE FOR DEFENCE

D/MIN/ES/22/2

Prime Minister

1980 CIVIL SERVICE PAY: SCIENCE GROUP

The Lord President has sent to Francis Pym a copy of his note to you of 8th July.

2. In Francis' absence there are two points I ought to emphasise:

a. the Lord President refers to the strong reaction from the IPCS. But we here are more concerned about the strength of feeling from senior line managers in this Department. Francis has already set out in his note of 30th June to the Lord President some of the severe problems both of morale and organisation which a nil pay award could produce;

b. the Lord President says that the offer flows from the evidence and "it would not be right to depart from it". But wider considerations have been taken into account this week in determining the award to Assistant Secretaries and Senior Principals. Our line managers will have difficulty in seeing why wider considerations - even if they point in a different direction financially - should not equally be applied to the SPSO.

3. I am copying this minute to members of the Cabinet, the Minister of Transport and to Sir Robert Armstrong.

10th July 1980

Prime Minister to Civil Service

This minute which came in after I had transmitted your support for the Ld President - adds nothing to Mr Pym's earlier minute.

MANAGEMENT IN CONFIDENCE

b.c. Hoskyns
Wolfson
Ingham

c. FCO NIO
SO WO
DTde DEnv
CO MAFF
DTrans LPSO
PGO DEmp
CSO-HMT MOD
DES DI
DEngy HMT
CDLO LCO
DHSS HO

Civil Service

10 DOWNING STREET

From the Private Secretary

10 July, 1980.

Dear Jim.

The Prime Minister has considered the Lord President's minute of 8 July on the 1980 pay settlement for the Civil Service Science Group. She has also seen the minute of 30 June from the Secretary of State for Defence, and the Secretary of State for Energy's letter of 8 July.

The Prime Minister agrees that in all the circumstances your Department should stand by the pay increases recommended by the PRU Board, which were based on pay research; and she agrees that the Lord President should authorise arbitration in the case of Senior Principal Scientific Officers.

I am sending copies of this letter to the Private Secretaries to the Members of the Cabinet, including the Minister of Transport, and to David Wright (Cabinet Office).

Yours ever,

Tim Lankester.

Jim Buckley, Esq.,
Civil Service Department.

MANAGEMENT IN CONFIDENCE

cc Wellington

10 DOWNING STREET

Dear Patrick

I think you
will want to reply to
4.7.80
this letter, and have
therefore asked CSD for
a draft.

9/7

File

8 Sg

B/F 16-7-80

9 July 1980

I would be grateful for a draft reply for the Prime Minister to send in response to the enclosed letter from various Fellows of the Royal Society about the scientists' pay award. May I please have something from you by 16 July? — 4.7.80.

T. P. LANKESTER

Jim Buckley, Esq.,
Lord President's Office.

vb

8 July 1980

I am writing to acknowledge the letter of 4 July which you and other Fellows of the Royal Society have sent to the Prime Minister about scientists' pay in the Civil Service.

I will place this before the Prime Minister and a reply will be sent to you as soon as possible.

TPL

Sir John Mason, F.R.S.

HS

MANAGEMENT IN CONFIDENCE

cc Mr Hoskyns
Mr Wolfson

PRIME MINISTER

1980 CIVIL SERVICE PAY: SCIENCE GROUP

There are still two pay negotiations outstanding in the Civil Service. We are in continuing negotiation with the unions about the pay of industrial civil servants on the lines agreed in E Committee on 26 June; and for the Science Group the union concerned, the IPCS, now intend to take their claim to arbitration.

The determination of Scientists' pay has been a matter of serious contention for 10 years. They have not been in pay research since 1971. Our offer for the grades up to and including Senior Principal Scientific Officer (SPSO) is based on pay research and the PRU Board's recommendations. The increases average 12.2% and are within the cash limits provision. The increases range from 22.2% for the Assistant Scientific Officer (at the bottom) to nil for the SPSO (at the top). I am advised that these figures can reasonably be defended at arbitration.

No increase for the SPSO has naturally provoked a strong reaction from the IPCS. But it flows from the evidence and it would not be right to depart from it. There will be a fair amount of Parliamentary pressure but we should not budge.

The question to be resolved is whether to allow the SPSO grade to go to arbitration. The IPCS have now sought that. The difficulty is that for the equivalent grades in the Administration Group of Senior Principal and Assistant Secretary we have just denied arbitration. There are a number of arguments for distinguishing the position of the SPSO, but above all I do not see that we can offer no increase at all and at the same time deny arbitration. Subject to your views, therefore, I intend to authorise arbitration.

I am copying this minute to Cabinet colleagues, including the Minister of Transport, and to Sir Robert Armstrong.

S.

SOAMES

8 July 1980

MANAGEMENT IN CONFIDENCE

Prime Minister

Mr Pym (Flag A) and Mr Howell (Flag B) are unhappy about the zero percent increase for SPSO's when their rough equivalent in the Administration Group (Senior Principals) are getting about 16%. But this is what the PRU Board recommend (pay research for this group has been in abeyance for 8 years until this year) and SPSO's did receive 30% last year. Are you content, and in particular that Lord Soames should authorise arbitration?

M.T. 9/7

see also letter from Royal Society in this folder

M.T.

(Flag C)

SECRETARY OF STATE FOR ENERGY
THAMES HOUSE SOUTH
MILLBANK, LONDON SW1P 4QJ

01 211 6402

The Rt Hon Lord Soames PC GCMG GCVO CBE
Lord President of the Council
Civil Service Department
Whitehall
SW1A 2AZ

8 July 1980

Dear Christopher

R 817

SCIENCE GROUP PAY

I have seen a copy of Francis Pym's memorandum of 30 June and very much share his concern at the growing disparity between salaries of the Science Group and those of the equivalent grades in the Administration Groups. I have particular sympathy with his view that it is not sensible for the Government to appear to put less value on qualified scientists and engineers than on administrators. Indeed given the comparative difficulty of recruitment on the former a case might well be made out for reversing the present pay relativity of least for certain disciplines. Of particular concern to my Department is the difficulty in recruiting petroleum specialists, who though not part of the Science or P and TO Group have traditional pay links with the latter.

Many of the scientists and engineers in my Department have responsibilities at least equal to their administrative counterparts and are to a limited extent interchangeable with them. It is clearly invidious that there should be such a differential between the rewards for equal responsibility. Moreover the current trend will positively hamper the recruitment of the professional expertise which is of growing importance to so many of our political and economic problems. And it will do nothing to advance the expansion of a more open structure below Under Secretary level in the civil service.

I hope therefore that it is not too late for some flexibility to be introduced into the negotiations on the PRU reports which has regard to wider managerial considerations.

I am copying this letter to the Prime Minister, the Secretaries of State for Defence, Industry, Employment and the Environment and to Sir Robert Armstrong.

Yours ever

David

D A R Howell

The Royal Society
6 Carlton House Terrace, London, SW1Y 5AG
Telephone 01-839 5561 Telex 917876

4 July 1980

Dear Prime Minister,

We, the undersigned Fellows of the Royal Society, who are heads of profession or senior advisers to Departments of State, wish to express our grave concern over the pay award to scientists proposed by the Civil Service Department.

These proposals, if implemented, would place scientists well below both the Administrative/Executive and the Professional/Technical classes, with gaps so large for the key career grades of Principal and Senior Principal Scientific Officer as to be unworkable. In most Government establishments PSOs and PPTOs, and in some cases administrators, are used interchangeably in fully integrated teams and, as senior line management has made very clear, such a system would be unmanageable if scientists were paid substantially less for doing the same job.

The effect would be to make scientists the third-class citizens of the Civil Service. This would give them a deep sense of injustice, have a disastrous effect on their morale, and greatly jeopardize the efficient management of the Civil Service as a whole. An unworkable situation is arising from division of staff into three rigid categories unrelated to the present-day realities of management.

Perhaps even more serious in the long run would be the impact of Government appearing to value its scientists so much less than its administrators. This would do much to nullify all our efforts to emphasise the importance of science and technology and to persuade more of our able young people to seek careers in these fields.

The Prime Minister,
10 Downing Street.

The Royal Society
6 Carlton House Terrace, London, SW1Y 5AG
Telephone 01-839 5561 Telex 917876

The President and Officers of the Royal Society have seen this letter and have authorized us to say that they are in full agreement with it.

Yours sincerely,

John Mason

(Sir John Mason, FRS)
Director-General,
Meteorological Office, and
Senior Vice-President of
the Royal Society

Ronald Mason.

(Sir Ronald Mason, FRS
Chief Scientific Adviser
Ministry of Defence

Herman Bondi

(Sir Hermann Bondi, FRS)
Chief Scientist
Department of Energy

Alec Merrison

(Sir Alec Merrison, FRS)
Chairman Advisory Board of
the Research Councils

Sam Edwards.

(Sir Sam Edwards, FRS)
Chairman, Scientific Advisory
Council, Ministry of Defence

The Royal Society
6 Carlton House Terrace, London, SW1Y 5AG
Telephone 01-839 5561 Telex 917876

ANNEX

THE MOST SERIOUS ASPECTS OF THE CSD PROPOSALS

The Principal Scientific Officer (PSO) at the top of his grade is being offered an increase of only 6.2% compared with 19.1% for the Administrative Principal, placing him £2000 p.a. below the latter and £1150 p.a. below the Principal Professional/ Technical Officer (PPTO). It is proposed to give the Senior Principal Scientific Officer (SPSO) no increase at all and to lower the starting salary for this grade from £14,250 to £12,600.

MANAGEMENT IN CONFIDENCE
CONFIDENTIAL

2 PS

Civil Service

MINISTRY OF DEFENCE WHITEHALL LONDON SW1A 2HB

TELEPHONE 01-218 9000
DIRECT DIALLING 01-218 2111/3

MO 20/17/6

1st July 1980

Dear Christopher,

PS. Yes

Many thanks for your letter of 30th June.

I agree that we need to move ahead. I shall be seeing our Departmental Staff Side this Friday and intend, if possible, to give the IPCS before then preliminary warning of what we intend.

At both these discussions of the two-pronged attack to which you refer we shall also be outlining our ideas to carry out practical experiments in respect of the streamlining of posts which have been discussed between our officials. I regard this as an essential element in our attempt to get the IPCS to see sense.

There is one point in your letter on which I differ, your suggestion that we should proceed by way of disciplinary action against the non-industrial staff. That would seem to me to be a major development and not essential to the plan we have in mind. As it raises a number of complex issues it might be best for it to be looked at urgently by officials under CSD chairmanship. We would need to have an agreed view on this before I see the Staff Side on Friday.

I am sending copies of this to the recipients of yours.

Francis Pym

The Rt Hon The Lord Soames GCMG GCVO CH CBE

CONFIDENTIAL

CONFIDENTIAL

10 DOWNING STREET

From the Principal Private Secretary

1 July 1980

Dear Rose,

ROF BISHOPTON: INDUSTRIAL ACTION

The Prime Minister has seen your Secretary of State's minute of 23 June 1980 to the Lord President of the Council and the correspondence which has flowed from it, ending with the Lord President's letter of 30 June.

This is just to say that the Prime Minister is in agreement with the action which your Secretary of State and the Lord President are proposing to take.

I am sending copies of this letter to John Wiggins (Treasury), Jim Buckley (CSD), Richard Dykes (Department of Employment), Godfrey Robson (Scottish Office), Don Brereton (DHSS), Mary Howat (Lord Advocate's Office) and to David Wright (Cabinet Office).

Yours ever,

Brian Hilton.

Rose Esq.,
Science.

CONFIDENTIAL

Rose
despatch

MO 20/17/6

LORD PRESIDENT OF THE COUNCIL

R 317

SCIENCE GROUP PAY

The outcome of pay research at the PSO and particularly the SPSO level is, as your officials will no doubt have advised you, causing the gravest anxiety in this Department. When senior managers - including the Senior Vice-President of the Royal Society - advise that an award will create an unworkable situation in MOD Establishments, I believe that we should take urgent stock of the position before the Government gets itself into an entrenched position.

2. I recognize all the problems of modifying pay research, and possibly affecting other settlements, and the fact that the absence of "fair comparisons" for some years has produced a more dramatic change than would occur on an annual basis. But this is a bigger issue than pay research. There are factors of equity and managerial efficiency which I as the Minister in charge of this Department and you as the Minister responsible for the Civil Service must weigh. The key questions raised, as I see them, are:

a. how can we expect a body of staff to accept a 0% increase in the light of settlements already made for the Administration and P & T Groups? (I wonder in any case if the fragmentation of Civil Service pay awards is sensible; I have recently commented to you about this in respect of the industrial Civil Service pay date);

b. how can we publicly make it look sensible that the Government appears to value its qualified scientists so much less than its administrators and engineers?

c. how do we handle on the ground such a large discrepancy between staff who are quite often interchangeable? This Ministry has repeatedly said in recent months that the more senior the posts the greater the importance we attach to horizontal relativities. We now face the situation that a key project management post could be filled by a SPSO

member of the Science Group (who could well be an engineering graduate) or a similarly qualified member of the P & T class, but on widely different pay levels. This is not "the rate for the job" and must throw into serious question some of the mechanics of pay research.

3. I understand that today is the last day by which IPCS have to accept the offer (which I believe your own staff recognize is not a starter) or go to arbitration. Arbitration would be several weeks away. Morale and work will suffer. CSD will then presumably be committed to defend at the Arbitration Tribunal an arrangement that is manifestly bad management practice. Is it not possible to "stop the clocks" for a day or two and look for some palliative: eg a redistribution of money between the grades of the Administration Group yet to be settled and the Science Group, and also from within the grades of the Science Group? I am not suggesting this would satisfy the IPCS, but it might give an award that my senior staff would consider they could defend and explain to their staff and produce a situation in which these key middle grade scientists would continue to give of their best.

4. I should be glad to have your very early advice.

5. I am sending copies of this minute to the Prime Minister; the Secretaries of State for Industry, for Employment, for the Environment and for Energy; and to Sir Robert Armstrong.

Ministry of Defence

30th June 1980

Civil Service Department,
Whitehall,
London, SW1A 2AZ

With the Compliments

of the

Lord President of the Council

CONFIDENTIAL

Civil Service Department
Whitehall London SW1A 2AZ
01-273 4400

30 June 1980

The Rt Hon Francis Pym, MC, MP
Secretary of State for Defence
Main Building
Whitehall
LONDON SW1A 2HB

Dear Francis,

ROF BISHOPTON

The inter-departmental discussions have served to clear our minds on how to handle Bishopton. I gather that you and I and Jim Prior are all now agreed.

2. The next move should be a two-pronged attack. First, going to the root of the matter, we ought to take disciplinary action against the non-industrial staff who started it all. The initial procedure does not require us to say precisely what penalty we have in mind; but as the Lord Advocate's minute of 26 June points out, this could in the end be some way short of dismissal depending on individual circumstances.

3. At the same time we should put the industrials on notice that, with effect from a given date, it is our intention to stop the wages of those who have been laid off. This should exert pressure on the IPCS through inter-union channels.

4. When you see the IPCS representatives, it would be wise to show them the direction we are moving in.

5. I suggest that the sooner you or yours see your Departmental Staff Side the better. Thereafter let us take stock.

6. I am sending copies of this minute to the Prime Minister, the Chancellor of the Exchequer, the Secretaries of State for Employment, Scotland and Social Services, the Lord Advocate, and Sir Robert Armstrong.

Yours ever

Christopher

SOAMES

SECRETARY OF STATE FOR EMPLOYMENT

Caxton House Tothill Street London SW1H 9NA

Telephone Direct Line 01-213 6400

Switchboard 01-213 3000

12714

The Rt Hon Lord Soames GCMG GCVO CBE
Lord President of the Council
Civil Service Department
Whitehall
LONDON SW1

27 June 1980

Dear Christopher

Francis Pym sent me a copy of his minute of 23 June about the industrial action at ROF Bishopton.

I agree with him that the present impasse cannot be allowed to drag on and that he should take the opportunity of his meeting with the MOD Departmental Staff Side next week to make this clear to the IPCS representatives.

If that approach fails, further positive action will clearly be necessary. I find some difficulty, however, in following the argument that we would then have little alternative to closure of the factory - or indeed, in understanding quite what is meant by this. I assume from what Francis Pym says that permanent closure could not be contemplated. Temporary closure, on the other hand, would avoid none of the legal and other difficulties which place constraints on management response to the industrial action. Presumably, all of the non-industrials would have to be formally dismissed.

It seems to me that the more natural next steps would be to increase the pressure by giving, after warnings, formal notice of dismissal to those supervisors who are on TRD, and by giving notice to the industrials who are laid-off that their pay will have to cease by a certain date. I appreciate that the IPCS may suspect an element of bluff in dismissal action, but the individuals concerned are unlikely to be relaxed about it. Warning of dismissal has worked in the past. I also appreciate that there is an apparent unfairness in ceasing to pay those industrials who have been laid-off through no fault of their own. Nevertheless in the private sector it is not uncommon to lay-off manuals without pay in these circumstances; and as I understand it the agreement which guarantees the industrials lay-off pay for 28 days has been fully honoured.

Of course there are evident risks in action along these lines, and there can be no certainty of a successful outcome. But such action

would increase the pressure in ways that are undoubtedly legitimate and are not uncommon in industrial disputes in the private sector; and would not preclude consideration of your closure option if all else fails.

I am sending copies of this letter to the Prime Minister, the Chancellor of the Exchequer, Francis Pym, the Secretaries of State for Scotland and for Social Services, the Lord Advocate, and Sir Robert Armstrong.

Yours

SECRETARY OF STATE FOR SCOTLAND

SCOTTISH OFFICE
WHITEHALL, LONDON SW1A 2AU

CONFIDENTIAL AND
MANAGEMENT - IN CONFIDENCE

The Rt Hon Francis Pym MC MP
Secretary of State for Defence
Ministry of Defence
Whitehall
LONDON
SW1A 2HB

27 June 1980

Dear Secretary of State,

ROF BISHOPTON: INDUSTRIAL ACTION

I refer to your minute of 23 June and your Private Secretary's letter of the following day.

I have heard of this dispute through my Department, but there has been a surprising lack of publicity in Scotland about it. I am sure that it would help to bring pressure to bear on the employees at Bishopton if there were a wider public realisation of what is at issue; and you might therefore want to give thoughts to means of publicising the issues. Alex Fletcher and I would be very ready to help in this if you wish.

I recognise the arguments against the first three courses set out in your minute. In Scottish terms the fourth course - the closure of the factory - would be a very serious step. Unemployment in the Paisley travel-to-work area, which includes Bishopton, is now running at 10.5% (10.6% for males) and in nearby Glasgow, from which many of the Bishopton workforce no doubt travel, the rate is 11.4% (13.6% for males). Nevertheless if, having threatened to close down the plant until you have guarantees of proper working and having given public opinion an opportunity to operate on the workforce, you are still faced with an unchanged situation, I see no alternative to what you propose, provided you are satisfied that there are no legal obstacles.

A threat of permanent closure would be quite a different matter. Bishopton employs 2,500 people; and is adjacent to Linwood, where Talbot recently announced substantial redundancies. Rumours that

the Government were contemplating permanent closure would divert pressure from the unions to me (and to you). I hope I am right in inferring from your minute that you have no intention of using the threat of permanent closure as part of your argument for whichever of four courses set out in your letter you decide to follow. While I do not dispute your statement that Bishopton has a poor labour record, I would strongly resist the closure of the factory and the transfer of its operations. We do have factories in the west of Scotland whose performance equals the best in the country. I suspect that one reason for such differences in performance may lie in the quality of management; and I am sure this is an aspect of the problem at the ROF to which you will be giving your attention.

I am sending copies of this letter to those who received yours.

Yours sincerely,

John S. Wiltshaw

Approved by Secretary of State
and signed in his absence

CONFIDENTIAL

MANAGEMENT IN CONFIDENCE

THE LORD ADVOCATE

SECRETARY OF STATE FOR DEFENCE

ROF BISHOPTON: INDUSTRIAL ACTION

with P.M.

Thank you for copying to me your minute of 23rd June 1980 to the Lord President of the Council, together with the further letter of 24th June.

In the very difficult position with which you are faced I wonder whether your third option (your paragraph 6) is not worth further consideration.

The proper procedure for the third option would involve your asking the individual PTO's who have refused to obey instructions to return to work and warning them that if the refusal continues for more than say a week they will be subject to discipline in terms of Estacode Kb. If the week passes without their return to work, each of their cases would require to be considered according to the procedure laid down in the code, the record of each person involved being taken into account and a decision on appropriate discipline reached. This might be dismissal but it might be some way short of dismissal depending on individual circumstances. Initiating this action might bring individuals to consider their personal positions carefully since many of them will have quite a lot to lose and they cannot be 100% certain that what is done will be undone. I think it is possible this might bring some at least to think of returning to work.

I should add two points. First, on the basis of the information I have there may be some doubt whether PTO Grades 1 and 2 were legally bound to do the work which they were asked to do prior to their TRD. Second, in the letter to the Lord President of 24th June it is suggested that non-industrials might, in the last resort, be laid off without pay. However while there is a term in the contracts of industrial staff in MOD which enables you to lay them off without pay this is not so with non-industrial staff. Accordingly unless they are made redundant it is not open to lay them off without pay. If this were done you would have no answer in law to a claim for lost wages.

I am sending copies of this minute to the Prime Minister; the Lord President; the Chancellor of the Exchequer; the Secretaries of State for Employment, for Scotland and for Social Services and Sir Robert Armstrong.

MJC.

26th June 1980

MANAGEMENT IN CONFIDENCE

CONFIDENTIAL

CONFIDENTIAL MANAGEMENT IN CONFIDENCE

2.

MINISTRY OF DEFENCE
MAIN BUILDING WHITEHALL LONDON SW1
Telephone 01-~~XXXX~~ 218 2111/3

MO 20/17/6

24th June 1980

I agree not. Prime Minister.

Dear Jim,

25/6

ROF BISHOPTON: INDUSTRIAL ACTION

I have been asked to make clear, further to my Secretary of State's minute to the Lord President of 23rd June, that if the discussions he envisages holding with the IPCS fail, he can at present see no alternative to a temporary closure of ROF Bishopton (except for security, maintenance and safety facilities) until such time as it could be operated properly.

Unions and Staff Side would be given two or three weeks' notice of this intention. Upon closure industrial wages would be stopped except for those of the few industrials retained. A few non-industrials would be kept at work and the remainder sent home, a measure which could only be effective (and show impartiality in treatment of white and blue collar) if their pay were stopped. This is, of course, the crucial question because my Secretary of State has so far been advised that there is no cast-iron power to withdraw salary under existing conditions of service. Nevertheless, if, in the event of unsatisfactory negotiations with the IPCS, this course is not followed, there is no other way open to us to resolve the dispute or bring it to a head.

My Secretary of State made it clear in his minute that he would be glad to have his colleagues' comments by the end of this week.

I am sending copies of this letter to the Private Secrataries to those Ministers who received my Secretary of State's minute; and to David Wright (Cabinet Office).

Yours ever
Brian N

(B M NORBURY)

J Buckley Esq

CONFIDENTIAL MANAGEMENT IN CONFIDENCE

2.

Prime Minister. Copies to see

MO 10/4

LORD PRESIDENT OF THE COUNCIL

ROF BISHOPTON: INDUSTRIAL ACTION

You will be aware from the reports my officials have made to yours of the continuing problems caused by the industrial action of members of the IPCS who refuse to co-operate in the introduction of new productivity schemes for industrials. The places affected are 3 RNSTS Depots and ROF Bishopton. There are signs that the IPCS are not showing a completely united front in the RNSTS, but at Bishopton the problem is becoming daily more serious. Supplies of ammunition to the Armed Forces and for important export orders are suffering badly. The continuation of the industrial action provides an all too concrete example of the limitations on governmental ability to respond to industrial action by non-industrial civil servants which has been the subject of much discussion in E(CS) and in the Official Committee. TRD has been used, but it has not produced a return to work and it is necessary therefore to decide whether we continue to accept the situation which is costing us £700,000 a week (in pay and lost output) and the IPCS a mere £5,000 or take further - even although very risky - steps to end it.

2. There is no pressure for a return to work either from the 50 PTOs who are on TRD without pay or the 1600 or so industrials who are laid-off with pay. The IPCS are making sure that the former are fully paid and the industrials are losing little pay from the lay-off. No doubt many of them have in any case found other jobs to provide additional income. There are no incentives I can offer to persuade the IPCS to withdraw their action. The immediate point, that of their wish to take this year's pay settlement to arbitration, cannot possibly be conceded now after the firm declaration on our part that the imposed settlement is final. The underlying problem - that of differentials between industrials and non-industrials - cannot be solved quickly. It is impossible to offer any money now and it would be extremely unwise to offer great hope of sufficiently

large increases in pay of PTOs for 1981 to solve the problem even if the IPCS were willing to wait for the long-term. Similarly, although there are some possibilities of a solution arising from restructuring the grade, these must be in the long-term and offer no immediate prospects of a way out.

3. This cannot be allowed to drag on for very much longer. Bishopton produces virtually all the propellant in the United Kingdom for use in large calibre guns. The present loss of production of ammunition will in any case be impossible to restore quickly; and there are no other sources of supply for purchasing most of the propellants. The consequences of continuing inactivity at the ROF would be extremely grave in terms not only of the United Kingdom Services' training commitment and operational readiness but also of our inability to honour collaborative commitments and to preserve our position in overseas sales of ammunition.

4. The first possibility is to surrender management's position and withdraw the incentive scheme. I have rejected this because the scheme is needed to improve productivity and because it is the subject of a signed agreement which we should not break. Furthermore it is evident that conceding victory to the IPCS would encourage them to act against incentive schemes in other establishments and we should be no better off.

5. The second possibility is to stop the wages of the 1,600 laid-off industrials (as formally we are entitled to do), hoping thereby to bring indirect pressure on the IPCS through inter-Union channels. But this would be likely to react against us as we should have put ourselves hopelessly in the wrong by further penalizing the employees who had been deprived of an agreed bonus scheme through management's inability to control non-industrials. There would be widespread and justified action and we should find ourselves engaged in the wrong war.

6. Thirdly, we could dismiss the non-industrials who are on TRD. I think that this would be seen by the IPCS as bluff. It would make no immediate material difference to the men concerned and it would be obvious to all that they would have to be reinstated as part of an eventual settlement.

7. With the factory having already virtually ceased production and with no prospect of a solution to the dispute it is my belief that action must be taken now to press the IPCS members to resume normal work. I shall be seeing the MOD Departmental Staff Side early next week and this will give me an opportunity to talk to the IPCS representatives (without the apparent weakness of calling them in) and make it abundantly clear that there is no more money to be had this year. If this has no effect I shall say that the Government cannot accept a position whereby a few people may cause vast loss of production with no penalty to themselves in pursuit of a pay claim and in circumstances which would drive a private firm to bankruptcy. It is made worse when the production of weapons for national defence is involved. I shall ask them to consider and warn their members that they are forcing the Government to take action which would have immediate as well as long-term consequences for conditions of service. I do not propose to say what action I have in mind.

8. I have also considered the longer-term implications. We must have a national source of supply. Bishopton has had a poor labour record and needs £10Ms spending in the next few years to modernise its plant. I might want to develop a new factory elsewhere notwithstanding the employment position in the Glasgow area. But such an issue does not modify the need to get this factory reopened quickly.

9. I should be glad to have (by the end of this week) any comments you and our colleagues may have, against the prospect that, if my approach to the IPCS fails there will, notwithstanding what I have said above, be little alternative to closure of the factory. Not only the immediate issue arises - the events at Bishopton and our limited ability of manoeuvre in dealing with them raise general questions concerning both industrial relations in the Civil Service and the viability of the factory in the longer term.

10. I am sending copies of this minute to the Prime Minister; the Chancellor of the Exchequer; the Secretaries of State for Employment, for Scotland and for Social Services and the Lord Advocate; and Sir Robert Armstrong.

Ministry of Defence
23rd June 1980

CONFIDENTIAL

Civil Service JS

cc HMT
D/I
D/M
DOE
LO

10 DOWNING STREET

From the Private Secretary 16 May 1980

Dear Geoffrey.

1980 P & T GROUP PAY REVIEW

The Prime Minister has read your Minister's letter of 14 May and agrees that the Government should stand firm on the position that the 1980 settlement for the P & T Group has been concluded.

I am sending copies of this letter to Martin Hall (HM Treasury), Ian Ellison (Department of Industry), Hugh Dykes (Department of Employment), David Edmonds (Department of the Environment) and David Wright (Cabinet Office).

Yours ever,

Tim Lankester.

G.E.T. Green Esq.,
Civil Service Department.

CONFIDENTIAL

MINISTER OF STATE FOR DEFENCE
WHITEHALL LONDON SW1A 2HB
Telephone 01-218 6621 (Direct Dialling)
01-218 9000 (Switchboard)

CONFIDENTIAL

D/MIN/ES/22/2

16 May 1980

12/6/5

Dear Paul,

Thank you for your letter of 14th May to Francis Pym about the 1980 P & T group pay review. We are most grateful to you for consulting us over this.

Mr Wright of the IPCS has been floating informally with us the possibility of a concession on our part over arbitration in return for which the IPCS would relax their stand over the introduction of productivity schemes for industrials and allow a return to work at ROF Bishopton. As you know, some 40 of our non-industrial staff have been relieved of duty there and 1,400 industrials have had to be laid off. The dispute is costing us a loss of output of £700,000 per week. From our point of view, there would therefore be attractions if we could find a way forward on the dispute over productivity schemes. But for the reasons which you give in your letter I do not believe we should now concede to the IPCS a second chance over arbitration. You made absolutely clear to them the Government's position and they made their choice (though there is some evidence that the leadership went further than the membership would have wished which is no doubt why they are now trying to claw

/ back ...

Paul Channon Esq., MP

CONFIDENTIAL

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back the position). We must maintain our credibility by sticking to the position that the 1980 settlement - which staff here seem to have accepted was a fair one - has been concluded.

This said, we obviously need to explore other ways of getting people back to work at Bishopton and I am asking Ministry of Defence officials to give this further careful thought in close consultation with yours. We then need to follow up the issues as a whole - as you propose in your letter to me of 14th May - to put the P & T Group and the interface with industrials on a viable footing for the longer term.

Copies of this letter go to the Prime Minister, Geoffrey Howe, Keith Joseph, Jim Prior, Michael Heseltine and Sir Robert Armstrong.

Yours

Lord Strathcona

CONFIDENTIAL

Civil Service Department
Whitehall London SW1A 2AZ
Telephone 01-273 3000

Minister of State

The Rt Hon Francis Pym MC MP
Secretary of State
Ministry of Defence
Main Building
Whitehall
LONDON SW1

14 May 1980

Dear Francis,

1980 P&T GROUP PAY REVIEW

You will know from my minute of 2 May to the Prime Minister that, following the refusal of the IPCS to go to arbitration in the normal way, I authorised the implementation, by administrative action, of a settlement of the 1980 Pay Review for the P&T Group. This was after consultation with the colleagues principally concerned.

The IPCS have now come back to me significantly changing their position. They attempt to argue that at no time did they insist on a change of Chairman of the CSAT as a condition of going to arbitration, rather they merely wished to press a suggestion upon me. I am quite clear that that is inconsistent with the facts (your officials have had copies of all the correspondence). At no stage before the implementation of the settlement did Mr McCall, the General Secretary, suggest that he did not seek to impose a condition. I am therefore convinced that in substance the IPCS have no case.

Nevertheless, we may well face a difficult propaganda battle. Recent events at the IPCS Conference have shown that the Union's officials are prepared to be totally unscrupulous in their representations to the membership about what has happened. In particular Mr Wright, the Deputy General Secretary designate, said, on this very point, in response to a censure motion, that the IPCS's decision to go to arbitration was conveyed to this Department on 1 May. That was not the case.

We reached a firm decision to introduce a settlement by administrative action. I twice made clear to the IPCS, in writing, that that settlement concluded the 1980 pay review for these staff. I believe that we should stick to that decision.

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Our credibility both as Government and management would be undermined if we retracted now. I emphasise that we have imposed a settlement of 18.5% which can scarcely be called ungenerous. There is as yet no sign of serious dissatisfaction with it among the staff concerned, although I fear the IPCS may now try to whip them up.

I therefore intend to reply to the IPCS this week reaffirming once and for all that the issue is now closed. We must firmly stick to whatever course we decide upon. Therefore I seek your agreement urgently. In view of the need for an early reply to the IPCS I should be grateful if you could let me know by tomorrow evening that you agree.

Copies of this letter go to the Prime Minister, Geoffrey Howe, Keith Joseph, Jim Prior, Michael Heseltine and Sir Robert Armstrong.

Y

PAUL CHANNON

Paul.

MANAGEMENT IN CONFIDENCE

Civil Service.

Civil Service Department
Whitehall London SW1A 2AZ
Telephone 01-273 3000

Minister of State

The Lord Strathcona
Minister of State
Ministry of Defence
Main Building
Whitehall
LONDON SW1A 2HB

14 May 1980

Dear Ethan.

12/4/8

1980 PAY REVIEW FOR P&T GROUP

Thank you for your letter of 30 April about the 1980 pay review for the P&T Group. As you know we were unable either to negotiate a settlement with the IPCS, or to persuade them to make a reference to arbitration under the present Chairman. We were therefore left with no alternative, if retrospection was not to be lost, but to introduce a settlement by administrative action. Therefore, on 2 May, after a last meeting with IPCS representatives, I authorised officials to introduce a settlement averaging 18.5% for these staff.

In the circumstances it has not been possible to discuss the Bishopton dispute with the IPCS in the way you suggested. I am sorry not to have been able to help on this, especially as the Ordnance Factories are one of the areas where the differentials problem is most severe. I am clear, however, that no useful purpose would have been served by my attempting to do so as matters in fact turned out.

As you say, the offer of a £500 allowance shows to the staff our willingness to examine the problems of the interface between the industrial Civil Service and the PTO IV grade, especially the PTO IV supervisors. You know of my reservations about dropping the proposal from the settlement. But in the light of your firm undertaking to live with all the consequences of the decision, I withdrew the offer. We must now consider longer term solutions to the P&T Group's problems. Like you I want to reach decisions which will be of lasting benefit to management. Officials in the key Departments are now carrying out a review of the Group and I shall ask them to report to me as soon as practicable.

I am sending copies of this letter to the Prime Minister, Jim Prior, Geoffrey Howe, Michael Heseltine, Keith Joseph and Sir Robert Armstrong.

Yours ever, Paul

PAUL CHANNON

MANAGEMENT IN CONFIDENCE

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C.(CSD) civil service Ous
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10 DOWNING STREET

From the Principal Private Secretary

6 May 1980

CIVIL SERVICE PAY SETTLEMENTS

The Prime Minister was grateful to your Minister for his minute of 2 May 1980 reporting on the pay negotiations for the Professional and Technology Group. She believes that the course which Mr. Channon took with the IPCS was right in the circumstances.

I am sending copies of this letter to the Private Secretaries to all Members of the Cabinet and to David Wright (Cabinet Office).

C. A. WHITMORE

G.E.T. Green, Esq.,
Civil Service Department

CONFIDENTIAL

2

Prime Minister.

I am sure that the Chairman took the right line.

TMJ 2.v.

Agreed MT

CONFIDENTIAL

PRIME MINISTER

CIVIL SERVICE PAY SETTLEMENTS

I reported to you on 14 April about the pay negotiations for the Professional and Technology Group, represented by the IPCS.

2. Because of the late arrival of the Pay Research Unit reports for these grades the deadline for completion of negotiations was extended to 30 April. It became clear early this week that an agreed settlement was most unlikely.

3. The IPCS came to see me on Tuesday, 29 April. At that meeting I made them a final offer averaging 18.5% and emphasised that I must have their decision to accept or to go to the Civil Service Arbitration Tribunal (CSAT) by the evening of 1 May. Failing either of these, the only possibilities were a late operative date or a settlement imposed by management.

4. The IPCS informed me this morning that they were willing to refer the dispute to the CSAT. But they placed an unacceptable condition on their decision - that the present Chairman be replaced by an alternative one for this reference. They have publicly declared they have no confidence in the Chairman because they did not like the CSAT's award, made on his casting vote, on last year's settlement. I told them that we would, of course, welcome arbitration as the proper way of resolving a difference. But there could be no question of our agreeing to an alternative Chairman.

5. I had a final meeting this afternoon with the IPCS to try to reach agreement. Regrettably they refused to withdraw their condition about the Chairman. I therefore have written informing them that I had authorised implementation of my offer. This ends this year's pay review. The increases are fair and in line with those for other major Civil Service groups who have already settled. They are compatible with the cash limit.

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6. The IPCS informed me in the course of the meeting that they would be pressing their view on arbitration on a member of the Government early next week. They made specific reference to the role of the Department of Employment. I am quite clear that the course I have taken, after consultation with colleagues most concerned, was required in the best interests of management and staff. It would create intolerable problems for the future to bow to the pressure to remove the independent Chairman.

7. I am copying this minute to members of the Cabinet and to Sir Robert Armstrong.

P.C.

PAUL CHANNON
2 May 1980

Civil Service

MINISTER OF STATE FOR DEFENCE
WHITEHALL LONDON SW1A 2HB
Telephone 01-218 6621 (Direct Dialling)
01-218 9000 (Switchboard)

MANAGEMENT IN CONFIDENCE

MANAGEMENT IN
CONFIDENCE

D/MIN/ES/22/2

30th April 1980

Dear Paul,

1980 PAY REVIEW FOR P & T GROUP

Since you wrote to Francis Pym on 25th April there has been a series of exchanges between our Departments including your most useful meeting with me and officials. I should now like to recapitulate where we stand.

First there is the question of allowances for supervisors. We have supported this idea in recent months, not because it was an obvious and easy remedy - which it was not, because of problems of definition, discrimination and inflexibility - but because we considered that something had to be done to ease the inversion position particularly when we needed to introduce new productivity schemes for industrials both to assist recruitment and save staff. You therefore included a supervisor's allowance of £500 in your initial open offer to the IPCS. I think this in itself was valuable. It showed to staff we were trying to find a way to solve the problem albeit in the short term; and the further open letters bring out our readiness to discuss longer term solutions. In this context I am very glad to hear of the study that has been set in hand by the Civil Service Department, with Ministry of

/ Defence ...

Paul Channon Esq., MP

MANAGEMENT IN
CONFIDENCE

Defence participation, to examine the way in which the pay of supervisors is related in outside industry to the pay of those industrial workers whom they supervise.

In the light of the way the negotiations were going, and the possibility of an imposed settlement you consulted me in your letter of 29th April on the specific issue of whether, in this case, a supervisor's allowance should continue to be included. Your own firm view was in favour. As you were told last night our view, after very careful thought, is the contrary. We recognise the case for consistency. We also accept your point that the lack of an allowance could make the introduction of new productivity schemes in the course of this year very much more difficult. But we consider that the difficulties of divisiveness, which were always there, become much stronger in an imposed settlement, since even if the supervisors were to co-operate in a new scheme, the other associated PTO IVs would certainly not. We also have anxieties that in an imposed settlement (which would, in the view of our senior line managers, be regarded by the staff - however irrationally - as administrators doing down engineers), the added imposition of a supervisory allowance would be regarded as a first step to impose, without consultation the break-up of the P & T Group. I confirm that, as was said last night, we fully accept that we must live with the consequences of this decision.

We still very much hope that an agreed settlement on arbitration will prove possible, but, if this should not be the case we have reviewed the question of an imposed settlement in the light of the latest pay scales.

/ Their ...

MANAGEMENT IN CONFIDENCE

Their weighting does seem to reduce some of the worst problems of horizontal relativities at the PPTO level (a very sore point) and help the senior supervisors by the larger increase at the PTO IV maximum. Given that there is no more money available, I see the arguments for having an imposed settlement now rather than negotiations carrying over the IPCS Conference and into the Science Group pay discussions, and then having difficult tensions over retrospection. I agree with Geoffrey Howe it is a gamble but one that we should take. There are, however, two general riders I should add.

First, and of particular importance to us, an imposed settlement removes one theoretical lever to be used to bring serious industrial disputes such as that at ROF Bishopton to an end. The history of this dispute to date makes it clear that TRD alone is not sufficient to persuade the non-industrial staff to resume normal working. In the absence of any other means of persuasion we are effectively powerless to bring their action to an end. We had hoped that it would be possible in the course of negotiating a final settlement to insist on the IPCS stopping all industrial action as a condition for agreement. With an imposed settlement this is not open to us and I do not at the moment see how we are going to bring this dispute to an end. For this reason, if the need for imposition arises largely in name and in order to provide a face saver for the IPCS and if there is any sign of goodwill in your talks with them I hope you will press them to call off their action and remind them that as they have opposed the supervisory allowance, their continued action is illogical.

/ Secondly ...

MANAGEMENT IN
CONFIDENCE

Secondly, I remain very concerned about the amorphousness of the P & T Group and all the problems the present structure gives rise to in pay and management. I know that our officials are examining new structures. I recognise there will be problems of carrying the IPCS along with our conclusions though it may be that we can pick up some of their earlier project ST ideas. But I am sure that it is essential that on this study, as on the earlier one I referred to on differentials, all possible progress is made and that reports come to Ministers before September so that action can be taken in time for next year's pay round.

I am sending copies of this letter to the Prime Minister, Jim Prior, Geoffrey Howe, Michael Heseltine, Keith Joseph and Sir Robert Armstrong.

Yours

Evan.

Lord Strathcona

MANAGEMENT IN CONFIDENCE
MANAGEMENT IN CONFIDENCE

CONFIDENTIAL

Civil Service

2 pps

T/L 6 sec

MBM

MP

2 MARSHAM STREET
LONDON SW1P 3EB

My ref:

Your ref:

29 April 1980

Dear Minister

1980 PAY REVIEW FOR P & T GROUP

You sent me a copy of your letter to Francis Pym of 25 April about this year's pay review for the P & T Group.

I can see the force of your argument for imposition of a settlement for the P & T Group if you have not reached agreement with the IPCS by 30 April, but there must be real room for doubt on the attitude of the IPCS membership to administrative action on a matter of such significance. They are already incensed by reports of earlier offers of 15% - 16%, and, while your new offer of around 18% will help there, its benefit may be entirely undone if quickly followed by imposition. It might well be better to allow matters to run on, even at the expense of some extension of the negotiating period, to allow pressure for acceptance to build up. I hope you will consider this alternative approach, though, if you and Francis Pym, believe that administrative action is nevertheless the right course, I should be prepared to go along with that.

I am sending copies of this letter to those who received yours.

Yours sincerely

J. Gould

p.p.

MICHAEL HESELTINE

Approved by the Secretary of State and signed in his absence.

Paul Channon MP Minister of State,
Civil Service Department

CONFIDENTIAL

Treasury Chambers, Parliament Street, SW1P 3AG
01-233 3000

29 April 1980

Paul Channon, Esq., MP
Minister of State
Civil Service Department

Dear Paul

1980 PAY REVIEW FOR P & T GROUP

Thank you for sending me a copy of your letter of 25 April to Francis Pym.

As you suggest, we appear to have only two alternatives. Either we allow negotiations to drag on - with the virtual certainty that tempers will rise and industrial action, particularly damaging in the defence context, will be imposed: or we attempt to forestall the discontent by an imposed settlement, in the hope that, as at BL, the matter will die down after some preliminary skirmishing. There can of course be no guarantee that the latter tactic will succeed, but equally I cannot see that anything would be lost by trying it. Accordingly, I agree with your suggested approach.

I am copying this letter to the recipients of yours.

Yours

GEOFFREY HOWE

with compliments

MINISTER OF STATE

CIVIL SERVICE DEPARTMENT
Whitehall London SW1A 2AZ

Telephone 01-273 5563/4086

Minister of State

Civil Service Department
Whitehall London SW1A 2AZ
Telephone 01-273 3000

29 April 1980

The Lord Strathcona
Minister of State
Ministry of Defence
Main Building
Whitehall
LONDON SW1

Dear Frank.

1980 PAY REVIEW FOR P&T STAFF

When we met yesterday afternoon we discussed whether, in the event of our having to improve a settlement for the P&T grades, the £500 supervisory allowance for PTO IVs should be included. We had both previously agreed that such an allowance was the best way forward this year on the difficult problem of the industrial/non-industrial interface.

Your officials were alerted this morning to the need for a clear decision on this question by this evening in the light of the developing exchanges with the IPCS. This was so that we could let the IPCS have the relevant pay scales today to allow due time for their consideration of whether to reach an agreed settlement with us this week. I subsequently wrote to you asking for a formal MOD view. As I explained my own firm view is that such an allowance is necessary if we are to hold the position successfully throughout the year after the industrials' settlement in July.

I was somewhat disturbed to learn late this afternoon that the MOD view was now that we should not include the allowance. You were not yourself available so I asked Sir Ian Bancroft to confirm personally with Sir Frank Cooper that this was indeed your considered view. In particular I was concerned to know whether you fully accepted that you would have to live with the consequences for the rest of the year in both the industrial and non-industrial areas and would not seek to argue for any re-opening of the P&T settlement.

I understand that this is indeed your position and I felt therefore that I had no option but to authorise the sending of pay scales to the IPCS which did not include any supervisory allowance. I did this reluctantly, and with great misgiving. However I appreciate that the industrial relations consequences will be primarily for you and am therefore prepared to acquiesce in your preferred course.

I am sending copies of this letter to the Prime Minister, Jim Prior, Sir Geoffrey Howe, Michael Heseltine, Sir Keith Joseph and Sir Robert Armstrong.

PAUL CHANNON

CONFIDENTIAL

2

Civil Service Department
Whitehall London SW1A 2AZ
Telephone 01-273 3000

Minister of State

25 April 1980

The Rt Hon Francis Pym MC MP
Secretary of State for Defence
Main Building
Whitehall
LONDON SW1A 2HB

Prime Minister
Apparent dead-lock with the IPCS over this year's settlement - you will remember there was trouble last year. Mr Channon is planning, if necessary, to impose an 18%. settlement.
28/4

Dear Secretary of State,

1980 PAY REVIEW FOR P & T GROUP

As you probably know, in accordance with the revised timetable for the 1980 pay review for the P & T Group, my officials made a formal offer to the IPCS on 16 April. Since then negotiations have continued but progress has been very slow. The IPCS have sought to continue, in great detail, the examination of the pay research evidence, and not until yesterday evening did they reveal what their own position might be on the substantive issues.

Their 1979 settlement went to arbitration: one element in the award was the 1980 settlement should be 3% above the PRU evidence.

We indicated to the union from a very early stage, albeit on an informal basis, that in the interests of an early and amicable settlement we should be prepared to go to up to 3% above the pay research evidence strictly interpreted (as it has been for all other unions). This would give due weight to the Civil Service Arbitration Tribunal award made in January of this year on the 1979 review for these staff. The IPCS have now made it clear that they are not prepared to settle on anything like the sort of figure which could emerge on that basis (which I estimate at something over 18%). Their minimum settling position is apparently about 24% and I see no way of bridging that gap.

The next step in accordance with the established procedures would be a reference to the independent Civil Service Arbitration Tribunal. However the union have refused to go to the CSAT under its present chairman. There are thus only two courses open; either we can allow matters to drag on past the appropriate date, which will involve the loss of retrospection for the staff concerned; or we can introduce a reasonable settlement by administrative action.

P.L.

At the beginning of April we extended the time limit of 1 April in the Pay Agreement to 30 April to provide sufficient time for negotiation and there are no grounds for extending it further. In any case the other Civil Service unions who have settled were held, despite their protests, to the tight time limits in the Pay Agreement and would react adverseley to more favourable treatment for the IPCS. The last date for a settlement if the staff are to have the money in their pay packets at the same time as the grades

CONFIDENTIAL

which have settled earlier is 2 May. I am convinced that the IPCS are deliberately attempting to spin matters out so as to avoid reaching a settlement before their conference (which begins on 12 May). We must therefore decide very quickly where management's best interests lie.

Loss of retrospection would be in accordance with the provisions in the Pay Agreement, but would have a great potential for disruption. We should effectively be committing ourselves to an open ended negotiating period, with serious industrial action almost immediately to back up the IPCS claim. All the staff concerned would be adversely affected and I could well imagine that we should quite soon find our position untenable.

I am clear that to wait until after the IPCS Conference to impose a settlement would be most undesirable. We should have allowed time for industrial action and IPCS propaganda. The union would have set itself unrealistic targets for the P & T Group. Moreover by 12 May the pay of our scientists will not have been resolved. It would be most undesirable to allow the IPCS to join two important sections of their membership in what would be presented as a common fight on their current, and unresolved, pay reviews. That, in my view, would be much worse than introducing a settlement now.

There are, of course, difficulties in proceeding by administrative action now. It would provoke adverse reactions from the IPCS and some members of the staff. However if we impose a reasonable offer by 2 May, comparable to that for the other major groups (18.4% for the Executive Grades, and 18.5% for the Clerical Grades), we shall be able to put the majority of P & T staff at the end of May, in the same position as their colleagues who have already had settlements. A substantial increase of this order should make it more difficult for the IPCS to whip up members' feelings before their Conference. The IPCS leadership would have much less incentive to reopen a closed matter at Conference than to press on with an unresolved issue.

I intend to instruct my officials to make an open offer of around 18% on Monday. They will also make clear that imposition or loss of retrospection are in prospect if no settlement is reached by 30 April. If matters are still unresolved by then, and the IPCS are still intransigent on arbitration we are faced with a difficult judgement. I am quite clear, however, that the best course would be to impose a settlement of 18.5% by administrative action and that we could readily justify this on the basis that the unions refusal either to settle or to go to arbitration leaves us with no acceptable alternative if the dispute is not to drag on indefinitely with consequent loss of money to the staff. My officials are in touch with yours about the make up of the component parts of such a settlement.

CONFIDENTIAL

Clearly imposition is a step to be taken only if we are all agreed on it, and if we are clear that we will stand firm. I should therefore be grateful for your agreement to this course by close of play Monday. I am sorry for the tight deadline but we cannot delay if we are to make payments in May. I would be delighted to come and discuss this on Monday with you or Euan Strathcona when you have had time to think about it.

Copies of this letter go to the Prime Minister, Geoffrey Howe, Keith Joseph, Michael Heseltine and Sir Robert Armstrong.

Yours sincerely

GD Roger

for PAUL CHANNON (Approved by the Minister of State and signed in his absence)

CONFIDENTIAL

CSD HEAD OF DIVISION NOTICE (80)10
11 February 1980

IPCS AND PAY RESEARCH

Following the Arbitration award on the 1979 P&T pay review, the IPCS has decided to suspend co-operation with the CSD and the Pay Research Unit on the 1981 pay research surveys, although they have accepted the 1979 rates for the P&T group and have undertaken to negotiate on the 1980 reviews. However, they have begun an aggressive campaign designed to gain support for their stand against the pay Agreement.

2. It is important that line managers understand the Official Side position so that they may respond effectively to representations from local Staff Sides or individual members of staff. Heads of Divisions may therefore wish to see and make use of the following briefing note prepared by Pay Division which sets out the Official Side position.

PROFESSIONAL AND SPECIALIST CIVIL SERVANTS' PAY: BRIEFING NOTE

The primary principle for determining Civil Service pay, as recommended by the Priestley Royal Commission, is fair comparison with what is paid by outside employers for broadly comparable work.

2. Differences in pay between specialist and other staff resulting from the application of this principle are not the result of the Government's view of the relative value of different groups. They are the result of the market's (ie the society's) valuation as reflected into the Civil Service.

3. The Government believes that this principle must be applied consistently to all staff. It would not be right to make exceptions for any staff - specialist or administrative. Neither management nor unions should be able to discard the current evidence for particular groups.

4. Priestley recommended that the right place for the Civil Service rate was around the middle of those paid by good employers. In the 1979 reviews all groups in pay research had offers framed on that basis. That is not an attack on professional staff. It is the proper application of fair comparison as recommended by Priestley and enshrined in the Pay Agreement. There is absolutely no question of any prejudice against specialists or any desire whatsoever to reduce their status.

5. All sicentific and professional and technology grades (up to DCSO and Directing B) are subject to pay research surveys for this year's pay settlement. The Government will interpret the results on precisely the same basis as for all groups of Civil Servants taking account of the PRU Board recommendations for PSO and SSO. The Official Side has no knowledge of what relativities will emerge from the 1980 review and certainly no

preconceived idea that any group will be relatively worse off. Any specialist grade may improve their relativity with administrators; that depends on the negotiations on the evidence which will be carried forward on a consistent basis for all grades.

6. The IPCS have laid great stress on alleged unique past practice for the P&T grades. They assert that nothing has changed. However, as the unanimous advisory opinion of the CSAT made clear, in the end what matters is a fair assessment of all the current evidence. Whatever may have been the reasons for the lead over the medians achieved by the P&T Group in the past, the best judgement of the Government was that no such lead was justified by the 1979 evidence.

7. The P&T Group's 1979 pay review was finally determined by the independent Civil Service Arbitration Tribunal. Its judgement largely supports the Official Side case. That case was grounded firmly on Priestley's recommendations and on very largely agreed facts about the current evidence. There can, in the circumstances, be no grounds whatsoever for believing that the Tribunal's verdict was in any sense perverse.

8. The IPCS attack on the independent Chairman is totally without justification. The CSAT made an award on the evidence and arguments put before it. The Official Side have never criticised an arbitrator for awarding against them.

9. The IPCS have made much of the lack of differentials between PTO IVs and industrial staff. The Official Side have been pressing them to discuss the problems and possible solutions since February 1979. The IPCS have so far refused to discuss the matter: the Official Side however still stand ready to take it up.

10. The IPCS have made a number of detailed points in their broadsheet "IPCS Pay 80". The Official Side's response to most of these is to be found in their Arbitration Case, which has been made available by the IPCS to their members. Staff should be encouraged to read both sides' cases carefully.

44/010

Civil Service 2

PRIME MINISTER

X is probably an understatement. The attached (private) circular from the IPCS General Secretary reflects the degree of bitterness the decision has caused. The IPCS Executive will meet early next week to decide what to do.

PRIME MINISTER

PROFESSIONAL AND TECHNOLOGY GROUP PAY DISPUTE

As you know, there has been a long dispute with the Institution of Professional Civil Servants about the 1979 pay settlement for this Group. I last wrote about it in a letter to the Secretary of State for Industry on 28 November.

We have now received the Civil Service Arbitration Tribunal's Award of new rates of pay for April 1979. Under the staging arrangements the Group have received the first and second stage payments and the balance due from 1 January 1980 can now be paid. These rates are only slightly higher than our open offer but substantially below the amount claimed by the IPCS. In round percentage terms, our offer would have increased their pay bill by 19%, the claim by 43%, and the award represents 23%.

These rates are consistent with the Official Side's stance in this dispute; all other civil servants have settled on the basis of pay research at the median rates and this award is only 3% above the median rates for the P & T Group. There may be some difficulties created by the IPCS as a result of the award. X

We are committed to accepting the award and are now pressing forward with arrangements to implement it as soon as possible.

I am copying this minute to all Members of the Cabinet, the Minister of Transport and to Sir Robert Armstrong.

P.C.

PAUL CHANNON

IPCS

The Institution of Professional Civil Servants

Northumberland Street, London WC2N 5BS Telephone 01-930 9755 Telex 8814818

To: National Executive Committee, Branch, Section and Sub-Section Secretaries (multiple copies), Professional Groups, Membership and Recruitment Secretaries.

Circ No. 1/80
NEC/GEN/1/1980

2 January 1980

Dear Colleague

1979 P ,& T PAY REVIEW

The Award of the Arbitration Tribunal was announced this afternoon. The Tribunal failed to agree and the Award was therefore made by the Chairman. Full details are appended.

The Award is a disaster for the Institution. It destroys the position of the Professional and Technology grades.

It stands in contrast with all the previous agreements and Arbitration Awards despite the fact that circumstances have not changed and despite the fact that the criteria have not changed. The Chairman has awarded only marginal increases on the CSD's offer and has subverted the well established bases on which the pay of the Professional and Technology Category has been determined in the past.

The Award devalues the Professional and Technology grades in relation to the Administration grades and in every respect poses major issues of policy for the Institution.

The Chairman has in substance supported the Civil Service Department and has established that the pay system as we have known and understood it no longer applies. This new system has done enormous damage to the grades we represent and it is obviously impossible for the Institution to support it. We must see that this new system which the Chairman of the Tribunal had no right or authority to invent is changed as quickly as possible.

The National Executive Committee will be considering the situation at its next meeting on Monday. There will also be a very early special meeting of the General Executive Committee of the Professional and Technology Group. We will be arranging an extensive series of meetings of members and we will be making recommendations for the policy which the Institution must now pursue.

There is no point in diminishing the significance of this defeat. The position of the Professional and Technology grades has been worsened to a degree unknown in living memory. That the position would have been worse had the CSD got their way entirely is no consolation whatever. The Award confirms the need for a strong Institution to stand together in a determined campaign to change the situation and to remove the damage of this incredible Award. A grave injustice has been done and our task now is to put it right as quickly as possible.

Yours sincerely
WILLIAM McCALL
General Secretary

SALARY SCALES

Grade	Scale at 1 4 78	Current Scale 1 8 79	Scale Claimed 1 1 80	CSD Offer 1 1 80	Tribunal Award 1 1 80	Percentage Increase 1 4 78-1 1 80	Balance due at 1 1 80 Amount	%
PPTO	8729	9951	12675	10700	11,021	26.3	1070	10.8
	8389	9563	12275	10410	10,764	28.3	1201	12.6
	8050	9177	11875	10120	10,455	29.9	1278	13.9
	7749	8834	11475	9830	10,146	30.9	1312	14.9
	7448	8491	11075	9540	9,837	32.1	1346	15.9
			10675	9250	9,528	-		
PTO I	7064	8053	(10150)	(8350)	(8,601)	21.8	548	6.8
	6862	7823	(10150)	8350	8,601	25.3	778	9.9
	6670	7604	10150	8150	8,395	25.9	791	10.4
	6484	7392	9750	7940	8,179	26.1	787	10.7
	6298	7180	9350	7730	7,962	26.4	782	10.9
	6112	6968	8950	7520	7,746	26.7	778	11.2
	5926	6756	8550	7310	7,530	27.1	774	11.5
	5739	6542	8150	7100	7,313	27.4	771	11.8
PTO II	5739	6542	7850	6700	6,901	20.2	359	5.5
	5559	6337	7630	6525	6,721	20.9	384	6.1
	5378	6131	7410	6350	6,541	21.6	410	6.7
	5208	5937	7190	6175	6,361	22.1	424	7.1
	5039	5744	6970	6000	6,180	22.6	436	7.6
	4869	5551	6750	5825	6,000	23.2	449	8.1
Professional entry points	4763	5482	6750	5650	5,820	22.2	338	6.2
	4654	5358	6675	5500	5,665	21.7	307	5.7
	4545	5234	6575	5345	5,506	21.1	272	5.2
	4435	5108	6475	5185	5,341	20.4	233	4.6
	4326	4984	6375	5025	5,176	19.6	192	3.9
PTO III	4869	5551	(6750)	(5650)	(5,820)	19.5	269	4.8
	4763	5482	6750	5650	5,820	22.2	338	6.2
	4654	5358	6675	5500	5,665	21.7	307	5.7
	4545	5234	6575	5345	5,506	21.1	272	5.2
	4435	5108	6475	5185	5,341	20.4	233	4.6
	4326	4984	6375	5025	5,176	19.6	192	3.9
PTO IV								
Main scale	4326	4984	6375	5100	5,253	21.4	269	5.4
	4206	4847	6225	4950	5,099	21.2	252	5.2
	4085	4709	6050	4800	4,944	21.0	235	5.0
	3981	4591	5875	4650	4,790	20.3	199	4.3
	3878	4450	5700	4500	4,635	19.5	185	4.2
Entry scale	3981	4591			(4,790)	20.3	199	4.3
	3878	4450	Abolish	Abolish	(4,635)	19.5	185	4.2
Age 27	3774	4355	entry	entry	(4,635)	22.8	280	6.4
Age 26	3671	4237	scale	scale	(4,635)	26.3	398	9.4
Age 25	3562	4113			(4,635)	30.1	522	12.7
Age 24	3458	3994			(4,635)	34.0	641	16.0
Age 23	3355	3877			(4,635)	38.2	758	19.6
Age 22	3257	3758			(4,635)	42.3	877	23.3
Age 21	3148	3641			(4635)	47.2	994	27.3

NB. The PPTO scale has been lengthened by one point. The new minimum will not apply to any existing staff. The PTO I and PTO III scales have been shortened by one point - assimilation by corresponding points. The entry scale for the PTO IV has been abolished - assimilation is as shown.

REVIEW OF THE SCIENTIFIC CIVIL SERVICE (1980)

REPORT OF A WORKING GROUP OF THE MANAGEMENT COMMITTEE FOR THE SCIENCE GROUP (CSD)

Civil Service Department
Whitehall
LONDON SW1A 2AZ

I N D E X

ANNEXES

ACRONYMS USED IN THE REPORT

ACARD	Advisory Council for Applied Research and Development
ARC	Agricultural Research Council
ASO	Assistant Scientific Officer
ASR	Annual Staff Report
BRS	Building Research Station
BSI	British Standards Institution
CDI	Career Development Interview
CSC	Civil Service Commission
CSD	Civil Service Department
CSO(B)	Chief Scientific Officer (B)
DAFS	Department of Agriculture and Fisheries for Scotland
DCSO	Deputy Chief Scientific Officer
DHSS	Department of Health and Social Security
DOE	Department of the Environment
DOI	Department of Industry
DSIR	Department of Scientific and Industrial Research.
DTp	Department of Transport
EEC	European Economic Community
HEO(A)	Higher Executive Officer (A)
HOP	Head of Profession
HQ	Headquarters
HSO	Higher Scientific Officer
IMP	Individual Merit Promotion
IPCS	Institution of Professional Civil Servants
IRDA	Industrial Research and Development Authority
JAR	Job Appraisal Review
MAFF	Ministry of Agriculture Fisheries and Food
MOD	Ministry of Defence
MRC	Medical Research Council
MSL	Management Services Ltd ~~(index)~~
NERC	Natural Environment Research Council
OR	Operational Research
PPTO	Principal Professional and Technical Officer
PRISM	Personnel Record Information System for Management
PSO	Principal Scientific Officer

P&T	Professional and Technology (group)
R&D	Research and Development
RE	Research Establishment
RRL	Road Research Laboratory
SCS	Scientific Civil Service
SMC	Management Committee for the Science Group
SO	Scientific Officer
SPATS	Senior Professional Administrative Training Scheme
SPSO	Senior Principal Scientific Officer
SRC	Science Research Council
SSO	Senior Scientific Officer
UKAEA	United Kingdom Atomic Energy Authority

MANAGEMENT IN CONFIDENCE

REVIEW OF THE SCIENTIFIC CIVIL SERVICE

I. BACKGROUND AND TERMS OF REFERENCE

The Context

This report is about how the Government recruits and manages its scientific staff: about the work they do and the careers they follow. It is concerned especially with the Scientific Civil Service[1] (SCS)[2] that is, scientists in grades up to and including Chief Scientific Officer (B) serving in the central departments of State, but it also discusses scientists in other parts of the Public Service, such as the Atomic Energy Authority (UKAEA), the Science Research Council (SRC), Agricultural Research Council (ARC) and the Natural Environment Research Council (NERC). Such parts of the wider public service are sometimes termed 'fringe bodies'. The report does not, however, cover scientists elsewhere in the wider public sector, for example in nationalised industries and local authorities.

1.2 It is a truism that we live in an increasingly technological world. Scientific and technical considerations underly many decisions made in Government and industry. The implications of discoveries in microelectronics, computer-aided design and manufacture and biotechnology have recently been examined by the Advisory Council on Applied Research and Development (ACARD)[2]. The need to strengthen the 'engineering dimension' in industry is a basic theme of the report by the Committee of Inquiry into the Engineering Profession (the Finniston Report). The need to strengthen the 'scientific dimension' of Government is implicit in the present report. We believe ~~this is vital~~ if policies - for example on defence systems, energy supply and conservation, industrial potential, the use of materials in building and construction, public health, pollution control or environmental management - are to be sound and effective. ~~This~~ can be ~~done~~ only by involving scientists - people who have extended a theoretical training in a scientific discipline by practical experience of scientific investigation and application - directly in the machinery by which policies are formed.

1.3 Good scientists and engineers are a precious national resource. It is important that whoever employs them makes the best possible use of their talents - whether in creative research and development, in the application of the knowledge thus won, or in the formulation of policies that will make the best use of new capabilities. Government, as an employer of significant numbers of scientists, and as custodian of national policies, has responsibilities across the whole field.

1.4 Doubts have, however, been expressed frequently over the past decade about whether Government as an employer handles its scientists as well as it should. There have been debates over whether Government employs too many of the country's best scientists or, alternatively, has insufficient high-quality scientific staff for its essential needs. There has been uncertainty about what scientists in Government are expected to contribute, and about the best way of establishing working patterns and career opportunities that allow them to develop and apply their talents.

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[1] Annex B1 defines and Annex D presents statistics on the composition of the Scientific Civil Service.

[2] The acronyms used in this Report are listed on Page iv and publications bearing upon it in Annex B2.

1.5 There has been argument in the past about whether scientists should be 'on tap' or 'on top'. Should they be treated as specialists available for consultation by administrators engaged in advising ministers on national policy and in drafting and operating legislation - or should some at least of them be directly involved in those tasks? Is their value not just as specialists in a particular area, but as people whose knowledge and ways of approaching problems have an important contribution to make more generally? In other words, have people who have learned through the practice of Science to think in a certain way a contribution to make to the determination of policy even where scientific factors are not the sole, or even the main, determinants? We consider that "technological generalists" (by which we mean scientists who have added an understanding of management and administration to their professional abilities) could make a wider contribution at the top of the Civil Service. But, if scientists are to be engaged both as specialists and as "technological generalists" what training should they have for the latter role and how far should the two roles be interchangeable with one another and with those of other groups in the Civil Service? Finally how can the SCS display flexibility in the face of changing and rapidly advancing specialist knowledge when the majority of civil servants have a 35-40 year career span?

The Genesis of this Review

1.6 These issues were considered in a report by Lord Rothschild (Cmnd 4814) and a subsequent government White Paper (Cmnd 5046) which set up a new "Framework for Government Research and Development". Chapter IV of Cmnd 5046 proposed organisational changes designed to 'enable scientists both inside and outside Government to play a larger role in working out departmental needs and in policy formulation'. As a result of the report and of other concerns expressed in the early 1970s, some additional specific measures were introduced to increase the opportunities for scientists in Government management and administration. These were

a. A special scheme of training for Principal Scientific Officers (PSO), Principal Professional and Technical Officers (PPTO) and other specialists who are judged to have the potential to reach the higher levels of the Civil Service. This scheme (termed SPATS - the Senior Professional Administrative Training Scheme) provides suitable specialists with extended training including a two-year administrative experience posting in a central department, after which most scientists would return to scientific work, broadened by their recent experience, while a few might transfer permanently to the Administration Group;

b. An attempt to increase the intake of recruits with specialist (including scientific) qualifications into the Administration Group through a special competition for transfer at Principal level;

c. The creation of a small task force to promote interchange of staff between the Civil Service, the Research Councils, universities and industry;

d. A scheme to identify outstanding officers from specialist as well as administrative groups for nomination as HEO(A). This provides intensive training and testing experience with a view to their becoming Principals in the next ~~2~~ two or ~~3~~ three years.

1.7 Cmnd 5046 emphasised that the Government still expected that the great majority of those who entered the SCS would do so because they wanted a scientific career. It was not expected that the new schemes would cause many dramatic switches in mid career from research to technical policy advice or general administration. But it was felt that training in management and administration should be a part of the normal career development of those scientists who were likely to rise to positions in which they were responsible

for running research groups or administering projects "because they are concerned with decisions on priorities and the allocation of resources and participating in policy decisions".

1.8 Cmnd 5046 stated as an article of faith that greater mobility between science and administration, and the training of more scientists in management, were desirable, and that SPATS, the special competition and the task force should achieve what was needed. It was noted, however, that there were three particular obstacles to the movement of scientists into management and administration. 'First, the belief they do not want to do it;' second, uncertainty about their ability to become effective managers or administrators; and third, uncertainty on the part of the scientists themselves that management really wants them to move into management and administration' (Cmnd 5046, para 31).

1.9 In 1979 there was a review of how well the 'Framework for Government Research and Development' (Cmnd 5046) had worked out. The Report (Cmnd 7499) makes it quite clear that the first three schemes listed in paragraph 1.6 have not succeeded in achieving the changes Lord Rothschild's report sought. The facts are as follows:

a. There was a decline in the number of scientists training through the SPATS scheme from 24 in 1972 to 4 in 1978. 'For this group the scheme has not been a success' (Cmnd 7499, para 27). This is in contrast to other groups.

b. Since 1972 there has been an increase in the number of 'opportunity posts' in the Civil Service, open to a range of groups and classes. They give opportunities for scientists to gain a wider experience of management and administration. Yet 'the experience of Departments has been a recent decline in the numbers and quality of scientists applying for these posts'. (Cmnd 7499, para 28).

c. The special competition for specialists seeking permanent transfer to Administrative Principal 'has also not been successful' according to Cmnd 7499. In 1975-1979 (inclusive) 8 scientists were accepted under this scheme.

d. Since 1970 the proportion of recruits to the Administration Trainee Grade of the Administration Group with qualifications in science, mathematics or engineering has varied considerably between about 7% and 16%, but shows no clear trend.

e. Finally the Scientists Interchange Unit set up to promote interchange between the Civil Service and outside professional groups, although it succeeded in arranging some worthwhile exchanges, was dealing with such small numbers, each involving such a large volume of work, that it was clearly uneconomical and was disbanded in 1978.

1.10 From this record it seems clear either that Cmnd 5046 was wrong in assuming that scientists needed or wanted the kind of training and opportunity it proposed, or that the specific measures were inappropriate. Possibly this is because the contribution that scientists should make in Government is still not clear either to the scientists or to their professional and administrative counterparts. As Cmnd 7499 said, it is not possible to look at the questions posed by the apparent failure of the three special schemes in isolation from the fundamental premises upon which the current personnel management policies for the Civil Service are based. Accordingly the then Government put in hand a 'wide-ranging review of the recruitment, structure and management of the Scientific Civil Service to see that we have the staff of the quality and experience needed to undertake the full range of work expected of scientists in future'. The present report is the outcome of that review.

Constitution of the Present Inquiry

1.11 The terms of reference for our inquiry were:

'Given that, as set out in Cmnd 5046, the Science Group* exists to provide scientific support for Departmental objectives, to consider:

i. the share of the nation's scientifically educated manpower employed in the Science Group;

ii. whether the Group is properly and economically recruited, structured, managed and deployed;

iii. how the Group could best be used to provide:

a. support for technical progress in industry

b. support for Government regulatory functions

c. support for Government R and D functions

d. an effective contribution to the formation of Government policy generally'.

1.12 Our remit thus goes very much wider than an exploration of whether the Rothschild Report's devices to secure more movement from specialist science to general management were well conceived. Indeed, the third of our terms of reference, linked to the general declaration of intent in Cmnd 7499, implies a forecasting exercise of considerable difficulty.

Our Approach

1.13 One of the most fundamental questions must be whether the Government obtains enough - or too many - scientists of the highest quality: what share of the nation's stock of qualified scientists it should employ. It seemed inappropriate for a Working Party like ours, composed entirely of Civil Servants and taking evidence largely from within Government, to try to answer this question, which is one for Ministerial judgement about the functions of Government in relation, especially, to those of industry. Recognizing this, and the inevitability of shifts in such balances with time and circumstance, we have confined ourselves to determining the share of the nation's scientifically educated manpower that the Government does employ, whether that share has changed significantly over recent years, whether there are any signs that it has been inadequate to the demands made of it, and whether there are obvious reasons why it is likely to change in the future.

1.14 We have also pondered our instruction to consider whether the scientists in Government are 'properly and economically recruited, structured, managed and deployed', recognizing that what is proper and economic is a subject for

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*Strictly speaking, the Science Group is that part of the Scientific Civil Service up to and including PSO but not SPSO, DCSO or CSO(B) grades. We have not found it prudent to exclude more senior grades from discussion and have consequently interpreted our remit as embracing the whole Scientific Civil Service (and where relevant those scientists in the Public Service as defined in Annex B). We have therefore in general used the expression 'Scientific Civil Service' rather than 'Science Group' throughout this report.

considerable argument. We have sought to analyse how far these processes are done effectively (we explain what we mean by "effective" in para 2.14) - and how far people are dissatisfied with them and have sensible ideas about improvement. And we have recognised throughout our study that many of the matters with which we are concerned have been the subject of careful negotiation between the Government and the representatives of its staff through the Whitley Council system. It is inevitable that we discuss, and reach some conclusions on, issues of this kind, but we appreciate that our proposals must now be discussed further within the established negotiating machinery.

1.15 Our third term of reference also raises questions of policy which can be answered finally only by Ministers. We have not considered it our place to debate how far Government should provide support for technical progress in industry, or where the boundary should lie between Research and Development (R & D) in Government establishments and in the private sector. Rather, we have based our work on the conviction that there will continue to be a need for Government to undertake and to commission R & D, to draw on scientific understanding as a basis for regulations, and to establish an economic and administrative environment within which industrial technologies will evolve; and we have considered how the SCS can best be used to support Ministers in these and related fields - hence making "an effective contribution to the formation of Government policy generally".

1.16 Other problems have arisen because it is not easy to consider our third term of reference in relation to the SCS alone. The SCS is complementary to other groups in almost all its functions and overlaps with them to some extent at the margin. In R & D it is complementary to the Professional and Technology Group (P & T) and Research Officer Category (these are defined in Annex B); in support for industry it is complementary to the P & T Group and, in some departments, the Administration Group; in Government regulatory functions it is complementary to most of the other professional groups; and in policy advice to both professionals, such as economists and statisticians, and the Administration group. Recommendations for change in the SCS could therefore have an impact on one or more of the other groups and classes in the Civil Service.

The Problems in 1980

1.17 Many of the problems we have encountered in our work are far from new. For much of the present century, successive commissions and committees have debated the role of specialists, including scientists, in Government. We have therefore undertaken, and include in Annex C to this Report, a brief review of the history of these developments.

1.18 This review reveals that there have been major changes in the approach to Government science, particularly over the last 35 years. The UK emerged from the Second World War - a war in which the rapid development of new technologies had played a very important role - with the conviction that the nurturing by Government of the nation's scientific and technological resources was essential if we were to "win the peace". The Barlow Report (Cmd 6679), which set the scene for the modern SCS, was written in that context, and the Zuckerman Report in 1961 defined the essential role of Government establishments in applied and objective basic research.

1.19 After the Barlow Report what is now the SCS had 3 classes: the Scientific Officer class for "prime movers" and leaders of scientific teams, the Experimental Officer class for those engaged in scientific services and in routine research and the Scientific Assistant class for people providing technical support. These functional classes were readily defined, but the barriers to movement between them proved unduly rigid and in 1972, following the Fulton Report (Cmnd 3638), all these Government scientists were brought together in a single group - the Science Group.

1.20 The Rothschild Report (Cmnd 4814) implied that the growth in the Government's scientific effort had been subject to insufficient control and direction. The customer - contractor principle (which already operated to some degree) was made explicit and extended under Cmnd 5046 and, as noted in Cmnd 7499, is still operating in a broadly satisfactory fashion.

1.21 Through all these changes central questions persist. Chief among the problems that have perplexed previous inquiries, back to the days of Lord Haldane, remain:

a. Objectives: what is science in Government for and how do departments and other Public Service organizations differ in their aims and therefore in their need for scientists;

b. Recruitment: how to secure the right number of people with the right standards and qualifications for a Government service whose demands must inevitably change in a manner that cannot be precisely predicted and whose resources will not permit the easy course of continued expansion by buying in new skills as they become necessary;

c. Mobility: how to ensure that individuals do not become prematurely and irreversibly committed to a particular kind of scientific career when their talents might lead in middle life in other directions. Specifically - how far people who start as specialists should be encouraged and trained to become generalists;

d. Advancement: how to ensure that structural barriers within the Civil Service do not hold back the careers of individuals who have more to give, and who deserve more of their employers;

e. Choice: how to ensure that individual motivation remains an important element in career development, yet does not lead officers to choose 'soft options': alternatively, how to establish positive career management that meets the interests of the Service but does not unduly coerce the individual;

f. Linkage: how to ensure that the Civil Service, and its scientific establishments, are not isolated or inward looking, but participate in the nation's scientific community and have a close contact with those whose problems they help to solve;

g. Creativity and accountability: how to ensure that individuals pursue their enthusiasms and develop their insights - but do work that is in accordance with the Government's objectives and provides value for public money.

1.22 The history of the SCS raises time and again the difficulties inherent in trying to reconcile freedom and accountability. The Haldane and Zuckerman Reports stressed the need to pursue inquiry without undue confinement: both clearly saw that in basic and objective basic research the most efficient course was one involving minimal management. The Rothschild report stressed accountability: the need to make research scientists recognize that they were paid for a purpose and needed to serve a customer. We have been forced to consider the balance between creative freedom and accountable management yet again.

1.23 People want to follow their own bent, choosing work they enjoy, ~~and yet~~ but at the same time they want to get to the top - or somewhere near it. Yet they are often reluctant to accept the contradictions that can be inherent in such an attitude. The skills required at the top of the Civil Service - where virtually all the jobs involve the management of people or money, and the judgement of how Ministers' policies can best be achieved in the face of inevitable

uncertainties - come only through training and considerable experience. Yet few scientists relish being taken from specialist activities in their early and middle years and brought into central departments so as to be tested and trained in just those management skills without which the road to the top even for graduates is likely to stop at, or a little above, PSO. We devote much of our report to considering how far the management of scientists should be made more positive.

1.24 We have been impressed by the diversity of scientific skills and professional activities within the SCS. These are constantly changing, but at different rates. Believing as we do that the 'scientific dimension' will gain in importance in future, we have considered whether the limiting factors are likely to lie in the supply of staff of the requisite quality, in the conditions of employment and reward Government can offer them, in the general attitudes towards their use and advancement, or in the structure and management of the SCS itself. Specifically, we have asked ourselves how far a fundamental restructuring of the Civil Service is needed to meet foreseeable challenges.

1.25 These are difficult questions to answer. We accept that adjusting the machinery is useless if the real problem lies in the supply of good people. We have noted however that the frontier between the SCS, the P & T Group, and other specialisms like the Research Officer Category or the Petroleum Specialists, is not clear-cut: an engineer joining the service can be eligible for more than one of them, and there are some posts that are open to several groups. It can be argued that the sub-division of staff into very broad discipline-linked groups like the SCS or P & T Group is unsatisfactory in that it involves the arbitrary dissection of a continuum without doing this finely enough to allow individual disciplines (and especially those in short supply) to be recruited, paid and managed as meaningful entities. It can also be argued that the really important classification is that which discriminates between job type rather than discipline because R & D, technical support, scientific services, project management, administration and policy advice make different demands and have different counterparts both within and outside the Civil Service.

1.26 Our terms of reference and our membership make it inappropriate for us to pursue these issues of structure. We were instructed to scrutinise the SCS yet to answer the wider question we would have needed also to examine the work of the P & T Group and others, and our membership would have had to be extended appropriately. Nor have we been in a position to examine pay issues; scientists' pay is currently the subject of pay research. We might have been more daring in interpreting our remit had the evidence we received suggested that there was widespread dissatisfaction with the present structure, but this is not the case. We have been convinced that, while the structure of the SCS cannot be immutable, and a number of issues will have to be looked at in future (we refer to some of these in Chapter 7), greater priority should be given to the achievement of some modest but real advances we consider desirable. Much can be done with existing management tools if they are used with determination, and if there are some changes in attitude among scientists and administrators.

1.27 This report, therefore, advocates evolution rather than revolution. It may well be that another group with wider terms of reference will need in due course to consider the case for more radical surgery - just as others may wish to examine the basic question of the share of the nation's stock of scientists the Government should employ. Meanwhile, we hope our suggestions can be followed, and we believe that our report may also be useful because we have gathered together a body of information about the work of scientists in Government that is not available elsewhere and should not only promote understanding but be a 'quarry' for those examining these matters in future.

1.28 This Report is addressed in the first instance to the Civil Service Department (CSD) through its Management Committee for the Science Group (SMC). In the notice setting out the composition and terms of reference of our working group it was, however, stated that a report on our activities would be published. There is widespread concern within the SCS about what the future holds for its members and we know that our work has excited interest and hope. Accordingly, we have written in a style designed for publication. ~~and we hope that this will be agreed.~~

II. THE DEPLOYMENT OF SCIENTISTS IN GOVERNMENT

Our terms of reference have a central assumption - that "the Science Group exists to provide scientific support for departmental objectives". We stress the word "departmental". As Cmnd 7499 (paragraph 4) says: "In short, the Government does not have a single science policy: it has a whole range of policies relating, for example, to defence, industry, agriculture and the environment". Thus the tasks required of Government scientists, and the abilities and experience they need, must match a variety of departmental aims. Although in this Report we have been forced to discuss issues in general terms, we must expect some variation both in problems and solutions from one department to another. And it is not surprising that the Scientific Civil Service (SCS) is remarkable for its diversity of functions, and that Government scientists do not form a homogeneous group or work in a uniform environment.

The Activities of Scientists in Government

2.2 Scientists in government engage in a number of activities. For convenience (at the sacrifice of comprehensive detail) we assume six main types of activity, (not necessarily in order of importance):

i. Research and Development: original investigation undertaken in order to gain new scientific knowledge and understanding whether or not primarily directed towards any specific practical aim or application; the use of scientific knowledge in order to produce new or substantially improved materials, devices, processes, systems or services;

ii. Project Management: the management of major projects, including development, production and in service support, carried out directly by a department or by industry (most commonly found within the Ministry of Defence (MOD));

iii. Scientific Services: the collection and analysis of technical and scientific data; provision of advice, services and information to organisations and to the general public; analysis of samples as a service (The Meteorological Office, Laboratory of the Government Chemist and the Forensic Science Laboratories provide examples);

iv. Technical Support: support to those engaged on research and development or scientific services; routine testing and quality control or work directly associated with production, installation and maintenance;

v. Administration and Senior Management: work primarily of an administrative nature in both headquarters (HQ) divisions and R & D Establishments, including the management of scientific resources generally, the letting and management of R & D contracts and training, management services, personnel management and other general management tasks;

vi. The Formation of General Policy: the provision of a scientific and technical contribution.

2.3 The distribution of these activities in Government is illustrated in Annex H, based on a survey of departments carried out by the CSD and the Institution of Professional Civil Servants (IPCS) in the context of pay research for scientists. We have adapted our activity definitions from this survey; the data do not, however, permit us to separate either (i) and (iv) or (v) and (vi) above. The results of a sample survey two years earlier gave essentially similar results.

2.4 Many individuals undertake only one of these types of activity throughout their career. The normal career ceiling of such people is affected by the nature of the work. For those engaged in technical support, progression is towards a job as leading technician, vital to the operation of any research laboratory or scientific service but with an effective ceiling at Senior Scientific Officer (SSO) at most. For those who rise to lead groups providing scientific services there are more posts above SSO but few above PSO. In R & D, able individuals can rise fairly swiftly to PSO but advancement beyond this level is possible only by satisfying the stringent criteria governing promotion on grounds of individual merit to Senior Principal Scientific Officer and Deputy Chief Scientific Officer (SPSO, DCSO) and above or by a change of work to administration and senior management (as defined in para 2.2). Project management (found mostly in MOD) draws its "recruits" from other types of activity, at Higher Scientific Officer (HSO) and above. Administration, senior management and the ~~provision of technical contributions to~~ formulation of general policy involve few staff below SSO and provide the ~~vast~~ majority of openings (~~885~~ 618 out of ~~1026~~ 930) above PSO. Outside the MOD this is virtually the only way by which scientists can move into the Open Structure at the top of the Civil Service.

2.5 These activities take place in different environments. Most of those undertaking and administering R & D, providing scientific services, or giving technical support to both, work in Research Establishments (REs) outside London. Most of those engaged in providing a technical contribution to policy or in determining and managing departmental research programmes work under Chief Scientists and Controllers of R & D in departmental HQs in London, Edinburgh or Cardiff. The Procurement Executive of the MOD is distinctive because it employs scientists in a continuum of activities (the equipment procurement process stretches from research through development and design to production, quality assurance and in-service support) in an integrated environment, embracing both REs ~~R & D Establishments~~ and HQ, that is available in no other department. Finally, the Research Councils and certain other "fringe bodies" provide a fourth category of employment, because they are not part of the Civil Service although they too are largely made up of REs with small HQs, mostly outside London, offering conditions of employment similar to the Civil Service. Annex G illustrates diagrammatically the scientific structures of departments, fringe bodies and Research Councils.

2.6 The work of REs and HQs, both in Civil Service departments and Research Councils is complementary. However, there are some structural features important for our review - mainly because they provide barriers to mobility or to career development. Because Research Councils are outside the Civil Service the interchange of scientists between them and departments is hampered even though both may employ very similar people (as in the Ministry of Agriculture, Fisheries and Food/Department of Agriculture and Fisheries for Scotland (MAFF/DAFS) and the ARC, or in the Department of Environment (DOE) and NERC). Because the majority of scientists at PSO or below are based at REs, while the majority of HQ staff are graded SSO and above, apparent opportunities for individuals with the right skills to gain promotion by transfer to HQ may be hampered by geographical barriers.

2.7 A third problem can arise because there is rarely an exact correspondence in activities between an RE and its parent department. The Building Research Establishment, for example, is organizationally a part of the common services of the Departments of Environment and Transport (DOE/DTp), but its work supports the Home Office (on fire safety) Department of Energy (on energy consumption and conservation in buildings), the Scottish and Welsh Offices and the Overseas Development Administration as well as local government, standardisation bodies like the British Standards Institution (BSI) and Agrement Board, and industry. Staff interchanges with these other customers could in principle be of value, yet may not automatically be thought of when careers are planned. And when scarce departmental resources are allocated there can also be reluctance to give equal weight to the full range of user interests.

2.8 These barriers appear less significant in the MOD, partly because of its size. In the MOD, some 70% of the scientific staff outside the Meteorological Office are engaged in project work: ie in managing and supporting the procurement of weapons and equipment that meet agreed specifications, costs and timescales. The general policy is that design, development and production of equipment should be carried out by industry, though there are exceptions - notably for armoured fighting vehicles, guns and warheads - where ~~R & D Establishments~~ undertake design and development in addition to their research work and other activities, and production is carried out mainly in the Royal Ordnance Factories. For the most part, scientists are involved in the earlier stages of the procurement cycle (including the evolution of the operational requirement and the associated studies, the project definition stage and the preparation of the specification for development), in trials and in project management of the later stages including the supervision of the work done by industry. Many of the staff for HQ project management work are drawn from the R & D establishments, to which many return after a spell at HQ. MOD is a special case. Its needs for scientists cover such a broad spectrum that the Ministry can provide a very wide range of career opportunities "in house". In this respect it is outstanding amongst the departments of Government, the Research Councils and fringe bodies.

The Changing Environment of Government Science

2.9 The SCS is now some 17,000 strong. Over the past 35 years its functions have broadened. Its principles of staff management have changed. And the principles upon which the Government deploys its scientific resources have been redefined. We are not convinced, however, that there has been a commensurate change in the attitudes of those who manage science and scientists within the Service, or in those of the scientists themselves.

2.10 We believe that over the past five years there has been a change in the context within which the SCS works as fundamental as any brought about previously by deliberate reform. In the 1960s there was overall growth, averaging 1% a year, and from 1969-1979 a steady increase in posts at PSO level (or earlier equivalents) averaging 3% per annum. Over the past four years, in contrast, SCS numbers have fallen by about 1,000, roughly half of which is attributable to a loss of Assistant Scientific Officers (ASOs) (See Annex D)[1]. What happens in the future will largely be for Ministerial decision but the indications are that for the foreseeable future the Civil Service, and the SCS within it, will now contract rather than expand, perhaps with some transfer of functions to other sectors of the economy.

2.11 In any organization a switch from growth to contraction imposes strains and difficulties for management. It tends to produce an age distribution with a 'bulge' of staff in early and mid-career. There are two major consequences. First, promotion prospects are reduced if advancement is mainly controlled by the number of senior officers retiring or leaving the Service. (If this is not done, as the 'bulge' moves forward the distribution of people across the grades becomes very top-heavy - a 'grade drift' - causing expense not always justified by work needs). In the SCS, where promotion up to and including PSO has generally (until recently) not been constrained by fixed complements, provided there is genuine justification for work at the higher levels, the impact of constraints designed to achieve a balanced grade structure could be particularly irksome - and would genuinely reduce career prospects. Second, contraction and changing functions imply the redeployment of individuals, causing further doubts and uncertainties for the staff concerned and many problems of retraining and staff allocation for management.

2.12 Over the past two years there have been manifestations of uncertainty and unrest among Government scientists, linked directly to pay issues and to the

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[1] The figures fluctuate from year to year and apparent trends must be interpreted with caution.

impact of manpower economies. We do not regard these problems as ended: they were, in some respects, the "bow-wave" of turbulence as the Civil Service switched from growth to contraction. If these difficulties are not to be parallelled in future especially high qualities of management - and especially good communications - will be demanded, in order to steer the SCS toward a slimmed-down condition and yet preserve its morale and its vital contribution to the national well-being.

2.13 Unlike the Zuckerman, Trend and Rothschild Reports, our study has not been concerned with ~~research and development~~ per se. But we are acutely aware of changing attitudes to these activities in Government, reflected (for example) in the publications by ACARD. We sense in these reports a mounting concern over the application of the great quantity of scientific knowledge held in Government - and especially in REs. We believe that the transfer of this knowledge to its users - in industry, in Local Government and in the community at large - will receive increasing emphasis in the future. Our own concern, that scientific civil servants should be drawn more widely into the provision of advice to Ministers on policy issues which are becoming increasingly affected by technological factors, is in a sense another aspect of this same issue of information transfer.

2.14 It is within this historical and projected context that management must endeavour to provide the staff to execute the functions of Government science. We consider that the central needs are, first, to match recruitment and career management to the diverse and changing tasks of the SCS; second, to deploy staff flexibly in these times of change; and, third, to ensure that the great national asset constituted by the collective knowledge of scientists in Government is properly applied to our national development. If these three needs are met, with due regard to economy in public expenditure, we conclude that the SCS would be effectively managed in the context of our terms of reference.

III THE CONTRIBUTIONS OF THE SCIENTIFIC CIVIL SERVICE

Introduction

In Chapter II we described the range of tasks and types of situation in which members of the SCS are currently found. Our third term of reference is forward looking in its phrasing. It instructed us to consider how the Science Group[1] could best be used to provide:

a. support for technical progress in industry;

b. support for Government regulatory functions;

c. support for Government R & D functions;

d. an effective contribution to the formulation of Government policy generally.

3.2 We have found it difficult to separate these functions. Industry is supported by Government R & D, and Government regulatory functions draw on R & D and in turn guide industry. Most 'science' units in government carry out multiple tasks. Bearing this caveat in mind we now consider each of these functions in turn.

Support for Technical Progress in Industry

3.3 A major function of the SCS is to contribute to the prosperity of the United Kingdom through work in partnership with industry. The character of this activity varies greatly from one department to another and between the Civil Service itself and the Research Councils and other fringe bodies.

3.4 In MAFF and in DAFS (with the Scottish Agricultural Colleges), the SCS provides support for industry in three main areas:

a. work in the Agricultural Development and Advisory Service (in conjunction with other scientists in departmental grades) to provide detailed advice on all aspects of agricultural production supported by research (at experimental husbandry farms and horticultural stations and central and regional laboratories) on the potential of new crop varieties, on cultivation and storage methods, on pesticides and other crop protection measures, on livestock management, feeding and disease control and on the design and use of farm equipment and buildings; taken together with the work commissioned by MAFF from the ARC (and by DAFS from the Scottish Research Institutes and Colleges), these activities come close to providing a complete range of scientific support for the national agricultural industry, spanning research, development, demonstration and advice;

b. work on catching, handling and processing fish and on fish and shellfish cultivation in support of the fishing, fish processing and fish farming industries;

c. advice on all aspects of food science, food technology, food supplies, additives and contaminants (including radionuclides) food surveillance and long-term storage of food: and on food safety and nutrition in collaboration with the Department of Health and Social Security (DHSS).

3.5 The MOD (which spends over half the total R & D funds of Government) supports its supplying industries in a rather different way. Through its research and project support work, it first helps those industries to develop products that

[1] see footnote - page 4

meet the specifications prepared by the department to meet technically demanding military needs. It participates in design, development, demonstration, testing and evaluation under a variety of realistic operational conditions. It is its own industrial supplier in some areas (eg the Royal Ordnance Factories). As a major purchaser supporting its purchasing decisions by in-house scientific activities it has a major influence on the technological capabilities of the supplying companies, and this must also influence the attractiveness and competitiveness of the products of these companies in overseas markets.

3.6 DOE/DTp also have a major industrial impact especially on the construction industry, because of their responsibility for motorway and trunk road construction and public building and their influence on the purchasing policies of the major national transport industries. They also affect industry through their responsibilities for standardisation notably via building regulations and vehicle standards, but also because of the specialist advice their scientific staff give to BSI on the performance of building components and materials. SCS members are involved both through R & D (in the Building Research Establishment, Hydraulics Research Station and Transport and Road Research Laboratory) and through advice on policy.

3.7 The Department of Industry (DOI) is different again. For much of its work it is a sponsor rather than a purchaser, and some of its HQ staff are especially concerned with ensuring that R & D funds are apportioned, through Requirements Boards (on which industrial members are in the majority) to promote research in those areas industry considers most essential. The rajority of its SCS staff, however, carry out R & D in support of industry and public services (eg health and safety, trade and commerce, environmental matters, BSI specifications) in the department's REs. In some fields, for example, in space and civil aircraft research, the department acts primarily as procurement agency, in a similar fashion to the MOD.

3.8 Other Government departments also have an impact on industry. For example, the DHSS has one branch concerned with the scientific and technical aspects of equipment supply and thus has a major influence on manufacturing.

3.9 There are also numerous links between sectors of industry and "fringe bodies". Some of these are highly specific, like that between the United Kingdom Atomic Energy Authority (UKAEA) and the nuclear power industry which it partly supports through contract research. The Research Councils are especially concerned with fundamental and strategic research but they make an important (and insufficiently recognized) contribution to industry. The links between the ARC and the agricultural industry have already been mentioned. The Science Research Council, through its Engineering Board, supports a wider spectrum of industries by funding of university projects and by collaborative training awards. The Medical Research Council (MRC) has had a considerable influence on areas of medical technology.

3.10 Government scientists from many departments also support industry through their work on calibration and the development of standards. These are important activities which are funded centrally in all industrial countries.

3.11 Looking across the board, the SCS in Government with its counterparts in fringe bodies is therefore used at present to support technical progress in industry through

a. research and some development at a basic level, in universities and institutes;

b. R & D funded by industry or which Government supports as a part of its sponsorship role;

c. in-house R & D in support of Government's requirements and the various processes of specification, development, evaluation and production which form part of procurement from industry;

d. co-operative design, development and demonstration exercises, also often mounted by Government as a purchaser;

e. provision of central services for measurement standards, regulatory work and standards specification; and

f. direct operational advice to agriculture and fisheries.

3.12 In future, the scale of Government's work in this field will be affected by policy decisions on the appropriate division of responsibility between government and industry. Questions about the balance between public and private sectors are not for our Working Group to resolve, but resolution of this question is the first consideration in determining how far the SCS will in future support technical progress in industry.

3.13 There are three further points to consider. Firstly, how industry should influence the civil R & D programmes supported by Government and/or done in Government REs, when Government is acting as the sponsor or partner of an industry. The Rothschild customer-contractor principle provides the basic machinery for deciding what civil R & D programmes should contain, and it is clear that if the work is to support industry it is essential that the latter is involved in the requirements board machinery. The SCS has a part to play in ensuring that this works well, and in carrying out Government's share of the research and in transferring the results on time and in the right format for application.

3.14 The second question is how best to make the unique central facilities of certain Government REs more extensively available to industry. Scientists from industry already work on detachment at some such establishments and we consider that it may be particularly useful, both directly and as a means of promoting in the SCS a better understanding of industrial needs and procedures for firms to be given more encouragement to second staff to work at suitable Government REs alongside Government scientists in mixed teams. The SCS can be involved in this area in explaining to industrial customers the potential of these REs. The procedures for agreeing on the number of industrial staff and deciding the nature of the work could be linked to the commissioning machinery.

3.15 Thirdly, (assuming that staff and resources are maintained at an adequate level), more work could be done in such REs under contract to industry. Many establishments have demonstrated their ability to take on short term work of this kind without detriment to their capability also to sustain " strategic " research with less immediate technical objectives and a less restricted timescale. Indeed some industrial customers have contributed valuably to the support of such strategic research. Both approaches contribute importantly to the support REs provide to the national economy.

3.16 If Government laboratories are to undertake contractual work for external customers, further changes in management procedures will be necessary. The structure of the Civil Service was not designed for commercial operations and many REs have found it hard to respond quickly to secure appropriate resources for an urgent and unexpected requirement from an industrial company. The implementation of the

Rothschild customer-contractor principle, and the central participation of senior industrialists in the framing of customers' needs, has, however, been helpful in making research programmes more relevant to industry. Constraints on staff recruitment and deployment may also have made REs hesitant about entering into contractual commitments. Since some departments consider it essential to undertake more work of this kind, they have needed to review the management of the REs concerned and their freedom to deploy funds flexibly in support of commercial operations.

3.17 We believe that pervading this whole area is the need for Government to work in closer partnership with industry in deploying its research talent and resources. This can imply a shift also in the balance of support for R & D (discussed in the next section) toward contracts in the private sector. If the SCS is to increase its support for technical progress in industryin these ways, its members will have to keep in close touch with the industrial world and keep abreast of its rapid changes. We have noted that many of them served previously in industry, albeit generally for short periods and in junior posititions ,and hence bring with them some understanding of the commercial world. But we do not feel that there is sufficient interchange ,and sufficient understanding of industry, within Government service. We have noted the difficulties encountered by the Scientists and Engineers Interchange Unit set up following Cmnd 5046, and its consequent disbandment, but we equally believe that the formal exchanges it secured were of real value. We consider that the secondment of SCS staff to industry can provide valuable formative training related to career development. We urge that departments persevere in their efforts to make interchanges, and that the Civil Service Commission (CSC) and CSD consider other ways of reducing the barriers to interchange. We also recommend that industrial experience be sought more deliberately in SCS recruitment occasionally at senior level.

Support for Government Regulatory Functions

3.18 As Annex G shows members of the SCS carry out a wide range of regulatory tasks. They have a double role in developing (for example) building regulations, approved practices relating to pesticides and other agricultural chemicals, medical and food safety standards or energy conservation standards. First, they do much of the basic research that provides a factual basis for those standards and regulations. Second, they engage directly in debate (which also involves administrators, economists and statisticians) about the levels of regulation that are appropriate. Their role is that of experts providing the support for, and basis of, policy. In some areas (eg that covered by the Health and Safety Executive) scientific and technical considerations predominate in the evolution of regulations and professional staff are an integral part of policy divisions. HM Alkali and Clean Air Inspectorate, for example, requires the industries that are the main emitters of atmospheric pollution to introduce 'best practicable means' to curb such emissions and they continually revise 'b.p.m.' in accordance with their knowledge, as chemical engineers, of technical advances. In such a case, the expertise of the professional is crucial to the adoption of regulations which are effective in both environmental and economic terms.

3.19 There is no substitute for a rigorous professional foundation for such standards and codes of practice as are agreed to be necessary. (We say 'professional' since this is an area in which both the SCS and P & T Group are involved). But we would stress one other point. Regulations are not just a matter of determining what is technically feasible, or of minimising risk. They involve a balance of decision on how most economically to reduce risk - or guarantee performance - in the actual circumstances of industrial operations and social demand. It is essential that members of the SCS engaged in such activities know (as Alkali Inspectors must) something of the operational

characteristics of the industries affected by their decisions, and this sets a premium on industrial experience. In the development and enforcement of nuclear site licences professional staff also have a dual role - they are concerned both with the scientific and engineering basis for the decision and with the subsequent making of these decisions.

3.20 Experience is especially important because regulatory decisions also have a social and political context. Those advising Ministers need to be aware of such aspects, so that they can formulate proposals that are not only technically and industrially sound, but also socially acceptable. We consider that the success of Government regulatory functions in future, as today, will depend largely on a high standard of professional support from scientists and others. We would stress that it takes time to build up competent and experienced professional teams in these specialist areas.

3.21 This work demands skills akin to those learned by administrators. The field is therefore one where the 'technological generalist' is the right person to advise Ministers, and the SCS (and P & T Group) must be so recruited and managed that such people are in adequate supply, and correctly deployed. Teams combining professionals and administrators will often be essential.

Support for Government Research and Development

3.22 This function is extremely wide ranging, encompassing the development of scientific and technical solutions to specific problems or departmental needs and also the development and maintenance of a capability in areas where the Government will be faced with problems in the future. The SCS is at present engaged on a wide range of civil R & D tasks described in detail in Cmnd 7499. Following the Zuckerman and Rothschild Reports, most of this work is at the 'applied' or 'objective-basic' end of the spectrum. In some departments (especially the MOD) demonstration and application, rather than R & D in a narrow sense, predominate.

3.23 None of the evidence we have received challenges the current basis for deciding on ~~research and development~~ R&D priorities within Government. The 'customer-contractor principle' is considered to be working well enough in most areas not to require substantial change. There is general support for the principle that the research departments do or commission should be designed to meet central criteria of relevance to Ministerial priorities. One benefit of the changes made since Cmnd 5046 is that they have compelled administrative Civil Servants in charge of policy directorates to give more thought to how R & D could provide a more secure base for their decisions - and set up machinery for dialogue between them and the scientists providing that information. However there are certain issues that seem to us to demand further thought.

3.24 One of these concerns the need for 'strategic' research. It is inevitable that much research applied directly to the solving of specific problems needs to be underpinned by continuing objective-basic work which provides the continuity for research teams and a foundation for future applied projects. For example, specific problems such as the performance and safety of high-alumina or glass-reinforced cement can only be solved if there is a basis of understanding of the properties of cementitious mixtures generally - and of the interactions of various components of such materials. Basic research in hydraulics supports the specific analysis of port, estuarine or offshore developments. It is generally best to have some of this supporting strategic work going on in the same institutions that undertake applied projects - yet we have heard allegations

that it is much less easy to convince customers of this fact, and that in times of tight money it is the strategic research vital to the future that suffers while attention concentrates on the problems of immediate moment. We emphasise that this is a dangerous trend, and that the effective deployment of the SCS in support of Government R & D demands a balance between applied and objective-basic (strategic) studies, in most REs. Such a balance is also often crucial in attracting high-quality staff.

3.25 Another problem arises because the R & D institutions of Government rarely serve only the departments to which they are attached for management purposes and many such institutions are properly identified as national facilities. We are concerned that departmental decisions, properly taken in the exercise of management responsibilities, may nonetheless fail to give due weight to the need to sustain some REs whose justification rests in part on their support for other departments, local government, public authorities or private industry. The customer-contractor principle does some of this but to do it effectively the commissioning machinery must bring together all the interests served by REs including those outside central Government to decide what problems the RE should be asked to tackle (see also paragraphs 3.13-3.17). Beyond this, however, there is a problem regarding the management of resources. Departments responsible for an institution may welcome outside participation but must also take account of external requirements in apportioning staff and allocating resources. Conflicts can arise between departmental priorities and wider interests, especially when money is tight.

3.26 Much R & D is international. In some fields of science, European or wider scientific communities have joined together to establish very costly facilities (like particle accelerators or observatories). These shared facilities are more characteristic of the academic community and the Research Councils than of Government, but we are aware that there are many scientific fields where Government REs in different countries have established linked research programmes, and more work is now being co-ordinated within the European Economic Community (EEC). We believe that the possibility of international co-operation is not sufficiently considered by civil departments in developing R & D and that SCS members could usefully be encouraged to develop more links with colleagues overseas. We would like to see a more positive approach to exchanges of personnel and to the establishment of joint teams. Policies are increasingly the subject of international negotiation often without consensus on underlying scientific facts, and contact between scientific teams can be important in establishing a better foundation for such agreement.

An Effective Contribution to the Formulation of Government Policy Generally

3.27 Government research provides information that will assist Ministers, through their advisers, to make Government policies more soundly based. Its effectiveness therefore strongly influences the effectiveness of policies based upon it.

3.28 But specific research projects designed to solve policy problems are only one element in this support. Very commonly policy issues arise with an urgency that does not permit new research. Action ~~Advice~~ on them calls for scientists who are sufficiently generally informed to provide relevant advice quickly. The best ways of ensuring that such people exist are, first, to have a sufficiently strong group of technically informed policy advisers within departments - either in specialist units or "bedded out" in policy directorates - and, second, to support them by continuing "strategic" or "objective basic" research by teams in REs

working in fields where it is obvious that recurrent policy questions will arise. It is also crucial for the "policy advisers" and "research support" groups to be in close personal contact, for, even if the former have the right expertise and are up to date, their understanding will rarely be so complete as that of the person actually doing original work on the problem.

3.29 Accordingly we attach great importance to strengthening the role of policy advisers within departments, and to linking them closely to research teams. We have formed the impression that the vast body of scientific information held within Government and continually augmented by research is not always made use of as efficiently as it should be. Sometimes this happens because a person giving advice does not know who could provide detailed support. Sometimes it happens because research specialists do not respond on the right time scale, or do not understand the wider context of the problem and are, as a result, less helpful than they could be. Sometimes the policy adviser may, mistakenly but understandably, believe that he knows enough without checking further.

3.30 Communications and mutual confidence offer the only way round these problems. We believe that responsibility for dealing with them must rest especially upon the most senior scientists in departments - the Chief Scientists and Controllers of R & D.

The Role of Departmental Chief Scientists

3.31 We have received little evidence about the role of a departmental Chief Scientist. We note that Cmnd 5046 envisaged a clear separation between this office and that of Controller R & D. The former was to be concerned with the scientific policy of departments, with scientific advice, and with ensuring that departments received the research and other services relevant to their needs. The latter was to be the head of the research and procurement services: to be responsible for "supply" to meet the Chief Scientist's "demand".

3.32 Some departments - for example MOD and MAFF - follow this model. Others - DOI, DOE/DTp - combine the two senior scientific roles in one individual, but we note that in these departments that individual is not necessarily responsible for all scientific advisory services.

3.33 The first responsibility of a Chief Scientist is to ensure that there is relevant, high-quality, scientific advice within the departments he serves. We believe that the Chief Scientist of a department should be expected to oversee all the channels by which Ministers are provided with scientific information. This does not mean that there should not, where appropriate, be teams of scientific advisers "bedded out" in policy directorates and answering in a day to day sense to their heads. It does mean, however, that these groups should be professionally accountable to the Chief Scientist and that the latter should have the authority to intervene when there are debates over the implications of scientific information in various departmental policy areas. And, of course, it is vital that his senior administrative colleagues should keep him closely informed on matters where he might have a contribution to make.

3.34 The second role of a Chief Scientist is to ensure that departments secure the R & D essential to their needs. This is not just a matter of obtaining a "shopping list" from heads of policy directorates. Critical dialogue is needed to ensure that questions are sensibly posed, the best research contractor is selected, and the results are provided and (where necessary) interpreted to the users. Our general impression is that departments have by now evolved efficient

procedures to commission R & D but are less good at applying its findings, and we advise that one good way of aiding this latter process is to bring the contractors actually within the advisory process by treating them, in respect of their contracts, as specialist consultants to the department.

(1) 3.35 We are concerned that in those departments where the "Chief Scientist" and "Controller" R & D roles have not been separated and where engineering and technology do not play a major part, "science" and "research" have become synonymous and the role of the scientist as an adviser has been dominated by his part as a researcher. In our view this is wrong, and has been a major impediment to creating that high quality of scientific input to policy which Lord Rothschild rightly stressed was necessary. We recommend that departments (3) accordingly review the terms of reference and supporting organisation of their Chief Scientists so that they concentrate on policy rather than on the management of research.

The Role of Departmental Controller R & D

3.36 The role of the Controller R & D is to see that the R & D done or commissioned by a department is well planned, executed to the highest standard, and reported on in the required format and at the required time. These are heavy management tasks, and in many departments the Controller is also responsible for interpretation of results. Management of staff is a vital part of this work.

3.37 We have stressed the need for closer links between central advisory teams and those providing the R & D on which they depend. Perhaps the best way of ensuring such links is by the interchange of staff. We regard it as a key function of a Head of Profession (HOP) for departmental scientists to promote such interchange as a part of career management.

3.38 In our view, if scientists are to contribute effectively to the formulation of Government policy generally they have to be both "on tap" and "on top". A Chief Scientist must communicate directly with Ministers and senior officials at the highest levels of technical policy and must ensure that competent professional advice is available throughout his department. But he and the Controller R & D, in collaboration with the Principal Establishment Officer, must also ensure that other specialists are "on tap", and between them that there are sufficient interchanges, and close career planning, so that policy advisers and those supporting them understand one another and that the policy advisory units are continually staffed by people of the highest ability.

IV. THE CIVIL SERVICE SHARE OF THE NATION'S SCIENTISTS AND ENGINEERS

Introduction

Our terms of reference invited us to consider the "share of the nation's scientifically educated manpower employed in the Science Group". Cmnd 7499 posed a wider issue by stressing that Government needed "to see that we have the staff of the quality and experience needed to undertake the full range of work expected of scientists in the future". We have approached this question in two ways: first, by looking at the share of the nation's stock of graduates in science, mathematics and engineering employed in the Civil Service and, second, by examining the share of the annual output from the education system recruited to the Civil Service. In each case we have considered relevant Civil Servants from all occupational groups, not merely those in the SCS.

The Proportion of the Nation's Scientists in the Civil Service

4.2 We have encountered difficulties in trying to extract the relevant data. The first has been in finding reliable figures for the national stock of scientists and engineers over a reasonable timescale. The second has been the problem of disaggregating figures for the Civil Service from those of the public sector more generally. Third, there have been problems in isolating figures for scientifically qualified civil servants. The combination of these problems has prevented us from drawing any firm conclusions about historical trends, but we have been able to isolate statistics from a number of sources which give an estimate of the share of the nation's scientists employed in the Civil Service and which are consistent with comparable surveys. Within the Civil Service, qualified scientists are employed in a number of occupational Groups (Science, P & T, Statistician, Research Officer Category, Administration group etc). It is not possible to determine centrally which of these scientists are still "actively" using their academic discipline in their work. Full details of sources and of the assumptions made in reaching our conclusions are given in Annex E1.

4.3 The most reliable source of the statistics for the national stock is the Census of Population. The last Census of Population was in 1971 but, using these figures as a baseline, estimates for the position at January 1976 have been derived.[1] Comparison of these figures with those for qualified scientists and engineers employed in the Civil Service obtained from central CSD records (the computerised Personnel Record Information System for Management (PRISM)) indicate that, in 1976, the Civil Service employed some 6% of the nation's qualified scientists and some 4% of the nation's qualified engineers and technologists. Extrapolation suggests that in 1979 the Civil Service employed some 5% of scientists and some 3.0% of engineers. In 1976, about 50% of the scientifically qualified civil servants were employed in the SCS and P & T Group, the remainder being employed in the Administration Group and other groups and classes. In the same year about 2% of both the nation's qualified scientists and engineers were employed in the SCS plus the P & T Group of the Civil Service. (Annex E1 indicates the likely ranges of the estimates of the share).

4.4 Reasonably reliable estimates of the share can also be obtained from the Triennial Surveys of qualified scientists and engineers (see Annex E1 paragraph 6). Shares for "Government departments" of almost 5½% in 1965 and almost 4½% in 1968 can be derived for scientists. The same percentages are obtained for engineers. However, the 1965 figures are not strictly comparable to those for 1968.

4.5 It is possible to draw only tentative conclusions about trends from these data. But the figures suggest that the share of the nation's scientists employed in

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[1] "Changes in the population of persons with qualifications in engineering, technolo and science 1959 to 1976". Studies in Technological Manpower No. 6 HMSO 1977.

the Civil Service as a whole has remained at approximately 4-6% for the last 10 years. The indications are that there was a considerable increase between 1968 and 1976, though only a small part of this can be attributed to growth in the SCS. The number at Scientific Officer (SO) level and above in 1968 was about 13,650, compared with almost 15,000 in 1976, an increase of just under 10%. The proportion of staff in the SCS with degree level qualifications may have increased, but a substantial part of the rise in the number of scientists employed in the Civil Service is due to an increase in the number of qualified scientists employed in other groups, especially the Administration Group.

4.6 The estimated share of engineers and technologists has remained at approximately 3-4%, since 1968. However, numbers may have increased by as much as 20%, if the Triennial Survey figure of around 8,000 in 1968 and the adjusted PRISM figure of 9,500 in 1976 are indicative of the trend.

The Proportion of Newly Qualified Scientists Taken by the Civil Service

4.7 The other main issue of interest is the share of newly qualified people entering the Civil Service each year. (Details are given in Annex E2). The Statistics of First Employment of University Graduates show an increase in the share of new science graduates recruited to the Civil Service, Research Councils and other fringe bodies from 1970 to 1975 (when there were some 350 SO entrants to the SCS) and a decrease in 1976 and 1977 (with around only 150 and 130 SO entrants respectively). The decrease in the two latter years, when the Civil Service was making major manpower economies, was even more marked in respect of the Polytechnic graduate share. However, even in the peak recruitment years, the share of Science graduates entering the 'Civil and Diplomatic Service'[1] has remained less than 10% of the total entering employment.

4.8 Newly qualified graduates account for only about 40% of the qualified scientists recruited to the Civil Service as a whole. We consider the implications of this for our policies on recruitment elsewhere. But if the Civil Service was recruiting experienced graduates from industry without a compensating return flow, the result might be a higher absorption of the nation's output of talent than the First Employment statistics indicate. However wastage rates have been so high (para 5.31) that we consider it most unlikely that the Civil Service is at present a significant net importer of graduate talent at the expense of other sectors of employment. Some support for this view is provided by the MSL Index (Annex E2).

4.9 Two further features of the statistics arising from our study stand out. First, a larger proportion of higher degree graduates than of first degree graduates looks to the Civil Service for first employment (cf Annex E2, figure 4). We believe that many of these graduates are attracted to Government REs and the Research Councils because of the opportunities they offer for careers in innovative research. There is also some evidence that the Civil Service takes a higher proportion of first class degree holders than other employers (Annex E2, Figure 3), but these statistics are not broken down by subject and it is not possible to say how far this pattern applies to the SCS.

4.10 The second point of interest is that, as indicated in Table 4 of Annex E2, in recent years some 50% or so of qualified scientists entering the Civil Service have elected to follow occupations that are not directly related to their degree specialism. Similarly, some 30% of engineers have elected to work outside their professional discipline. We must conclude, therefore, that the statement in paragraph 30 of Cmnd 5046 (Framework for Government Research and Development)

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[1] See Annex E2, para 4 for definition

that "the great majority of qualified scientists who enter Government service do so because they want a scientific career" is no longer valid (although it may well apply to those entering the SCS). It cannot therefore be true that scientific academic training necessarily restricts the subsequent career options of those who undertake it. Nor is it true that the SCS is the only source of supply for top management of those with a basic scientific training and approach.

4.11 The Civil Service employs a smaller proportion of the nation's scientists and engineers than we had expected. The view is widely held that the Civil Service employs a much more substantial share of the nation's scientifically and technically educated manpower. We have considered the possible origin of this myth (for such it is) and were led to the conclusion that it probably arises either from unawareness of such statistical information as is available (cf Annex E1) or from misinterpretation of the definition of the categories of employment used in previous surveys. The proportion of the nation's scientists employed in the public sector as a whole (including the Health Service, the nationalised industries, the armed forces, and local government) is, of course, much greater and confusion over what constitutes the Civil Service (and still more so, the SCS) is undoubtedly a reason for the misunderstanding.

4.12 We have not attempted to analyse whether this is a "proper" share for the SCS. As we have indicated in Chapter II, the SCS performs an extensive range of functions for and on behalf of the Government and the normal management controls of staff inspection and cash limits are designed to ensure that the numbers and grades of staff employed are no more than are needed to carry out the functions laid upon them. We conclude, therefore, that the share of the nation's scientists and engineers is not disproportionate to the scientific and technical functions of Government. We say this with one important reservation. The statistics available to us deal with broad categories of scientist and engineer, but the most able individuals are inevitably in great demand, and we have noted that the Civil Service does appear to take an above average proportion of the first class and higher degrees and some of these are likely to be in disciplines where the national demand is not adequately matched by the output of the educational system. There may therefore be areas where competition between Government and industry is severe and the shortages hamper both.

4.13 Projections of future need are always difficult and generally wrong, and we accordingly doubt the feasibility of predicting future needs for scientific staff by disciplines in the Civil Service. At present there is an unfilled demand for engineering disciplines, physical scientists, operational research and computing specialists. Even if the Civil Service continues to contract, demand for these specializations is likely to remain. Competition between Government and industry may therefore continue to be a problem until the nation's educational system responds to match supply more closely to demand. But outside these special disciplines we do not believe that the small share of the total national scientific manpower entering the Civil Service is likely in the future either to hamper industrial recruitment or to place strains on the Universities and Polytechnics. We say this because we consider that even if our proposals to stimulate more scientists to become "technological generalists" succeed, and if those with scientific qualifications continue to enter the Civil Service in substantial numbers through the Administration Group, the total number of scientifically qualified recruits each year is unlikely to exceed the peak figures of 1970-75 and more likely to hover around the lower levels of 1976 or 1977. Even at peak this overall intake was well within the capacity of the nation's educational system.

V. RECRUITMENT AND WASTAGE

5.1 Our terms of reference invited us to consider the effectiveness of recruitment to the SCS. In this chapter, we examine both recruitment and its corollary, wastage.

Recruitment Statistics

5.2 In considering recruitment, as elsewhere, we have been hampered (and surprised) by the limitations in available statistics particularly in respect of the fringe bodies of the Public Service which, although outside the Civil Service, adopt essentially the same pay and conditions. The CSD's present system of records (PRISM) goes back only to 1975. The Civil Service Commission (CSC) has rather more detailed historical records of appointments made. Changes in the balance of functions between sectors and in the grade structure of the Civil Service have however created problems of compatibility in the data.

5.3 Details of recruitment to the SCS are given in Annex D1. To put this in context, recruitment in the years 1975-78 inclusive accounted for 4,032 people out of a total of 256,780 recruited to the non-industrial Civil Service grades. In this period, recruitment was relatively high in 1975 and 1978, but dipped in the intervening years when manpower restrictions were being imposed as part of the then Government's economic and financial measures.

5.4 The analysis of SCS recruitment given in Table 6 of Annex D1 does not distinguish graduates from non-graduates. The latter will include virtually all the Assistant Scientific Officer (ASO) entrants and a minority of the Scientific Officers (SO). Nor does it indicate the proportion entering with higher degrees (mainly at Higher Scientific Officer (HSO) level and above). Table 3 of Annex E2 shows the previous occupations of entrants to the Science Group in 1975-78. It is clear that most of the junior recruits come direct from full-time study, and this applies also to a substantial proportion of those entering at HSO level. But only 39% of all science graduates and 37% of all engineering graduates entering the Civil Service as a whole come direct from academic studies. Of those with science degrees, 24% have previous experience in industry. For engineering/technology graduates, the corresponding figure is 39%. Some graduates (9% of Scientists and 5% of Engineers and Technologists) enter the Civil Service direct from employment in education. It is clearly untrue to assert that scientific civil servants lack experience of other sectors of the economy.

Recruitment from outside the Service

5.5 Recruitment to the Civil Service is organised broadly in three ways:-

a. <u>centralised</u>, with the CSC responsible for all stages of advertising, organisation of interviews, selection and certification;

b. <u>decentralised</u> following procedures agreed with departments in 1972 in which the CSC is involved in placing advertisements, approving the shortlisting and selection as well as certification;

CSC

c. <u>delegated</u> with the CSC prescribing the procedures and standards to be adopted by departments for the selection of candidates and certificating their approval for appointment.

5.6 The recruitment of ASOs (most of whom are employed at REs) is delegated. This system is subject, of course, to overall controls on the complement an RE may have. Outside the SCS delegated recruitment is also widely used below Executive Officer and equivalent grades. It works well, in general, and many Directors of REs regard it as a model they would like to extend to other grades.

5.7 Contrary to popular belief, about two thirds of recruitment at SO and HSO level is decentralised. The CSC undertakes all the national advertising of vacancies. Departments notify the Commission of their particular requirements and receive applications from candidates, either directly or via the Commission. Interview boards are convened by the Commission and are normally held in departments (and often in particular REs) under the chairmanship of a representative of the Commissioners. After candidates have been selected, the Commission checks on their suitability for appointment, issues a certificate of qualification and authorises a formal offer of appointment, which is then made by the department concerned. Many departments delegate some part of their share of these activities to individual establishments.

5.8 The Commission maintains close contacts with universities and polytechnics, and notifies them of all vacancies suitable for graduate, or graduate equivalent, entrants. This liaison is often supplemented by departmental initiatives. Personnel Divisions of many departments and institutions keep in close touch with the Universities (MOD Personnel Division arranged visits to 48 academic institutions in 1979) and specialist REs generally maintain close contacts in their fields. These contacts do more than simply stimulate interest: applicants learn a good deal about the particular part of the Service they wish to enter, and prospective employing departments can learn of potential applicants in whom they might be interested.

Filling of SCS Vacancies Internally

5.9 The main entry to the SCS from outside the Civil Service is at ASO, SO and HSO levels. At SSO level and above, vacancies are more normally filled internally - that is, by promotion - unless there is no internal pool of candidates (eg specialists in oil production methods for the Department of Energy). The external advertisement of posts at SSO level and above clearly affects the promotion opportunities of those below that level. Consequently there may be a conflict of interest between the need to secure the most able available person for a job and the need to offer opportunities for advancement to those already in employment.

5.10 External recruitment is not unusual at the most senior levels in some fringe bodies (eg the Research Councils). Although internal candidates are invariably reviewed, and may be appointed directly, directorships of Institutes are often advertised and filled from outside the Public Service (especially from the universities). This practice has the attraction that the successful candidate knows that he (or she) has won what is often a post of considerable standing in national scientific circles against allcomers and it results in these posts being occupied generally by distinguished scientists. But it has serious disadvantages in terms of the expectations of staff who make their life careers in the establishments concerned.

Recruitment Problems

5.11 We invited evidence on the problems experienced by departments and Research Councils with SCS recruitment. From the evidence we have received, it appears that recruitment is affected by several factors, some of which are particularly relevant to scientists and the SCS whilst others are more general. We have identified four main areas of concern:

i. the image that scientists have of the Civil Service; misunderstandings about the nature of the work; real or imagined constraints on publication of results; the effects from time to time of "stop - go" recruitment;

ii. geographical constraints;

iii. competition with other employers (including other sectors of the public service) for scarce skills, and the effect of pay levels;

iv. the length of the selection process.

The Image of the Civil Service and the Effect of "Stop-Go" Recruitment

5.12 We have received evidence arguing that:-

a. the Civil Service has a bad image among scientists because of its association with "bureaucracy";

b. the SCS as such has virtually no image at all, at any rate among the general public, for few people know what it is or what its members do;

c. nevertheless, individual REs within the Service (and in the public service generally) are recognised national centres of excellence; they are thus extremely attractive to scientists and have little difficulty (so long as pay scales are not a severe deterrent) in attracting scientists.

5.13 We consider that this evidence may be only partly applicable. It comes very much from the specialist centres at c. above, and the thrust of their claim is that they would do a lot better in their recruitment if they operated independently rather than as part of some amorphous and misunderstood "Scientific Civil Service". One counter argument is that the attractiveness to some scientists of the Civil Service is shown by the fact (cf Chapter IV, paragraph 4.10) that the intake of qualified scientists to posts outside the SCS remains large and has grown rapidly in recent years.

5.14 It may be that there are two different 'populations' or types of scientist entering the public service. One group is looking for a career in research or in some other kind of scientific work, perhaps especially in an atmosphere free from commercial pressures. They join particular scientific establishments because they are attracted to them as specialist centres - not because they are part of Government. On the other hand a large number of science graduates enter the Civil Service (and not necessarily the SCS) because - like graduates in other disciplines - they see it as an attractive career of public service (and presumably do not cavil at its "bureaucracy"). The former are thought to put more emphasis on the 'image' of their particular establishment; the latter on the 'image' of the Service generally. There may be a lacuna - for example in some of the less "glamorous" establishments - unattractive to both groups.

5.15 We agree with those who have suggested that, despite the excellent literature sent to universities by the CSC, more could be done to make the work of the SCS better known and understood. We are sure that recruitment can be, and may well have been, damaged by the wrong image and by misleading outside publicity, especially over pay and career prospects. But we are equally clear that official publicity should stress the diversity of work (including work other than R & D) done by scientists in Government, and should flag the different career openings quite clearly. We recommend that the CSC re-examine recruitment material in the light of our conclusions, and that Departments consider whether they can do more to draw attention to the scientific activities and achievements of their staff.

5.16 Even though some Service-wide advertisements will remain necessary, we agree that recruitment to the more attractive of the Government's REs and other specialist institutions would be made easier and more efficient if all their vacancies were advertised separately, rather than as part of a general

CSC campaign. If we are right that the people seeking jobs there are making a specific choice, publicity should stress the laboratory or other institution first, and present as an additional bonus the fact that, through its incorporation in the Scientific Civil (or Public) Service, it can offer wider career opportunities than it could if it stood alone. We link this point to our recommendations for extended decentralization of the actual recruitment process discussed below (para 5.25).

5.17 It is clear from the evidence we have received that the attractiveness of any part of the SCS can readily be reduced if the long-established belief in Government as a considerate, consistent employer is shaken. In 1976-78 the publicity over manpower cuts, and associated allegations about diminished career expectations as a result of reduced promotions and premature retirements, may well have had some effect on prospective recruits (although this could not be tested because recruitment was at a standstill at the time, and when it resumed pay rates were probably uncompetitive). The size and structure of the Civil Service must be determined in the light of changing Government needs and priorities; changes in the nature of the work and in the size of the SCS are inescapable facts of life. And such uncertainties are common in other fields of employment - and in other parts of the Civil Service. But it is important that all those affected are kept fully informed of new policies and the reasons for them. And the implications of changed options for the careers of scientists in the Civil Service must be fully explained and appropriate action taken through sensitive personnel management to minimise the adverse effects on individuals and on career expectations (para 6.28).

5.18 Changes in the intake of the SCS have other effects upon recruitment, however, which need to be appreciated when decisions are made. The main effect of "stop-go" recruitment is that departments find their needs for recruits varying widely year by year. They build up backlogs of demand which cannot, particularly in some disciplines, be met in any one year without lowering standards. Further, although recruitment can be turned off like a tap, turning it on again is not easy, and it is very difficult for the recruitment machine to sustain confidence in the Civil Service as a credible employer. Much effort has to be expended to overcome the uncertainty, suspicion and the generally bad image that wide fluctuations in recruitment rates engender.

Geographical Constraints

5.19 It is easier to recruit staff to work in some places than in others. The Overseas Development Administration has reported difficulties in securing scientists for some postings abroad, especially in some developing countries. The Meteorological Office has had some difficulties in staffing its more isolated stations. Most departments have had problems in filling posts in London, whether with first-time applicants or staff on secondment to HQ from REs some distance away. The evidence firmly suggests that (in spite of London weighting) higher living and commuting costs, plus the lack of removal expenses for new entrants, provide a significant deterrent in London. But cost is by no means the only factor. Equally important perhaps is the nature of life in London, with longer hours away from home and uncongenial travelling conditions. We have been unable to find any consistent and sensible way of easing such geographical constraints - which apply, of course, to all civil servants, not just to the SCS. Allowances are regularly adjusted by the CSD, and we have received no quantitative evidence to suggest that they are seriously out of line with the circumstances to which they apply. In short, we believe that the geographical constraints on recruitment are probably a fact which the Civil Service will have to live with, although our recommendations on the payment of removal expenses (below) might ease some problems.

Competition for recruits

5.20 Pay questions are outside our terms of reference, although they are, of course, central to the whole process of recruitment. We note that a separate pay research examination is currently being carried out for the SCS so that their pay from 1 April 1980 can be settled on a basis of "fair comparison" with those doing similar jobs outside.

5.21 Many potential recruits to the SCS will be attracted specifically to scientific work or, perhaps, to a particular establishment. Some individuals may, however, have less well-defined preferences and possess qualifications which make them eligible for jobs in both SCS and P&T Groups. Differences in the apparent prospects between the two groups may therefore affect recruitment to the SCS. The initial choice of group may well have long-term implications for the career of an individual. We recommend, therefore, both that departments, together with CSD, give full consideration to the most appropriate classification for posts; and that, at recruitment, applicants should be given as much guidance as possible about the career prospects in different groups.

5.22 It has been suggested that the inability of the Civil Service to pay removal expenses to the people joining it can act as a deterrent to potential applicants. We have received no quantitative evidence on the extent to which the Civil Service differs from other employers in this respect. We believe, however, that most of those taking up first appointments from schools and universities pay their own removal expenses. On the other hand, we have noted that many employers who seek candidates with prior experience do meet such expenses. As is shown in Table 3 of Annex E2, about half of science graduates recruited to the Science Group come from other employers rather than directly from the educational system, and we consider that recruitment of such individuals might be facilitated if their removal expenses were to be paid. We therefore recommend that the CSD consider whether the Civil Service is seriously out of line with other employers in this respect (perhaps the Pay Research Unit could help in collecting such evidence), and, if a difference is apparent, look at ways of meeting the removal expenses of those coming to the Service from other employment, depending upon outside practice. We believe not only that this would have a beneficial effect on recruitment, but that it would also act as an incentive to greater and profitable interchange between sectors employing scientists.

Selection Procedures

5.23 The procedures for centralised, decentralised and delegated recruitment were outlined in paragraph 5.5. Many departments, while recognising the need for some form of co-ordination and for proper checks on the qualifications of people entering the Civil Service (many of which result from the responsibilities of the CSC for overseeing fair and open competition), have argued that the current procedures take far too long. For example, many weeks may elapse between the receipt of an application and interviews, followed by the first tentative offer of employment, while a firm appointment may take longer still. It is quite common for successful candidates to have found other jobs by the time that they receive an offer, especially during the annual graduate recruitment exercise. For some specialist fields, eg computer scientists or mechanical engineers, the problems are very serious indeed; they arise from market forces and the speed at which private sector employers can move in putting offers to people. We have heard allegations that the bureaucratic nature of the Government recruitment process itself acts as a deterrent. We have noted the statement in the CSC's Report for 1977 that, in that year, 60% of acceptable applicants to the General Competition for SO and HSO grades declined offers of appointment. The question is whether this really indicates

an avoidable waste of effort. We are aware that candidates nearing the end of their formal education may often apply to several employers concurrently. We suspect that some candidates may seek offers of employment from the Civil Service 'in case all else fails'. We understand that other employers have similar experiences. We are also aware that departments and REs must bear their share of responsibility for the delays that occur. We have, therefore, found it more useful to consider whether there are practical measures that could improve matters, rather than become involved in a detailed analysis of the causes of these alleged defects in the present system.

5.24 Two kinds of measure have been suggested. First, it has been pointed out that before implementation of the Fulton Report most entrants to the scientific classes were recruited on a temporary basis, the individuals applying to the CSC for establishment after one or two years, which served as a probationary period. A number of those who have given evidence to us have argued for the reintroduction of these arrangements and stressed the value of a genuine probationary period. However such temporary appointments (ie those made for no specified period) now have no reality in law for periods exceeding 12 months.

5.25 The other way of simplifying the recruitment process (and the one most strongly urged upon us), is to expand decentralization to departments, and through them to REs. We appreciate that the CSC must continue to control recruitment by fair and open competition, and to maintain standards across the Service. We also see no way in which departments can relax their grip on the size of complement (and the associated salary costs) allowed to their component establishments. But we are attracted to the view that, within these centrally determined constraints, there should be a facility for more decentralization of responsibility for advertising, short-listing, interviewing and the issue of provisional or conditional offers of appointment. We believe that this could save time and wasted effort, and have the advantage of making the directors and senior staff of the various centres more directly responsible for sustaining the quality of their establishments. We consider that adequate central control could be exercised if the CSC or parent departments monitored advertisements (keeping an eye on costs), if the CSC chaired interview boards, and if it was made clear that provisional offers of appointment needed confirmation by the parent department after the eligibility of the successful candidate had been checked. We therefore recommend that the precise machinery for recruitment be examined by the CSC and CSD with a view to achieving greater decentralization to appropriate establishments and organisations. At the same time we stress the need to make clear both to entrants and to management that these establishments form part of a wider Service, and that decentralisation of responsibility for recruitment should not impose artificial constraints on the subsequent movement of individuals in the course of their careers.

5.26 We have received conflicting comments on the need for direct recruitment to senior posts. On the one hand, this can be the only way to secure expertise in some disciplines, and it allows new leadership to be created quickly. On the other, it reduces promotion prospects and may be interpreted as a criticism of existing staff. We think that it is right that internal candidates should always have the chance to compete for a more senior post, but subject to this safeguard we consider that it is also right that where there are no sources of suitable internal candidates, or where there is especial need for an outstanding individual, direct recruitment at SSO level and above should be possible.

Period Appointments

5.27 We have heard strong arguments in favour of increasing the number of short-term appointments (generally for periods of from 2 to 10 years, having

something of the character of military 'short service commissions'). It is suggested that arrangements of this kind make it easier to meet changing needs and transient demands for particular skills; that they promote mobility between employers; and that they go hand in hand with a greater degree of decentralization of recruitment responsibility to departments and establishments.

5.28 Period appointments are used in the SCS to undertake specific tasks which are known to be of only limited duration. The CSC has agreed with staff representatives the criteria governing their use. There are however a number of obstacles to their wider application. First, the Civil Service Order in Council 1978 specifically requires that the CSC certifies the qualifications of any persons to be employed for more than 18 hours per week, for total continuous service of over 12 months. Short-term appointments could not, therefore, be exempted from this part of the present formal employment machinery without a further change in the provisions of the Order in Council. Second, the national trend has been towards increasing job security and we are clear that changes that reduced tenure for a significant number of Government employees would have to be considered in a far wider context. Third, we are aware that the change would involve extremely difficult negotiations with staff representatives. None of these barriers is insuperable, but we have not been convinced that the benefits in flexibility are so obvious as to outweigh the difficulties. Accordingly, we do not recommend any changes at present in the specific criteria governing period appointments, but we do agree that CSC and CSD should be asked to explore the extent to which short period fellowships or other appointments might be used to enhance flexibility without harm to the overall concept of the career service which, in general, we support.

Wastage and the Lessons for Recruitment

5.29 The need for recruits obviously depends on wastage and retirements, and on the number of new posts created (which, in the foreseeable future, are likely to be offset by abolition of posts elsewhere). From the data on age structure at Annex D1 we conclude that the number of retirements will remain relatively steady for the SCS overall, although not necessarily for individual departments. Voluntary wastage, however, has been increasing very markedly since 1976 (see Annex D1, Table 8) perhaps in part because, during the years of Government pay restraint, Civil Service pay generally fell behind that of employers in other sectors.

5.30 There is a high level of wastage at ASO level compared with higher grades. This is not surprising: much of it can be accounted for by individuals changing their ideas early in their careers. But we have received some evidence from departments and from the IPCS that recruitment of over-qualified staff at ASO level has contributed to voluntary wastage: such staff quickly find their talents under-used, become disenchanted and leave. The answer to such problems lies in departments' hands. They must accept that the main task of recruitment is to find the best individual for the job concerned - not just the best academically qualified individual. If departments and establishments continue to recruit over-qualified staff for the vacancies they are trying to fill, it is inevitable that wastage from such posts will remain high and the morale of those who stay will be low. Of greater, and further reaching, effect is that turbulence of this kind implies a waste of management time and effort, and may harm the reputation of these particular establishments or even of the SCS as a whole. We therefore recommend that, in submitting details of successful candidates for ASO posts to the CSC for certification, departments should be required to make a full and detailed case of the reasons for recruiting at that level those with qualifications that would make them eligible to apply at SO level. Similar problems can arise in filling some vacancies at SO and even higher levels, and demand continuing vigilance.

5.31 At higher levels, wastage rates are lower. Over the last five years pre-retirement losses in these grades have occurred at the following rates:

PRE-RETIREMENT(1) LOSS RATES(2) (%)

	1975	1976	1977	1978	1979
	%				
PSO	1.5	1.0	1.5	2.0	2.0
SSO	2.0	1.0	2.5	2.5	3.0
HSO	3.0	2.0	3.0	4.5	5.0
SO	4.5	5.0	6.5	9.0	10.5

SOURCE: PRISM

(1) refers to leavers aged less than 58

(2) rounded to the nearest 0.5%

We note that wastage is more prevalent in departments which, as part of their work, have close relationships with industry, especially MOD and the DOI. For any individual (particularly the most able) there may be opportunities to earn more, and perhaps to have better promotion prospects, by working for some other employer. But improvement of salary is by no means always the most important reason for an individual to move. The intrinsic interest of a particular job or opportunity, or promotion and job prospects are also important factors in assessing the value of a move. Recommendations in Chapter 6 should lead to improvement in the attractiveness of the Service.

5.32 We do not argue that all loss to other employers is bad: we support interchange between public and private sectors and this is one feature of it. But wastage from higher grades is most disruptive to the work of departments. Moreover, departmental evidence shows that those leaving HSO and SSO levels are often young men and women of potential needed for the future, and in whom departments have invested considerable amounts of training and experience. Their loss is therefore all the more critical. We recognise this problem and consider that it adds weight to our conclusion (in paragraph 5.25 above) that there remains a need to recruit at SSO level to replace staff if for reasons of time or facilities it is not possible to grow staff of requisite experience "in house" to fill these vacancies quickly.

CHAPTER VI: THE MANAGEMENT OF SCIENTISTS

6.1 In Chapter 2 we described the range of activities undertaken by scientists in Government. We identified six kinds of work, each capable of offering a complete - or largely complete - career in itself, but also offering various opportunities for diagonal movement.

6.2 In the present chapter we return to the question of 'whether the Science Group is effectively structured, managed and deployed'. We look at some aspects of the internal dynamics of the SCS, and examine the ways in which existing management tools could be adapted in order to improve the development of individual careers, both within single work areas and through movement between them.

Requirements for Management

6.3 As our analysis of activities has shown, there is effectively a career ceiling at SSO level (at most) in the technical support activity. The career progression to this level is one of the simplest to provide for. But it is here, particularly, that management must be sensitive to the morale and motivation of individuals; the provision of technical support is vital to the health of Government science. We consider later (paragraph 6.20) some aspects of this problem. Particularly for those who are approaching their career ceiling at these levels, management must not overlook the role of formal training courses and changes of work in order to maintain motivation. Here, particularly, good day-to-day staff management is essential, and the machinery of Job Appraisal Reviews (JAR) and Career Development Interviews (CDI) has a vital role to play.

6.4 Some scientific service organizations, especially the Meteorological Office, stand apart. For example, staff of the latter only interchange to a very small extent with others in MOD and certain special internal management procedures are applied. Other scientific service groups, like those engaged in metrology under DOI, experience more interchange with other work areas. We have received no evidence that indicates special management problems for these groups, apart from the danger that small groups can become unduly isolated.

6.5 For innovative scientists working within R&D there are two central issues: making the best use of their skills as research workers and ensuring outlets for those whose best contribution (and prospects) would come through a transfer to management and administration or to policy advisory work.

6.6 It has always been accepted that there is a need to provide the opportunity for rapid advancement to PSO level for the best researchers during their most fruitful early years. This is reflected in the aim that 25% of those promoted to PSO shall be aged below 33. We believe that this is a proper objective. But we recognise that there can be problems for those research scientists who reach PSO by the age of 40 and can expect neither promotion nor change of job (except through the natural progression and change in their research) thereafter for 20 years up to retirement.

6.7 The Individual Merit Promotion (IMP) scheme (Annex D1 and D3) provides an outlet for the most able researchers who wish (and are best suited) to remain fully committed to research. At present these promotions are temporary and reviewed every five years; individuals are liable to revert to their substantive grade if their performance falters or if their department ceases to need the work they are doing. It has been put to us that this can operate unfairly, and that there would be benefit in making them substantive. Whether or not this is done, IMP is, and is likely to remain, severely restricted. At 1 July 1979 there were 141 Individual Merit SPSOs, DCSOs and above in the SCS: a ratio of 1:19 PSOs. For most scientists the only prospect of advancement above PSO is by abandoning (or reducing) their personal involvement in research and undertaking the management or administration of research or the provision of professional advice. Even here, there are fewer outlets than are available in the Administration Group. On

1 July 1979 there were 885 non-Individual Merit scientists graded SPSO and above as compared with 2,637 PSOs, a ratio of 1:3 (taking all SPSOs and above the ratio was 1:2.6). In the Administration Group the ratio of Senior Principals and Assistant Secretaries to Principals was 1:2.3. At the highest levels, 9% of those in the Open Structure in 1979 (and 11% in 1972) had at some stage been PSOs.

To be revised.

6.8 We do not consider that comparisons of these ratios is altogether helpful. It cannot be a realistic aim of personnel management to provide identical career prospects for people even with identical educational qualifications who enter the Civil Service by different routes in order to do different jobs. What is important is that able individuals are not held back in their careers, and hence contribute below their potential, by artificial constraints.

6.9 We do not consider it necessary to dwell on how management can prepare individual scientists for IMP. Such individuals are strongly motivated, and their chief need is for a stimulating, well run laboratory, and encouragement to do good research, design or development. However we consider that there is a need for those aiming to enter scientific management and administration (including project management) to establish skills and experience which are not automatically provided through the conduct of research. These include an understanding of people, a capacity for financial administration, skills in forward planning, ability to construct and present a programme in a fashion that secures departmental support, a willingness to compromise in the face of practical constraints and contrary views, and a capacity to see where the work of a laboratory can contribute most usefully to national needs. It is highly desirable, therefore, that a potential Director of an RE understands the way in which Government policy is made and how the Government financial and administrative machinery works. This, indeed, was one of the main thrusts of Lord Rothschild's management recommendations. Very similar qualifications are needed among those aspiring to senior HQ administration and policy advisory posts including those of Chief Scientists and others in the Open Structure. Such officers join with administrative generalists and specialists in other disciplines in advising Ministers on policy issues that demand technical understanding. We believe that this contribution is vital and needs expansion, and have the impression that it is given greater priority in other industrial nations.

6.10 Thus the challenge for management is to ensure that RE scientists do not find themselves at PSO level short of some of the skills essential for further advancement. Many individuals can, of course, overcome this problem by the application of commonsense, because they are quick learners, or because they have been attentive to the wider pattern of departmental operations throughout their career. The implementation, following Cmnd 5046, of a research commissioning procedure, and the operation over a much longer period of many advisory links between REs and HQs, helps to provide incidental training for RE scientists in the ways of central Government.

6.11 But we are clear that this is too haphazard. If general management skills and an understanding of policy and administration are important to those advancing above PSO, then training in them must be provided, and those who acquire them must be seen to benefit. As it is, we have received evidence that, at any rate in some departments, the present machinery for effecting promotions to SPSO and above in REs (and, to a degree elsewhere) unconsciously militates against the longer perspectives of career development. By stressing the need for the individual to do the job being advertised as soon as possible, there is an inherent bias towards the individual with specialist knowledge relevant to the post in question. The high-flying, good generalist scientist may have been at a disadvantage.

6.12 We suspect that this emphasis on specialism lies at the heart of the failure of SPATS for the SCS. Too often we have heard the view expressed that a move to an HQ posting or to a SPATS course places the individual scientist at

a disadvantage compared with one who continues to display scientific abilities in a narrower sphere.

6.13 We agree with Lord Rothschild that HQ or RE appointments in line management or with advisory responsibilities at SPSO and above demand a broader range of skills than scientific creativity and leadership alone. We believe that unless this is accepted the SCS will not use the talents of its members properly. We would stress that it is not our objective to turn scientists into administrators (and in this we disagree with the underlying assumption in Cmnd 5046). Rather, we believe that there is a need for more scientists with administrative skills at the top of the Civil Service. It is to this objective, and to the need to provide scientists with management skills particularly in senior RE posts, that we direct our recommendations on career management.

6.14 To bring this about, attitudes must be changed. The Administration Group must be convinced of a need to collaborate, on terms of equality, with colleagues who have recent experience of technical operations. The scientists concerned must in turn recognise that administration is also an advanced professional skill and that a scientist engaged in policy work must develop methods of evaluation, presentation and communication different from those used within the professional technological world. Senior scientific civil servants (especially in REs) must be convinced of the need for an appropriate proportion of the ablest members of the SCS to become technological generalists - through periods of training provided by HQ postings leading to permanent appointments there. And the scientists themselves must recognise HQ policy advisory posts to be premier career goals.

6.15 We believe that the MOD may be immune from some of the problems we have identified above. The continuum of activities in which they involve their scientists enables them to provide well defined and clearly recognisable career pathways for the majority. But they are not immune from the need to provide wider opportunities for scientists or from the need to enable scientists to progress outwith their specialism to the high levels of the Service.

Implications for Management

Evolution, not Reconstruction

6.16 The evidence submitted to us from departments, Research Councils, the IPCS and others confirms that the management of the SCS and its counterparts in the fringe bodies is fundamentally sound. There has been no suggestion that the recruitment, structure and management of the SCS is in need of major reconstruction, or that the Government's scientific effort is in imminent danger of collapse. However some adaptation of these management practices may well be needed. In the short term, the main challenge is to develop and use effectively the instruments we have for the continued nurture of the Government's varied and valuable scientific resources.

Definition of Career Prospects

6.17 An integrated structure for the SCS was introduced in 1972 following the Fulton Report. The Scientific Classes were merged to form a group with a single hierarchy of grades from ASO to PSO and outlets to the senior scientific grades of SPSO, DCSO and CSO(B) and thence to the Open Structure at Under Secretary level and above. Equality of opportunity, with progression based on merit, was the keystone of the new policy, which was parallelled by the introduction of integrated structures in the Administration and the P & T Groups.

6.18 The implementation of the Fulton reforms has, however, raised new problems. The work of a senior laboratory technician, vital as it is, is not easy to compare with the work of a creative theoretician pushing forward the limits of

knowledge - or with the work of a scientist in a central advisory team in a HQ organisation. The promotion panels which departments have established have not found it easy to compare unlikes. There have been complaints. It has been alleged, for example, that advancement remains easier for a research scientist (partly since these remain the largest single job group in the SCS but especially because many research posts are fluidly graded) than for a scientist at headquarters or in a supporting post. But the evidence suggests that departments have, on the whole, succeeded in achieving a fair and uniform standard for promotion of individuals doing very different jobs.

6.19 Undoubtedly the most serious problem is that the integrated structure has introduced equality of expectation alongside equality of opportunity. The problem is seen at its most acute among staff who would formerly have been employed in the Scientific Assistant or Experimental Officer classes. Whereas formerly these could advance to highly respected senior posts as Senior Scientific Assistant or Senior Experimental Officer, all now think in terms of progress towards PSO. But this does not mean that everybody reaches PSO: for people doing the kind of job formerly done by Scientific Assistants, HSO is probably the normal career maximum, while many who would have been Senior Experimental Officers end their service as SSOs - feeling thwarted of the final step. Because every soldier has the potential to achieve a Field Marshal's baton, it does not and should not mean that the supply of batons is increased or the standard for gaining one relaxed. Many departments and fringe bodies have commented in their evidence on the stresses that this problem has created, leaving us in no doubt that it is widespread.

6.20 Although some of those we have consulted clearly believe that the Fulton mergers have proved misguided and should be reversed, we do not believe this to be practical or desirable. But we agree that there is a real need for means to reward consistent merit without the qualities required for promotion to the next grade. We are aware that CSD is examining the relation of pay to performance and hope that they bear in mind the need to recognise long-standing and consistent effort as well as outstanding work in the short-term. But we also believe that there is scope for departmental and local management to give recognition to, and reward, their staff in small but important ways outside the relatively inflexible channels of promotion or pay increases (cf also para 6.3).

6.21 Another kind of problem exists at the very top of the Civil Service. The former grade of Chief Scientific Officer (higher band) is now integrated into the Open Structure following its merger with Under Secretary. Hence staff at DCSO or CSO(B) level see the ladder on which they stand extending upwards without interruption to Under, Deputy and Permanent Secretary. Although 9% of those in the Open Structure were previously in scientific grades, and about 7 DCSOs and CSO(B)s a year became Under Secretaries in 1976-78, most of these higher appointments were concerned with the management of science, and there is a feeling that in some departments professionals tend neither to be trained for, nor appointed to, the full range of jobs appropriate to their abilities. It is not a universal problem: most senior posts in the Procurement Executive of the MOD, for example are filled by people with a professional background. But we know of instances in civil departments where, despite intensive search, it has proved impossible to find candidates with a professional background to fill Under Secretary posts for which such a qualification was desirable. Members of the Administration Group have been appointed in consequence - a step that has understandably worried both scientific staff and the IPCS. This is another illustration of the problem the Civil Service has in training "technological generalists".

To be revised.

Streaming

6.22 We believe that much of the dissatisfaction with career prospects within the SCS has its origins in the mistaken career expectations generated by the integrated

structure, and we have therefore considered in some detail the steps which management might take to prevent unrealistic expectations. We do not believe that the solution lies in any formalised streaming system: although streaming works well within the special circumstances of the Meteorological Office, we consider it to be inappropriate to the majority of working environments within the SCS. We believe that, for the majority of departments, such a formal streaming system would lead to greater barriers to mobility, would cause problems of morale, would lead to invidious public comparison of the abilities and potential of individuals and would impose an unnecessary and burdensome administrative load on managers of scientific staff. The disadvantages would considerably outweigh the gains.

Career Prospects

6.23 We have considered whether there should be a formal career prospectus for the SCS. Today there is no obvious parallel within the SCS to the "career grades" that existed (and were publicised) within the Scientific Classes prior to 1972. Amongst the scientific staff themselves there appears to be the tacit (and sometimes explicit) assumption that PSO is the "career grade" for the SCS as a whole. This is not so: there is no "career grade" within the SCS and we do not believe it would be meaningful to denote any particular grade as such.

6.24 In their evidence to us, the IPCS put forward specific proposals for a career prospectus based upon qualification levels. They argue that this might (for example) define the career expectations of an honours graduate as SPSO or above. The numbers of honours graduates recruited could be determined by the number of known vacancies at SPSO and above (these vacancies being filled as at present on merit whatever the qualifications held by the promotee). Such a system would, the IPCS argue, permit a range of 'career grades' to which individuals could aspire without imposing the barriers of the pre-Fulton Class structure.

6.25 We have considered these proposals seriously because we know that the concept of a career prospectus is one to which the IPCS attach great importance. We are very doubtful about the practicability of such a system, and we believe that a number of untenable assumptions underlie the IPCS's proposals. Apart from the difficulties of estimating future opportunities at SPSO (or any other) level, the assumption of a one-to-one relationship between needs at recruitment levels and those at the higher levels is most unlikely to hold. Allowance has to be made for wastage, for the fact that academic performance is an indication of current ability and potential but no certain guarantee of success, and above all for the needs of the Civil Service to sustain a wide and changing range of functions. Moreover, work needs must be the determining factor in the organisational hierarchy: posts cannot be created simply to maintain career prospects. These needs vary over time and are hard to forecast but the attempt must be made and constantly reviewed - and there must be flexibility to adjust. A system that tied recruitment primarily to ultimate promotion opportunities would not be likely to meet those needs or to succeed in its own objective. And we should not assume the system is a closed one; wastage rates will fluctuate as prospects change and outside recruitment at more senior levels can also be varied.

6.26 This does not mean that we are unsympathetic to the IPCS aim of giving individuals a clearer picture of where they stand. What we are saying is that we doubt whether it would be possible to construct a quantitative career prospectus for the SCS that would reflect the complexities of the needs for scientific staff. We believe that the right course is to continue to improve our manpower planning, and to give the clearest statements of career expectation we can, on a continuing basis, to staff in the Service so that individuals have as realistic as possible an idea of their own prospects.

6.27 We believe that continuing, realistic advice on career prospects can be provided through the present system of Annual Staff Reports (ASRs - which assess performance, fitness for promotion, and needs for training and change of job), Job Appraisal Reviews (JARs - which ensure that an individual discusses his or her job with a senior colleague, normally their countersigning officer) and Career Development Interviews (CDIs - which are forward-looking discussions between individuals and senior officers outside their normal line of management). But we have been led by the evidence submitted to us to wonder whether this machinery is working as well as it should. Why are unrealistic expectations a problem? We believe that there are three main factors involved. First, it is human nature to expect the best even in difficult circumstances and, perhaps, to assume that in some way the good prospects of periods of growth can or should continue even in periods of stability. Second, we are aware (as managers ourselves) of the temptation to pass on to staff the most optimistic reasonable assessment of prospects (some would indeed argue that this degree of encouragement is only right). Third, and most importantly, we believe that insufficient effort and resources have been devoted by departments centrally and by the CSD to quantifying the effects on career expectations of changes in policies or in manpower control and recruitment.

6.28 We recommend that the CSD and SMC examine, possibly in consultation with staff representatives, whether more can be done both to improve information on career prospects on a continuing basis and to predict the effects of changes in the general circumstances of employment. Such information would be of great value to staff, helping individuals to assess the value of proposed postings and to adjust to change; it might also help departments to choose the most effective policies (for example for managing manpower economies).

Manpower Planning

6.29 In general manpower planning can be a useful tool in identifying likely future shortages or surpluses of staff and estimating needs accordingly. For the SCS its applicability is limited, because of the lack of homogeneity in this group. Nevertheless a recent report on a joint CSD/IPCS/MOD study on manpower planning of Science Group grades at the Admiralty Surface Weapons Establishment has shown that, in some circumstances, manpower planning could be useful in indicating likely future staffing deficiencies or suggesting recruitment mixes to avoid these. Wherever resources will allow (manpower planning can be an expensive activity and the costs need to be weighed carefully against the likely benefits) and where structural considerations permit (the work area under consideration must be reasonably large and yet homogeneous), we support the use of manpower planning as a tool to help minimise potential management problems. However, we would stress the limitations; manpower planning is a useful tool in identifying problems and in searching for solutions: it does not provide solutions in itself and projections are usually heavily dependent on the assumptions made.

Promotion

6.30 We have noted above that the Civil Service as a whole, and the SCS within it, is likely to face a period of numerical stability or contraction. Promotion prospects are being reduced from the levels of earlier years when there was overall expansion in the work of the SCS and in the number of posts at PSO level and above. The SCS will not be alone in facing reduced promotion prospects and there are no indications that the SCS will suffer proportionately worse than any other group.

6.31 However, we recognise that, particularly in areas of R & D, the nature of the work is different in the SCS from that in other groups. A scientist can make a qualitative difference to the level at which he works which is not possible to the same extent in other groups: this is recognised within the system of fluid grading whereby an individual can be promoted to the next higher

grade if there is a need for the work at the higher level. In groups to which normal complementing applies, on the other hand, there is not the same scope to increase the level of the work of individual posts, since they are more clearly defined in terms of the job to be done: standstill or contraction may reduce the number of posts (and hence vacancies) at the higher levels, and in turn reduce the number of opportunities for promotion.

6.32 We believe that there are two main reasons why scientists tend to feel hard-done-by in times of constraint. First, until 1976/77, ~~the slow but steady expansion of the SCS was such that~~ the number of scientists deemed fitted and qualified for promotion never exceeded the ceiling on the number of promotions that could be justified by the needs of the work. Therefore those who met the required standard in promotion reviews generally were promoted, unlike the situation in other groups. In 1976/77 for the first time, as numbers began to fall slightly, not all those who met the required standard in promotion reviews were promoted. Because this had not been experienced before in the SCS, although it is fairly common elsewhere, many scientists felt that their conditions of service had been suddenly (and unilaterally) altered. Second, because, by definition those who are successful in promotion reviews in a fluidly graded area are already working at the higher level, scientists feel that being held back from promotion results in them being less than fairly rewarded for the work that they are doing.

6.33 The needs for the work, not the individual aspirations of staff, must determine the number of posts at any level, and this is for management to determine - with the specialist advice, as necessary, of trained staff inspectors. We do not believe that the execution of work at higher level (ie a level that has been recognised by the success of an incumbent of a post in an annual promotion review) should justify promotion to the higher level if the department has no need for the work at that level. Equally, it is difficult to contend that an able, creative research scientist (for example) should be held back from working to the best of his or her abilities. There is an element of conflict here that we recognise.

Purposive Career Management

6.34 We believe that the SCS has in many cases failed to provide individuals with the requisite experience to execute all the functions required of them in senior posts both in REs and HQ organisations. Exhortation alone will not fill this gap. Nor is it sufficient to provide opportunities for training through HQ postings open to able staff at SSO or PSO level, or through SPATS. Both have their place, but both depend wholly on the motivation of the individual and we are convinced that at present the attitude of many senior scientific managers and the natural reluctance to disrupt a steady career without obvious evidence that prospects will be improved often act as an overwhelming deterrent. New procedures of career planning are needed.

6.35 First, there is a need to identify at an early stage those scientists who are likely to be able to make a contribution at more senior levels. Second, the careers of these individuals must be managed much more purposefully. It is notable, in this context, that the common present methods of advancement (vertically through fluid grading arrangements or diagonally and laterally by trawling) militate against purposive career management. We do not argue that they be replaced but rather that managers play a much more active role in guiding individuals.

6.36 Annual Staff Reports on individuals should concentrate more than they at present do on the evaluation of career direction. This is particularly important in respect of those promoted to PSO in their 30s. Consideration should be given to their possible future career pathway whether it be towards the top of the Service on Individual Merit, into research management, or into scientific administration. Annual promotion reviews of SSOs should seek evidence not merely of suitability for possible promotion within the same kind of work, but also try to establish the sort of future postings that might broaden the individual's experience and equip him for the broader responsibilities required in senior positions. There are a number of opportunities for postings at this level. Scientists at and below PSO engaged in policy advice or project management are mostly located in directorates which also comprise economists, statisticians, members of the P & T or Research Officer Category, and administrators. Commonly they are dispersed in small divisions or as individuals within such teams. These posts are generally complemented. Promotion prospects can therefore be limited unless careers are managed positively, with changes of posting every three to five years. We regard these postings as potentially extremely valuable opportunities for able young scientists from REsto gain an insight into policy. So are postings as Scientific Counsellors overseas. Where appropriate, we therefore recommend that they be filled by individuals on secondment for periods of about 3 years. Where a department lacks REs, we recommend that it draws on staff from appropriate laboratories in other departments, or from fringe bodies, through the establishment of appropriate linkages. We hope that SMC will play an active role in encouraging such linkages and that departments, together with the CSD, play a role in nurturing and monitoring the careers, particularly of overseas attaches, in terms of subsequent postings.

6.37 We consider that similar arrangements could also apply to departmental posts concerned with the commissioning of research. We recognise, however that although such posts generally demand close contact with policy directorates who serve as "customers" for the research, and often also with the industries for whom the department is standing proxy, the scientists involved can all too readily become operators of a brokerage process rather than key people in the process of deciding whether the problem posed by the customer is real, whether research will help it, which contractor can best solve the problem, and how the results can best be applied in policy. We would stress that the latter is a primary function of the Chief Scientist's staff, who should be policy advisors on an equal footing with their administrative colleagues within these areas of concern. Where this system works well, postings to Chief Scientist's teams could be of immense benefit to young up-and-coming scientists by giving an insight into policy and administration which could not be obtained in the RE environment.

6.38 The importance of motivation has been stressed in the evidence we have received, including that from the IPCS. Clearly, there would be little to be gained in arranging placements of the kind we have mentioned if the individual concerned was positively unwilling. However, we see no reason why the wishes of the individual should not be taken into account in planning career postings. Reporting officers should take advantage of annual reports to indicate the known career interests of the individual. When experience postings are proposed, the appropriate Establishment Division should discuss the plan with the individual and stress the advantages of such a move. Heads of Profession (HOP) should also make themselves available to help the Establishment Division if the individual concerned seeks professional reassurance.

6.39 All our efforts to encourage conscious career planning will be doomed to failure if such postings are not seen to benefit the careers of the individuals

who take them. Accordingly, we recommend that all panels for promotion to SPSO include at least one member who is working in central advisory, project management or research commissioning areas. Establishment Officers and HOPs, when receiving panel reports, should satisfy themselves that those officers who have been selected for wider experience, and performed well in several different kinds of work, receive due credit for their attainment in all areas. We do not go so far as to say such experience should be a mandatory "credit" but we do consider that if candidates lack this experience the reasons should be examined searchingly. Generally, staff should be left in no doubt that if they dismiss the prospect of experience postings in HQ and of management training, they should look to Individual Merit rather than line management for future advancement and that they have limited their career opportunities. For those approaching Under Secretary a broader background is needed. We therefore recommend that those appointed at SPSO or DCSO level in REs should be told clearly that their future advancement into the Open Structure may increasingly depend on a period of employment at the HQ of their own or another department, perhaps in an opportunity post not always filled by a member of the SCS.

6.40 We do not underestimate the problems that will be faced by the individuals concerned. Many such postings will involve a change of location - often to London. In addition, the individual will be invited and encouraged to embark upon a change of career direction which will lead him into largely unknown areas. He can have no guarantee of success. Nevertheless, we are in no doubt that there is an urgent need for management to encourage such able individuals to broaden their experience.

6.41 We have noted in our consideration of career management practices above that there is a need, within departments, to encourage moves from REs to HQs. We have suggested that the HOPs in departments should identify themselves closely with the need to encourage such moves, and we would welcome a strengthening of relationships between an HOP and the Establishment Officer in the identification of suitably able individuals for purposive career planning and in the promotion and execution of such planning. Although some departments employing scientific staff do not have formal HOPs, we believe that there is usually a recognisable head either for the scientific staff within a department or individually for the major disciplines it employs. We recommend that these positions be formally recognised by title in those departments in which they are not already: it is important that they can be identified both by Establishments Divisions and by the scientific staff themselves.

Co-ordinated Career Planning

6.42 We have considered also whether there is a need for greater central co-ordination of career planning for scientists: that is, for departing from the general situation where (as in the case of other large Civil Service occupational groups but not in the case of a few small ones) personnel management and career development are almost totally the responsibility of departments. We have concluded that for the most part there is no case for change. We note, however, that for operational research (OR) staff, the CSD (as the major civil user of operational research scientists) operates an informal central system of career management among a number of civil departments. We consider this to be both sensible and welcome although great care must be taken to ensure that scientists do not get "locked in" unwillingly to OR without the opportunity to broaden their perspectives and that scientists from other disciplines who might wish to transfer into OR work do not get overlooked. We are clear that such central career management must be the exception, and we have identified no other discipline within the SCS to which such a model of career planning might be appropriate, but this does not mean that cases for such a system should not be

thoroughly considered. We propose that Heads of Profession or Discipline across the SCS as a whole should be established only for those specialisations that are managed centrally.

6.43 We note, however, that there are some scientists who can become relatively isolated from their counterparts in the major employing departments by virtue of being employed only in small groups in departments whose main interest lies outside science. For these departments, the CSD has set up a linking scheme to enable the smaller employers to tap the experience and knowledge of larger employers (See Annex F1). We have noted above that there may be a need for links to be forged between HQ organisations and REs in other departments. This might well form a basis for wider interchange between departments outwith the formal service-wide trawling system. We believe that there could be advantage in extending these linking schemes and we recommend that CSD, with the advice of the SMC, re-examine the possibilities of such extension.

Training

6.44 Throughout our report, we have stressed the importance of work experience as a training medium. The evidence we have received from departments indicates that the current level of provision of formal training courses is for the most part acceptable. We have received little evidence in support of any extension of formal training (See Annex F1).

6.45 The IPCS, however, proposed that there should be mandatory management training for those promoted, or moved laterally, to positions requiring them to manage staff for the first time. We do not think that a rigid policy of this kind would be productive: an unwilling trainee learns little and can be disruptive to the work of those who are willing. We do, however, recommend that the lack of formal training, where offered and refused, should be examined closely by any board considering such an individual for promotion and taken into account in considering future career postings.

6.46 Although we received little evidence from departments specifically on the subject of existing training courses, and wish to make no specific recommendations on this subject, we have passed such comments as were received to the Division within CSD responsible for training as a contribution to the iterative process by which the CSD seeks to influence training arrangements.

Relationships between the Scientific Civil Service and Other Groups

6.47 We have received some evidence that suggests an overlap in work types between the SCS and the P & T Group. We have also noted that, for some academic disciplines, graduates with very similar degrees can go either into the SCS or another group where they might, at least initially, undertake similar work. We have stressed the heterogeneity of the SCS which includes, for example, geneticists, hydrogeologists and specialists in animal behaviour. Others such as petroleum specialists and psychologists, which do not seem markedly different from SCS specialisms, are largely excluded. The reasons for this lie partly in differences in the nature of the jobs actually done, partly in the need to match differences in the market rate for different specialisms and partly in other factors. In consequence two individuals doing broadly similar work can be in different groups. We believe that the difficulties that this causes can, however, be exaggerated.

6.48 There are three (theoretical) ways out of these difficulties: ensuring that all posts are assigned unequivocally and logically to a particular group; ensuring that jobs genuinely capable of being done by more than one group are open to candidates from any such group (opportunity posts) as is often done as between

the SCS and P & T Group; and unifying groups so that career and pay differentials disappear. We have already noted (paragraph 5.20) the need to ensure that recruitment posts are appropriately classified in terms of the group to which they are assigned. But the same considerations apply to more senior posts. CSD with departments should try to ensure that criteria of classification should distinguish, where distinction is appropriate, between SCS posts and posts in other occupational groups; and that the criteria are applied consistently. We recommend accordingly.

6.49 There will, however, remain areas where a clear allocation of posts to one group is not practicable or sensible. We have noted that in the UKAEA posts above PSO/PPTO level are all opportunity posts and uniformly graded. We understand that the SRC is considering a similar grading system. Apart from the MOD (where most posts at SPSO/Superintending Grade level and above are open to both groups even though many posts are in practice likely to remain the preserve of one group), we do not know of any areas in the Civil Service for which such a system has been adopted and we are uncertain about the extent of its applicability. But we have noted in our analysis of the needs of Government science that the need for specialist technical expertise increases up to PSO level and diminishes thereafter to be replaced by the need for other abilities and experience. We believe that there is scope for wider use than at present of opportunity posts especially at and above PSO level - not just with the P & T Group but also with the Administration Group and perhaps with certain others. We recommend that CSD and departments explore this possibility further.

6.50 We have not thought it right to examine the case for unified grading in the sense of putting all civil servants, whatever their specialism and background, on the same grading ladders and the same rates of pay. This would plainly be outside our terms of reference. We note that CSD sees considerable difficulty in reconciling unified grading with the principle of fair comparisons for pay and has offered the Council of Civil Service Unions discussions on other ways in which the objective usually assigned to unified grading might be met. This objective, which is obviously right, is that top posts should be open to all who are qualified to fill them, regardless of their background. However the great majority of civil servants enter a particular group - Administration, Science, P & T, Legal etc - because it offers the kind of work which interests them. Movement should not be inhibited by artificial barriers, but in the nature of things it will only be movement at the margins. The problem must be kept in perspective.

The Need for Mobility

6.51 In Chapters II and III we described the main functions and activities of the SCS and we have noted their differing timescales and variable political stabilities. We draw two main conclusions from our analysis.

6.52 First, the SCS, like the rest of the Civil Service, must respond to changing priorities. Departments must deploy their scientific staff to meet the priorities of their Ministers, and this may demand especial flexibility in groups making a technical contribution to policy or engaged in project work. We believe that such teams are generally well able to respond to such changes. But problems can arise, particularly in the smaller departments and scientific units. Changes in research requirements can waste resources and create frustration, if long-term investigations suddenly cease to be relevant. Such changes may also lead to a requirement for skills which are not readily available within the unit, the department, or even the Civil Service, and may render available skills redundant. Work areas may change suddenly and substantially in their relative importance. All these fluxes place demands on management and individuals: as Lord Haldane's

Committee originally recognised, many areas of research (for example) demand a degree of assured continuity if they are to be done effectively, and that was one reason why they proposed that much Government R & D should not be the direct responsibility of departmental Ministers. Today, flexibility is not helped by increasing geographical immobility in the SCS or the immutability of many specialised scientific disciplines, leading from time to time to a mis-match between the supply and demand for individual skills. We believe that positive effort to make staff movement and interchange easier is essential.

6.53 The SCS is treated as a single entity for general conditions of service (including recruitment, promotion, redundancy and retirement conditions) and, of course, much the same arrangements apply to other civil servants. But we have noted that that there are major differences between departments in objectives, and in the experience and abilities they require of their scientific staff. Coupled with the natural human tendency to place confidence in familiar colleagues, it is not surprising that this is reflected in the predominance of 'home grown' appointments to senior scientific posts. This tendency is not confined to the SCS: it is equally true of the Administration Group, P&T Group, Research Officer category and others. The differences in departmental objectives limit the scope for movement of scientists between departments; different disciplines are often needed and even within the same disciplines variations in work and working methods are often such that transfers can interrupt ongoing commitments while people retrain. There is movement between departments of some specialists such as Economists and Statisticians but in their case there is a much greater uniformity of work and of working methods over the Civil Service as a whole.

6.54 Nevertheless, we believe that the Service and individuals would benefit from more interchange between departments (and between departments, the Research Councils and other fringe bodies), and that this will be especially true while parts of the Civil Service are contracting. Interchange is particularly useful as a way of broadening an individual's experience, and when a department needs only a few people with a skill that others have in much greater supply. The structural and intellectual barriers between departments, and between departments and the Research Councils and other fringe bodies should therefore be minimised, and interchanges between departments and fringe bodies and industry and commerce, when suited to the individual and to his perceived career path, should be vigorously pursued. This must be a task for departments who will know the most appropriate possible areas outside the Civil Service for secondment and the most appropriate people for whom interchange might be sought. We recommend, therefore, that reporting officers be specifically invited to comment upon the likely value of a period of interchange for each of the individuals upon whom they report.

VII FUTURE PROSPECTS

7.1 We are conscious of the fact that Cmnd 7499, in which our study was first proposed, referred to it as a "far reaching and radical review of the Scientific Civil Service". The evidence we have received provides little indication that departments feel the need for any radical reconstruction, and we have instead reflected their feeling that present management arrangements are basically sound and can be adapted in the various ways we have suggested to meet the problems brought to our attention.

7.2 We have tried to avoid complacency. Within our terms of reference, as we point out in Chapter 1, we have considered whether the SCS as at present constituted is too diverse in its component disciplines and range of tasks to be a sensible management unit or whether the frontiers between it and other Civil Service occupational groups are wisely defined. In this report we advocate no change because, in current circumstances, we can see no benefits to justify the perturbation that restructuring would cause.

7.3 We are, however, clear that both the structure of the SCS and its relationship with other groups must be kept under continuing review by Government. The coming years seem certain to place new demands on the Civil Service, and its scientific and professional members. In particular, we see concern over:

a. the professional skills Government must employ; how to recruit people with scarce qualifications and how to keep the mix of expertise among existing staff matched to the needs;

b. matching pay within the structures sufficiently finely to the job to obtain and retain the staff required, yet preserving the benefits of reasonably large staff groups on the same basic scales;

c. ensuring that the research done or commissioned by Government is as relevant, effective and soundly applied as possible;

d. improving links between scientists in Government and industry, and defining their respective responsibilities more clearly;

e. involving scientists in management and policy in a world where technological factors are likely to loom even larger than today.

7.4 As we have stressed, we see these needs arising at a time when the Civil Service will be static or contracting, thereby intensifying the problem for management.

7.5 The first of these problems will be less intense if it is possible to recognize scientific and technical trends and innovations, and their implications for policy, at an early stage. We believe that this is a task for departmental Chief Scientists, supported by professional science policy advisory units. Accordingly we stress our view, set out in Chapter 3, that departments should examine their Chief Scientist organizations to ensure that they are, above all, geared to participate in high level policy formation. But the translation of their findings into recruitment, retraining and deployment policy will fall to HOPs and Principal Establishment Officers, who must establish very close liaison.

7.6 Even then, problems will remain, partly because the rate of change in need may well demand a matching change in staff skills greater than the ordinary dynamics of recruitment, training and wastage readily allow. In our view the Civil Service will occasionally have to make special arrangements for recruiting scarce skills even if the result is some untidiness in relation to major professional staff groups. While we have not urged any extension of the use of period appointments, this too will need to be kept under review as will the balance between in-house staff and commissioning from consultants and contractors.

7.7 Departments may also need to consider the role of HOPs in nurturing special skills. Within the SCS the spread is such that no single HOP can hope to watch over the technical and intellectual development of all the disciplines under his care. If disciplines need nurture this can only be done by a special machinery such, for example, as identifying Senior Scientists who can advise HOPs on the development of staff within their various specialisms.

7.8 Finally, departments may well need to look again at their arrangements for career development in various scientific disciplines. Such machinery can also help in identifying individuals who are well suited to transfer from one R & D centre to another or from R & D to other tasks. It can also help in judging how far individuals are suitable for retraining to meet changing demand (although we are well aware that there are limitations to this: a good physicist may become a good computer specialist, but is unlikely to become a leader in plant ecology). The relationship between recruitment, promotion, age and wastage is highly complex and we can only urge that CSD together with departments continue to consider the kind of management information and models that should be built up in order to make the process in the future somewhat less uncertain. In this connection we refer again to our comment on the incomplete nature of SCS information available from central (CSD) personnel records and statistics, and urge that these be reviewed as a part of the same exercise.

The Provision and Management of Research

7.9 Anyone who is aware of its history can predict that the mechanism for deciding, managing and using Government R & D will also receive periodic review. We have received no evidence that dissents strongly from the Cmnd 7499 conclusion that the arrangements introduced under Cmnd 5046 are working sufficiently well to make further upheaval undesirable at present. But it could well be that the trend in Government will be towards commissioning extra-mural research, rather than doing it in-house. If so, the balance of demand in the Civil Service will swing from those who do research to those who manage it. We think also that more attention will have to be given to two aspects of the customer - contractor principle: the extent to which the non-professional customer is really able to determine research requirements, and the adequacy of the means for interpreting and applying research results.

7.10 The bald statement of the customer - contractor principle - "the customer says what he wants: the contractor does it (if he can) and the customer pays" - is in our view an over-simplification. There are many "customers": Ministers with their administrative and professional advisers, and outside interests in local government and industry for whom departments stand proxy. Very often the priorities and perceptions of these "customers" will be in conflict. Defining their specific research needs (as against identifying broad fields in which they might find more information useful) is not easy; neither is reconciling the many conflicts that inevitably arise. The definition of a problem is only the first step (although it is often the most difficult) towards establishing sound research. Departmental Chief Scientists were charged in Cmnd 5046 with responsibility for ensuring that the supply of research genuinely matched demand, and we know that many departments have set up elaborate Requirements Committee systems which bring internal and external customers and Chief Scientists' teams together, sometimes with major contractors to discuss what is needed. But committees are rarely appropriate places for critical analysis of problems. And we believe that the system can place on customers burdens they are ill-equipped to carry - unless they get a service from Chief Scientists that goes far beyond the operation of a committee machine. We believe that departments may need to look again at how far they receive this service, and that it may be necessary to re-state the fundamental division of duties between customers and Chief Scientists in terms that leave the latter with unchallenged responsibility for

formulating the research programme. This could mean - to paraphrase the simple statement of the problem at the start of this paragraph - that "the customer says what his problems are; the Chief Scientist discusses with him whether research is essential to their solution, and if so arranges that research with a good contractor".

7.11 There is also ambiguity in the statement that "the customer pays". In practice, very few departments place research budgets under direct control of customer groups. There are good administrative reasons for not doing this: within a department many directorates have a legitimate interest in the research programme. Individual projects may have several such supporters. It would be counter productive to fragment the research budget into allocations to all such groups. Instead provision is made, on paper, to Requirements Committees that represent a number of such customers, and apportioned by them to contractors according to their priorities, but the actual contractual arrangements and expenditure are managed by the Controller R & D, in association with departmental Finance Officers. Another constraint arises with intra-mural research because RE staff are permanent Civil Servants within departments, and their salaries, accordingly, are not borne on the research votes. Decisions on the number of staff to be employed are governed by the need for their services, but once a complement has been agreed, the research programme has to be framed in a way that accommodates their efforts.

7.12 We believe that departments may need to look again, within the context of the overriding demand for efficient control of public expenditure, at the relationship between internal and extra-mural research capacity. We have noted that many REs serve a range of customers (and that this is right: an RE should be a centre of expertise in a professional field). We have recalled Lord Haldane's view that some kinds of research laboratory are better managed at one remove from central departments. Whether or not there are changes in this relationship in future, we are clear that increasing demands will be put on Controllers of R & D to secure value for money, and this may in turn raise serious difficulties over sustaining long-term expertise and strategic research programmes through periods of fluctuating demand. Skilled managers of research, able to organise contracts in a fashion that nurtures good contractors without at any time allowing money to be spent on unnecessary research, will be at a premium.

7.13 Finally, we are concerned over the application of research - for this is what determines the value received for money spent. Scientists in REs are trained to communicate their results - but with one another, in the form of professional papers, rather than with lay or industrial customers. It is the reponsibility of Controllers of R & D to ensure, when contracts are placed, that the form and timing of the reports required are stated unambiguously. It is the responsibility of Chief Scientists to ensure the customers understand what the research they have initiated has produced, and that misunderstandings or misconception do not distort the advice based upon them.

7.14 Research is uncertain: if it were not so it would often not be needed. Not all programmes will achieve their goals. Not all findings will be readily assimilated into policy. Nor can any research solve a problem whose limiting factors are financial or political (although it may be useful in revealing where these critical constraints lie). Realism in expectation is crucial and it is a Chief Scientist's job to engender it. We consider that there is some evidence that the substantial Government expenditure on R & D has not always produced applicable results on a scale commensurate with the effort involved, and that this results as much from deficiences covering the users as the researchers. We recommend that departments under the leadership of their Chief Scientists, review their machinery for transferring research findings into action and for relating costs to benefits.

Industry

7.15 There is general recognition that the recovery of the United Kingdom depends on its industry. In Chapter 3 we have discussed how the SCS can contribute. We are convinced that closer links between Government REs, and centres of expertise, and industrial users of their skills are desirable. Departmental policies must obviously take account of trends and constraints in the industrial field. For these reasons, we believe that an even closer interchange of information and staff is needed in future between industry and the professional Civil Service. This may well have implications for management, and demand attention to the barriers that can inhibit movement, whether for short term period appointments or through the recruitment of staff with industrial experience at moderately senior level.

Advice

7.16 Much of our report is about how to train scientists for the higher levels of management, professional administration and advice, as "technological generalists". We believe that more able scientists should be given HQ experience early in their careers. We are clear that, if the right individual is to be got into the right niche, the process of trawling of posts, which puts a premium on personal interest, must be supplemented by more positive career management and advice, to get the right people to come forward.

7.17 In conclusion, therefore, we would stress the crucial need to look on scientists in government primarily as civil servants with a contribution to make to the formulation of policy, because they are expert on subjects central to the success of any advanced technological society. The equation of science with R & D has, in our view, led to damaging misunderstandings. Preoccupation with the management of Government R & D has, in our view, distracted attention from other areas - especially the advisory field - where the need for a new approach is of higher priority. We trust our report will do something to redress this balance.

VIII. FINDINGS AND RECOMMENDATIONS

Introduction

8.1 The Civil Service will need to acquire an increasing 'scientific dimension' in future, in the form of people with both technical knowledge and management skills, able to operate at the most senior levels. This has led us to consider how far the present structure and machinery of the Service is likely to obstruct these developments, and therefore whether it is necessary to recommend major changes. (1.24)

8.2 In this report we do not recommend any change in the grade structure of the SCS, or the boundaries between it and other groups, but we are in no doubt that these should not be considered immutable in a changing world. We believe, however, that the limiting factor in securing the development we seek is likely to be the supply and career development of individuals of outstanding quality, and that this can be done by using the existing management tools more effectively. (7.1 - 7.3).

The Share of the Nation's Scientifically Educated Manpower Employed in the Civil Service

8.3 The Civil Service as a whole employed in 1979 some 5% of the nation's stock of qualified scientists and some 3.0% of the nation's engineers. (4.3)

8.4 Even in peak recruitment years the Civil Service recruited less than 10% of the annual output of qualified graduate scientists and less than 5% of the annual output of qualified engineers from UK Universities and Polytechnics. (4.7) (Annex E2)

8.5 The SCS and the P & T group together employ about 2% of the national stock. (4.3)

8.6 In recent years about half of the qualified scientists entering the Civil Service followed occupations not directly related to their degree specialisations. (4.10)

8.7 A larger proportion of higher degree graduates than first degree graduates obtain first employment in the Civil Service, which may also take a higher proportion of those with first class degrees than other employers. (4.9)

8.8 There could be competition between the Civil Service and Industry for the very limited number of high quality individuals, especially in disciplines that are in short supply. (4.12)

8.9 This competition is not a general problem, and that there is no reason to believe that future demand for scientists and engineers in the Civil Service, outside these areas of scarce skills, will be so great as to hamper industrial recruitment or to place strains on Universities and Polytechnics. (4.13)

8.10 Over the past 5 years, the earlier growth in the SCS has given way to numerical stability or decline. However the number of PSOs has increased by 3% per annum between 1969 and 1979 and the number of ASOs has fallen. (2.10) (Annex D1).

Recruitment

8.11 Only a minority of those entering the SCS come direct from academic studies; a substantial number of recruits have previous experience in industry and commerce. (4.8) (5.4)

8.12 Neither the diversity of work done by scientists in Government nor the range of career openings is sufficiently well known and we recommend that the CSC re-examine their recruitment literature and that more is done by departments to publicise the work of their scientists. (5.15)

8.13 There is evidence that some scientists are attracted by the reputation of particular laboratories as national centres of excellence rather than by the Civil Service generally. We recommend that the machinery for recruitment be re-examined by the CSD and CSC with the aim of securing more decentralisation to appropriate establishments and organisations. Subsequent career management must however ensure that individuals are not restricted to the establishments they enter initially. (5.16, 5.25)

8.14 Recruitment can also be hampered if manpower policies harm the image of Government as a good employer. We accept that the size of the Civil Service must depend on the need for work in particular fields but recommend that the problems introduced by "stop-go" recruitment be recognised and that changes that affect career prospects of scientists be fully and fairly publicised. (5.17, 5.18)

8.15 Most departments have difficulty in filling posts in London: some remote stations are also unattractive. We see no easy solution, but recommend that the CSD explores the possibility of paying removal expenses to those coming to the Civil Service from other sectors of employment. (5.19, 5.22)

8.16 Pay differences between different groups in the Civil Service could affect the flow of recruits and we recommend that departments and the CSD examine critically the appropriate classification for specialist posts, and guide applicants on the career prospects in different groups. (5.21)

8.17 Although we support the general principle that existing staff should always be able to compete for vacancies at a more senior level, we recommend that direct recruitment at SSO level and above should be retained to meet particular needs or where there are no suitable internal candidates. (5.26)

8.18 In order to avoid damage to morale and unnecessary wastage at ASO level we recommend that departments, when submitting candidates to CSC for certification, explain their reasons for recruiting at that level anyone whose qualifications make them eligible for appointment as an SO. Similar vigilance is needed to avoid recruitment of over qualified staff to some vacancies at SO level. (5.30)

8.19 We see no need for any extension of the specific criteria used at present to decide on the case for period appointments, but recommend that the CSC and CSD should explore the case for short period fellowships or other temporary appointments in some instances. (5.28)

Structure

8.20 We recommend that there should be clear criteria for the classification of posts in different occupational groups, and that CSD and departments should endeavour to ensure that the criteria are applied consistently. (6.48)

8.21 There is a great need for scientists who have developed administrative and managerial skills in addition to their technical knowledge (we call such people "technological generalists") at the highest levels of the Civil Service. Many of the problems which the United Kingdom faces have a technical content and we believe that the infusion of such knowledge at the top of the Service will improve the advice to Ministers as they develop policy. But such a change will not come about without changes in attitude, and management. (3.28, 6.11, 6.14, 7.16, 7.17)

8.22 Different kinds of activity within the SCS naturally demand different kinds of people and offer different career paths. There are substantial differences between civil departments and the Ministry of Defence, with its large volume of project work. Administration, management and the provision of policy advice engage few staff below SSO and offer the majority of the most senior posts. Creative research (as a full-time activity) engages many staff up to PSO but offers only limited advancement thereafter to those who do not transfer to management. Technical support offers few opportunities above HSO, and scientific services little above SSO or PSO. (2.4, 6.3, 6.19) (Annex H)

8.23 Departmental Chief Scientists have a central role in ensuring that policies are scientifically well founded, and, where knowledge is insufficient, arranging for essential research and for the application of its results. This, and not the management of R & D, should be their chief role and we recommend that where this is not the case, departments review the terms of reference and organisation of their Chief Scientists' commands accordingly. (3.35, 7.14).

Career Management

8.24 There are many career paths in the SCS each offering different opportunities; there is no "career grade" and we do not consider that it would be feasible to develop a quantitative career prospectus. (6.23 - 6.26)

8.25 The outstanding need is to ensure that the different job types, departmental opportunities and geographical locations do not lead to unnecessary barriers to the development of individual careers or to the deployment of staff where they can contribute best. Our management proposals are directed to achieving this mobility. We consider that existing schemes which link departments and facilitate the flow of scientists between them could be extended and we recommend that CSD with the advice of SMC explore the possibilities. We also recommend that interchange between departments, the Research Councils and other fringe bodies should be facilitated. Finally, we consider that practical understanding of industry will be of great importance in the future Civil Service and we recommend that CSD examine with departments ways of facilitating interchange. (3.17, 6.43, 6.54)

8.26 We recommend that the positions of Head of Profession within departments should be formally designated in those departments where this has not been done already: it is important that they be identified both by scientific staff members and by Establishment Divisions. (6.41, 7.7)

8.27 The evidence we have received confirms that the management of the SCS and its counterpart in fringe bodies is fundamentally sound. Accordingly, we do not propose any immediate major changes. We consider, however, that the management tools available could be used better. Sensitive management will be essential if the Service is to be kept up to date and in good heart at a time when overall numbers are declining but technical demands are likely to increase. (2.12, 6.16, 7.3)

8.28 New career planning procedures are needed. The CSD and other departments need to devote more effort to relating changes in overall policy to career expectations, deployment and recruitment in a fashion that, as far as possible, preserves a coherent general management policy. We recommend that CSD and SMC examine, possibly in consultation with staff representatives, whether more can be done to improve information on career prospects. (6.28)

8.29 The limitations of manpower planning should be appreciated. It is a useful tool in identifying problems and searching for solutions, but it does not provide solutions in itself and projections are usually heavily dependent on the assumptions made. (6.29)

8.30 Efforts to improve manpower planning should, however, continue. The clearest possible statements of career expectation should be given, on a continuing basis, to staff in the Service so that individuals have as realistic an idea as possible of their own prospects and of the impact upon them of changing events. (6.26).

8.31 For most departments a formal streaming system would lead to greater barriers to mobility, problems of morale, invidious public comparison of abilities and an unnecessary burden on management. These disadvantages in our view considerably outweigh the possible gains and we recommend that general use of streaming should not be contemplated. (6.22)

8.32 However, we recognise that genuine problems arise because the restructuring of the SCS has tended to increase the expectations of some staff beyond reality. We recommend that departments and local management adopt measures to recognise the status of individuals (especially in the technical support and scientific service areas) outside the relatively inflexible channels of promotion or pay increases. (6.20)

8.33 We recommend that, where appropriate, HQ scientific posts providing advice on policy, project management or research administration be filled on secondment from departmental REs or linked fringe bodies for periods of about three years. Such experience postings are in our view the best way of testing young officers with potential to rise high in the service as "technological generalist" managers and advisers and giving them a wider understanding of policy and administration. (6.36)

8.34 While recognising the importance of personal motivation, and safeguarding the right of individuals to apply for vacant posts, we are convinced that a more positive approach by managers to the development of staff careers is essential. (6.34 - 6.36)

8.35 We recommend that reporting and countersigning officers be specifically invited to comment upon the potential of individuals for advancement to managerial and policy development work, and upon the desirability of a period of service in a headquarters or other department in order to provide wider experience and training. We consider that a key role of HOPs within departments is to promote interchanges of suitable personnel between research establishments and headquarters and between linked departments, fringe bodies and industry. (6.38, 6.41)

8.36 We recommend that Chief Scientists and HOPs, in association with Principal Establishment Officers, should ensure that suitable individuals with the potential to reach the higher levels of the Service are given every opportunity to acquire the necessary experience, and that central policy advisory units are continually staffed by people of the highest ability. (6.37, 6.38)

8.37 We recommend that HOPs (or Discipline Heads) across the SCS are established only for those specialist disciplines that are managed centrally, and we consider that such central management will be needed only for a minority of disciplines. (6.42)

8.38 There is scope for wider use than at present of opportunity posts, especially at and above PSO, not just between Science and P & T Groups but also encompassing the Administration Group and perhaps some others. We recommend that CSD and departments explore this possibility further. (6.49)

8.39 We recommend that boards considering individuals for promotion should examine closely the circumstances under which offers of experience postings formal training had been refused and leave such staff in no doubt that they have limited their career opportunities. (6.39, 6.45)

8.40 We recommend that boards in considering promotion to SPSO should generally include at least one member who is working in scientific management and administration or project management. (6.39)

8.41 We recommend that those seeking appointment to SPSO or DCSO should be under no doubt that advancement into the Open Structure is likely increasingly to demand broadening experience in the HQ of their own or another department. (6.39)

Support for technical progress in industry

8.42 The SCS contributes to industry through a wide range of research and development activities, through the support that it provides to the development in industry of technological capabilities necessary to meet demanding requirements especially in the defence field, various co-operative design, development and application projects, work on calibration and standardisation, and the provision of scientific services and advice. (3.3 - 3.11)

8.43 The precise interface between science and engineering in Government and in industry will change but, whatever the balance, we consider it essential that industrial objectives, constraints and philosophies are understood by professionals working in Government. For this reason we recommend that interchange of appropriate staff continues to be pursued by departments and that industrial experience be sought more deliberately in recruitment in the SCS. (3.17)

8.44 We also recommend that the possibility be explored of industry sponsoring their R & D staff to work in Government REs with outstanding research facilities, alongside Government Scientists, on projects relevant to industry. (3.14)

Support for Government regulatory functions

8.45 Scientists in Government do much of the research on which regulations are based, and also have a central role in determining what those standards and regulations should be. We consider the success of the regulatory process in Government will continue to depend on a high standard of professional support from scientists and others. But proposed regulations must also be acceptable in terms of wider policy, and we advise that this is an area where broadly trained "technological generalists" are needed. (3.19, 3.20, 3.21)

Support for Government Research and Development

8.46 We concur in the judgement in Cmnd 7499 that the arrangements for commissioning Government R & D are working well enough not to require substantial changes. (3.23)

8.47 We recommend that, while R & D in Government must be on issues relevant to policy and to the problems confronting Government, departments recognise the need for continuing 'strategic' research in fields in which problems are certain to recur, so as to provide the scientific understanding basic to their solution. (3.24)

8.48 While the reorganisation of R & D has brought departmental customers and research scientists closer together, non-scientist customers cannot be expected to determine research priorities, and ultimate responsibility for commissioning

a research programme that meets departmental needs must rest with Chief Scientists. (3.33 - 3.35, 7.10)

8.49 Government REs often serve a range of customers outside the departments to which they are attached and are important components of the total national scientific capability. We recommend that this fact is borne in mind when departments consider what manpower and financial allocations they should have and that departments collectively monitor how far their individual policies affect the total effort. (3.25)

8.50 We consider that the value of international collaboration in research (often as a foundation for policy) is not sufficiently recognised by civil departments, and that Chief Scientists and RE staff could with advantage strengthen their links with colleagues overseas. We recommend a more positive approach to exchanges of personnel. (3.26)

Support for Government Policy

8.51 Scientists must be both "on top" and "on tap". They have an essential contribution to make, alongside engineers, other professionals and administrators, to the development of policies in an increasingly technological world, and in a country whose future depends on its manufacturing industry. (3.38)

8.52 The central needs are, first, to match recruitment and career management to the diverse and changing tasks of the SCS; second, to deploy staff flexibly in these times of change (and hence to eliminate as many as possible of the barriers to movement within or between departments, fringe bodies and industry); and, third, to ensure positive training and career development so that sufficient scientists are prepared for the higher levels of management and policy.

ANNEX A1

MEMBERSHIP OF THE WORKING GROUP ON THE REVIEW OF THE SCIENTIFIC CIVIL SERVICE

The Working Group on the Review of the Scientific Civil Service was set up by the Science Management Committee with the following membership:

Dr M W Holdgate CB (Chairman)	Departments of Environment & Transport
Dr J M Ashworth	Cabinet Office
Dr P Dean	Department of Industry
Mr C-H Henn	Ministry of Defence
Mr N E A Moore	Civil Service Department

Secretariat

R D J Wright	Civil Service Department (until December 1979)
D C Hardwick	Civil Service Department (from September 1979)
Miss J Irvine	Departments of Environment & Transport

SUBMISSION OF EVIDENCE

Departments and those "fringe bodies" known to employ scientific staff were invited to submit evidence to the Working Group, together with some outside organizations. Evidence was submitted from the following:

A. Departments

Ministry of Defence
(Meteorological Office additionally)
Ministry of Agriculture, Fisheries and Food
Department of Industry
(Additional note by Dr Davies)
Department of Energy
(Additional note by Sir Herman Bondi)
Departments of Environment and Transport
HM Stationery Office
Inland Revenue
Foreign and Commonwealth Office
Scottish Office
Cabinet Office
Department of Health and Social Security
Civil Service Department
(Additional note on Operational Research Staff)
Overseas Development Administration
Department of the Civil Service, Northern Ireland
Home Office
Ordnance Survey
Royal Mint

B. Fringe Bodies

Agricultural Research Council
Natural Environment Research Council
Science Research Council
UK Atomic Energy Authority
Forestry Commission
Metropolitan Police Office
Health and Safety Executive
British Museum
British Museum (Natural History)

C. Other bodies and private individuals

IPCS

Sir Henry Chilver	Industrial members of ACARD
Sir Robert Clayton CBE	
D Downs CBE	
Dr A J Kennedy CBE	
Sir Peter Matthews	
M M Pennell CBE	
Dr L Rotherham CBE FRS	
Dr A Spinks CBE FRS	

K Alsop (Brunel University)
P J D Gething
Prof J Postgate (ARC Unit of Nitrogen Fixation, Sussex University)

ANNEX B1

DEFINITIONS

Throughout this Report, we use a number of phrases to which we have allocated specific meanings as follows:

Public Service: staff employed within the Civil Service, the Research Councils and other "fringe bodies" such as the United Kingdom Atomic Energy Authority, the Forestry Commission and the British Museum, often having similar conditions of employment to the Civil Service.

Scientific Civil Service: staff in science grades up to and including CSO(B) employed in Government Departments (including their research establishments and laboratories). Strictly speaking, there is no separate "Scientific Civil Servive"; scientists, like engineers, lawyers, statisticians and administrators are all part of the same Home Civil Service. but SCS remains a convenient and widely-used shorthand expression to cover all those employed as scientists by Government departments below Open Structure level.

Science Group: staff in the grades from Assistant Scientific Officer (ASO), through Scientific Officer (SO), Higher Scientific Officer (HSO) and Senior Scientific Officer (SSO), to Principal Scientific Officer (PSO) normally trained in, and engaged on, the physical, biological or mathematical sciences, engineering or, to a lesser extent, social sciences.

Higher Science Grades: the grades above the Science Group of Senior Principal Scientific Officer (SBSO), Deputy Chief Scientific Officer (DCSO) and Chief Scientific Officer (CSO(B)).

Open Structure: the grades of Under Secretary, Deputy Secretary and Permanent Secretary which are open to all staff at the top levels of the Service, whatever their professional background.

Administration Group: staff employed in grades from Clerical Assistant, through the Executive levels to Assistant Secretary.

Professional and Technology (P & T) Group: staff in grades from PTO IV through to Director Engineering, normally trained in and employed on work of an applied nature (eg engineers, naval architects, surveyors and draughtsmen).

Research Officer Category: specialist grades in two groups - the first the Social Science Group, the second the Resource and Planning Group.

Psychologist Class: specialist grades engaged in specialist research groups and occupational/personnel functions.

Statistician Group: specialist grades engaged in providing and interpreting statistical information for central policy departments.

ANNEX B2

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ANNEX C

THE CHANGING ROLE OF SCIENTISTS IN GOVERNMENT

In this Annex, we provide a summary of the many reports on Government Science and Government scientists in the 20th Century.

2. In 1918 a Commission under Lord Haldane's Chairmanship published a wide-ranging review of the organization of Government needed in order to meet the challenges of the post-war years (Cd 9230). The Commission commented that "it appears to us that adequate provision has not been made in the past for the organized acquisition of facts and information, and for the systematic application of thought, as a preliminary to the settlement of policy and its subsequent administration." Consequently it was recommended that:

a. "In all departments better provision should be made for enquiry, research and reflection before policy is decided";

b. "For some purposes the necessary research and enquiry should be carried out and supervised by a department of Government specially charged with these matters".

3. In Chapter IV of their report the Haldane Commission elaborate on these points. They distinguished between three kinds of information - gathering activity: intelligence work within administrative departments, research supervision by these departments and intelligence and research work for general use, which they considered should not be supervised by an administrative department. The first two kinds of activity met the need for a Minister in charge of a department to have an in-house capacity to survey and augment existing knowledge within his sphere: the third reflected the need for more basic research to be unfettered by the specific

bounds of departmental responsibility (the so called Haldane principle). Haldane and his colleagues clearly envisaged both the strengthening of departmental professional (including scientific) capacity and the establishment of a separate Minister for Intelligence and Research, "free from the serious pressure of administrative duties and immune from any suspicions of bias" provided with Advisory Councils considering research needs in particular fields (such as Medicine), and presiding over a Government research structure. In several respects this vision went further than the establishment of the Research Council or the Department of Scientific and Industrial Research, in foreseeing the setting up of a Ministry of more monolithic character that would "take is place among the most important Departments of Government".

4. Haldane's Ministry of Intelligence and Research was not established, but the Agricultural and Medical Research Councils, funded by but independent from central Government sprang directly from his proposals. In the following years the professional strength of Government grew. By the time the Royal Commission on the Civil Service reported in 1929-31 there were 10.200 professional Civil Servants (economists, lawyers and statisticians as well as scientists) with degrees or comparable qualifications and 11,500 less qualified supporting staff. They were mainly employed as advisers, and the Commission examined both how their information was used and (more interestingly for our present purposes) how their careers were managed.

5. Haldane had stressed that, while specialist advisers within administrative departments must be directly involved in policy formulation, his Ministry of Intelligence and Research's responsibility ended when it had transmitted its results to what would now be termed

its "policy customers". Lord Tomlin's Commissioner stressed that professional advisers were entitled to be consulted (recording the complaint that some administrators had given advice to Ministers on technical issues without such consultation) but that they were not entitled to insist that their advice be taken.

6. The Royal Commission examined the prospects for professional advancement, expressing confidence that the claims of professionals as well as administrators would be considered when senior posts were filled, but stressing that it was "inevitable that most high administrative posts should continue to be filled by officers with administrative rather than specialist experience". Transferability was also an issue. The Commission considered that a case for some merging of the various scientific and research groups could be made, and agreed that in principle it was wrong for groups of staff in different departments to be treated as if in watertight compartments. However, the Commission noted that most individuals would prefer to serve their careers in one department and added that "except to a limited extent exchange of specialist staff is unlikely to be practicable or desirable".

7. By 1930, therefore, several features of today's Scientific Civil Service already existed. There was a separation between the advisory function within departments, departmental research, and the more basic research in Research Councils and analogous bodies. Professionals were worried about how they would "get to the top" both in career terms and with their advice. And compartmentalisation - and the case for interdepartmental movement - was an issue: even if only a few people wanted it, it was thought right that mobility was possible.

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8. The aftermath of the second war, like the first, brought a review of the organization and functions of the Civil Service. A Committee on scientific staff, chaired by Sir Alan Barlow led to a Government White Paper on the Scientific Civil Service in 1945 (Cmnd 6679), and to the establishment of the service in a form that persisted for many years and indeed, has elements that still endure. There were three classes: Scientific Officer, Experimental Officer, and Scientific Assistant, the first for the best qualified graduates, most of whom were engaged in research. The Barlow Committee was particularly concerned about provision for advancement of the abler scientist and in addition with adequately remunerating those with post-graduate experience prior to entry to the Service. The committee suggested the use of special jumps within the scales for accelerated advancement and concluded that one of the aims should be that it is 'a first essential that the scales and system of promotion of the scientific classes should have equal prospects of pay and promotion with the best men in the administrative class at least up to the top of the Principal grade.' Advancement beyond Principal Scientific Officer (PSO) level was made possible for outstanding research workers through a scheme providing promotion on grounds of individual merit.

9. Several studies in the following years, including that by the Royal Commission under Sir Raymond Priestley (Cmnd 9613, 1955) on the principles for determining Civil Service pay, had implications for the status of Government scientists. It was a report by a Committee chaired initially by Sir Claude Gibb, and after his death by Sir Solly (now Lord) Zuckerman, however, that made the first clear statement of many of the issues that still remain a problem (Zuckerman, 1961). This Committee looked at the whole question of the management and control of government research and development. It defined three major types of research:

"pure basic", conducted solely for the advancement of knowledge, "objective basic", involving work of a fundamental character, but in fields of potential technological importance, and "applied" research directed to specific problems, products or processes. The Committee considered that government laboratories should concentrate on objective basic and applied work, leaving pure basic studies to Universities (with which, however, as the Barlow committee had recommended, government research establishments should have close links).

10. The Zuckerman committee set down five useful criteria for judging when objective basic research should be done in government establishments, namely:

a. the Government had a prime responsibility that the work would support (eg: in establishing safe standards for pharmaceutical products);

b. the national interest demanded advances in the field of knowledge;

c. government research establishments had the best facilities for the work;

d. the work required facilities beyond the capacity of any single University group;

e. there were special advantages in doing the basic research alongside related applied studies.

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It was recognized that basic research was also attractive to staff, and hence helped recruitment, but this alone was not considered sufficient justification for doing it in a government laboratory.

11. The Zuckerman Committee spent some time considering the role of management in promoting government R&D, recognising the dilemma that later became central in the debate over Lord Rothschild's enunciation of the "customer-contractor principle". This is the dilemma of how to sustain a free, creative atmosphere but at the same time provide sufficient guidance to maintain the objectivities - the relevance - of the work (and hence justify public funding) (para 92). Zuckerman took a liberal view, advising that the choice of specific research projects be left to workers themselves, within defined fields. But management had a duty to provide broad guidance - and to grapple with the problem of how to get work done on necessary, but intellectually unattractive topics. Independent reviews by outside experts should provide some check on the exercise of directors' discretion. The research should be planned in awareness of what was going on in other Government centres, industry and the universities, and in close contact with potential users in the administrative and executive branches of central departments. Applied projects should be scrutinised carefully for need, cost-effectiveness, likely applications and markets, and to ensure that a Government establishment was really the best location.

12. Both Barlow and Zuckerman addressed the fundamental issue of what government science should do and how it can best be effected, and therefore of what share of the nation's scientific strength government should employ. The Barlow Committee was especially concerned with making Government an attractive enough employer to secure enough of the nation's scientifically educated manpower: the Zuckerman Committee clearly accepted

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this need, but were equally clear that the work done in Government had to be accountable and hence that criteria of relevance and a certain degree of managerial control were necessary. Neither went as far as the "Rothschild" report and subsequent White Paper (Cmnd 5046), to advocate a system like that now in operation and described in Cmnd 7499 under which users of research results in administrative and executive departments and outside central government play a major, if not dominant role in determining what research should be done.

13. In addition, however, the Zuckerman report had important things to say on the subject of management. They noted that while there were especially favourable arrangements under which virtually all entrants to the Scientific Officer Class reached the Principal Scientific Officer grade the prospects of still further promotion had "turned out to be much poorer than those of an Administrative Class Principal (a grade with the same salary scale as that of the PSO)". At that time there were 2 too PSOs to every more senior member of the Scientific Civil Service whereas in the administrative class there were almost the same number of higher grade officers and Principals. At the same time they considered that the problems of the Scientific Officer class had "tended to be confused" by comparisons with the Administrative class.

14. Two special features of the scientific service were stressed. First, that although "some research scientists remain productive either in one or more specialised fields of research for the greater part of their careers, most scientists do their best research early in their careers. On the other hand the quality of administration is something which is expected to improve with age and experience." Second: once an officer was established in research he needed less supervision than in the Administrative class (one reason why there were fewer senior posts).

15. The Zuckerman Committee argued that it was accordingly right for pay and promotion to be good in the lower grades of the scientific Civil Service when many officers were doing their best work. But what should be done with older men and women who had "passed their peak"? It was suggested that outlets should be provided by transfers to other types of work (such as dissemination of research results and advice), to other classes of the Civil Service, or to industry or education. The Committee considered that "the development of a scientist as a good administrator is a matter of training and management" and that training and job rotation within the Scientific Officer Class should be reviewed. They identified lack of mobility as a special problem and urged more transfers of research staff "before their middle years, to posts normally filled by members of other Civil Service Classes". Indeed they sought a much greater overlap between Scientific, Administrative and Executive classes of the service (and movement of senior officers in both directions, with scientists becoming Permanent Secretaries and others who started in the Administrative Class occupying senior posts in research organizations).

16. Too early a commitment of young officers to permanent careers in the Scientific Civil Service was stated as another problem, possibly to be overcome by offering young people appointments on short and medium-term contracts. It was also suggested that young scientists should be moved around more, (perhaps 2 or 3 times in the first 10 to 15 years of their careers) so as to provide fresh stimulus and broaden their experience (including experience of administration) - although it was appreciated that specialisation limited the opportunities for this. The Committee approved the system of flexible (or fluid) grading by which officers were promoted as their abilities advanced, and urged it be applied "for all research posts up to and including the PSO grade".

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But they were worried by the near-universal attainment of PSO by the then Scientific Officer class, with "fliers" and "plodders" only separated by the speed of their advance.

17. Despite the changes introduced in the past 16 years many of these questions remain. The balance between grades in the Scientific Civil Service, the problem of commitment early in life to a research career which will inevitably, in many cases, continue after the peak of creativity is past, the lack of positive training for management and the low rate of transfer to other work all remain prevalent today. It may be fairly asked how this can possibly be, if the Zuckerman Committee's diagnosis was right. Another passage of their report is even more prophetic. In para 331 they state:-

> "We are not hopeful, however, that the measures we have proposed can solve, as opposed to lighten, the problems we have considered. We have, therefore, turned our attention to various more radical proposals.....".

These were mainly concerned with mobility of scientists between the Civil Service and outside. Interchange with educational establishments (helped by allowing Civil Servants to do more part-time teaching) more careful siting of Government research establishments alongside Universities, encouragement of movement by better pension transfer provisions, were all mentioned. The Committee asked that they be examined as part of a new general review of the structure of the Scientific Civil Service.

18. Perhaps as a consequence of this recommendation, the organisation of the Scientific Civil Service was reviewed in 1964 by a committee under the chairmanship of Sir Mark Tennant (Treasury, 1965). This review focused on the proper allocation of responsibilities between the three classes then existing, and on the scope for appointments for finite periods, although wider issues of objective, deployment, management and recruitment were also addressed. The Committee's findings closely parallel those of the present review at many points.

19. The Tennant Committee were struck by the wide variety of work done by the SCS, although it is clear that at the time of their study most of this was in the broad R&D field 'ranging from basic research ... to prototype manufacture.' They considered that the Service was attracting a 'fair share' of good graduates, but that it did not, perhaps, compete wholly successfully for the really outstanding graduate. As one way round this difficulty, they recommended some flexibility in the starting salary offered to such people. They also considered that recruitment might be hampered by a false image of the Civil Service as both 'bureaucratic' and impersonal, and urged that closer contacts be established with universities to dispel this misapprehension. Like many other inquiries, they also urged more interchange of staff between universities, industry and the Civil Service, and pressed Departments to promote mobility within and between their own establishments.

20. The Tennant Committee concluded that the use of short term contracts on any major scale would place great demands on management

at establishments, would prejudice mutual confidence between industry and Government, and would create great difficulties within the Civil Service, where most employment would inevitably continue to be on a different basis. They also rejected the proposal that all recruitments should be on a temporary basis in the first instance, followed by termination of appointment, the offer of short term contract, or full establishment as appropriate. However, they accepted that contract employment might have a role as a supplementary method of recruitment and advised that the scope for this should be explored.

21. Finally, the Committee considered career management and prospects. They rejected the unification of the Scientific Officer and Experimental Officer classes (although they were worried about the structure, recruitment procedures, and work of the latter) considering the general structure of the SCS to be 'well adapted to the needs of the work'. They strongly supported the Barlow Committee's recommendation that able officers should attain the rank of PSO in their early thirties, and also strongly supported training in management for SOs. They recommended that appropriate senior posts be open both to scientists and administrators, and advocated a system of centralised career management for the SO class. They did not consider the number of senior scientists no longer able to make an effective contribution to be unduly large, but believed that better career management would help keep their numbers at the irreducible minimum.

22. Organizational matters had also been considered by a Committee of Inquiry under Sir Burke (now Lord) Trend which reported in 1963 (Cmnd 2171). The Trend Committee were concerned by the fragmentation

of Government agencies for R&D and the lack of a comprehensive and coherent strategy for civil scientific research. They stressed the need for "a fair balance between the freedom of thought and action to which responsible scientific opinion rightly attaches importance and the need to ensure that scientific resources are applied to the best national advantage." They added the point "that on normal constitutional principles, Exchequer-financed activities must remain the clear responsibility of a Minister of the Crown, who must be prepared at any time to justify them to Parliament".

23. Although eschewing tidying-up for tidiness sake, the Committee proposed several major organizational changes. The Medical and Agricultural Research Councils should be flanked by new Science and Natural Resources Research Councils (NRRC). (the latter taking over the Nature Conservancy and the Geological Survey). The Overseas Research Council should be dissolved. So should the Department of Scientific and Industrial Research (DSIR), its functions and responsibilities being divided between the SRC, NRRC (which became NERC, the Natural Environment Research Council) and a new autonomous Industrial Research and Development Authority (IRDA), which should take over most of DSIR's stations (some possibly passing to individual Administrative Departments: for example the transfer of the Road Research Laboratory (RRL) to the Ministry of Transport was mooted). The Minister for Science should be responsible for the Research Councils and the IRDA.

24. These changes were only partly implemented. SRC and NERC are now established features of the national scientific scene, and the RRL and Building Research Station (BRS) have moved via the Ministry of Transport and Ministry of Public Building and Works to the present common services

of The Department of the Environment and Transport. But IRDA - like Lord Haldane's Ministry of Intelligence and Research before it - never came into being. Instead the former DSIR establishments were parcelled out among the major Departments of State. This was a logical expression of the need for accountability, recognized by the Trend Committee, and was also compatible with the general thesis shared with the Zuckerman Committee that basic and objective basic research, centred on Universities and Research Councils, should be at one remove from Departmental interests (the "Haldane principle" restated) but that Government laboratories like RRL or BRS, where objective basic and applied research predominated, should be integrated with those departments they served.

25. Certain major changes in the Scientific Civil Service emerged from the report by Lord Fulton's Committee on the Civil Service (Cmnd 3638). They addressed themselves particularly to the question of how to ensure that the many classes into which the Civil Service was divided did not inhibit the movement of individuals, as their abilities developed, to the most appropriate posts. They proposed a substantial amalgamation of classes. In the scientific field, two such amalgamations have had significant effects. One involved the merging of the most senior grades in the Administrative and Professional classes, so that a Chief Scientific Officer (higher band) became an Under Secretary. In principle, all posts at and above this level became 'opportunity' posts: that is they were open to the best qualified individual irrespective of whether he or she had climed up the Administrative or Professional ladder. This change no more than repeated the position assumed by Lord Tomlin's Commission in 1929-32, but the second change brought about by Fulton was more novel. It integrated the Scientific Officer, Experimental Officer and Scientific Assistant classes into the single Science Group we now have. The aim was to make career development easier, with unified promotion boards

dealing with individuals undertaking the full range of scientific tasks, from laboratory technicians'work to innovative research. It replaced the old system under which class to class promotion from (say) Experimental to Scientific Officer depended on appearance before special Boards.

26. The 1972 White Paper based on Lord Rothschild's report (Cmnd 5046) built on the Trend Committee's proposals for integration of applied research laboratories within departments. It noted that many departments already operated a "customer-contractor principle" under which the research administrative Departments required from their own research establishments was formulated through internal committees serviced by a Chief Scientist's organisation. Lord Rothschild's report stressed the separation of the process of scientific advice and research programme development under the Chief Scientist from the direct management of departmental laboratories under a Controller of Research and Development. The most novel (and controversial) change introduced by Cmnd 5046 was the extension of the customer-contractor principle to the Research Councils, part of whose funds were transferred from the Department of Education and Science to the policy Departments in the expectation that they would use them to commission the work they needed from the Councils - assuming that the latter shaped their programmes to make them fit the Departments needs. As Cmnd 7499 has indicated, these organizational changes have worked well enough for them to be shielded from further disturbance at the present.

27. Organizationally, we stand now at a point at which what we might call "The Haldane pendulum" has swung far over toward the control of research by policy Departments. Of the total £1700m expended on Government R&D only £230m is voted to Research Councils directly through DES (a further £150m or so supports Science in Universities through the University Grants Committee) (1978/9 provisional out turn). Never before in peace time have scientists in Government been more closely integrated into the general structure of policy Departments and this, in itself, has had significant implications for their careers.

ANNEX DI

STATISTICS ON THE SCIENTIFIC CIVIL SERVICE

Introduction

1. In this Annex the available statistical data on the Scientific Civil Service are presented. The principal source used was PRISM (Personnel Record Information System for Management). This is a computer system with a data bank maintained centrally at the Civil Service Department and holding details on each member of the non-industrial home Civil Service. The information held covers, for example, age, sex, current grades and date of entry to Service. PRISM came into operation in 1975 so that full data are available only from that year onwards. Data on recruitment (were obtained from) the Annual Reports of the Civil Service Commission. In some instances the available data are subject to a margin of error (a particularly important case arises in relation to discipline), in others there are incompatibilities in definitions over time (making comparison of the figures difficult in the period affected). For these reasons, interpretation of some of the statistics is necessarily cautious.

The Scientific Civil Service in relation to other groups

2. The numbers in the Scientific Civil Service and selected other groups at 1 January 1980 are given in Table 1. These were obtained from the draft tables of "Civil Service Statistics 1980" and their coverage differs from that of the SCS data given in, for example, Table 2. Figures for "Civil Service Statistics" are compiled on the so-called "manpower count" basis which, inter alia, does not cover certain "departments" (eg the Natural History Museum) included in the "PRISM population" count. The latter basis was used for the more detailed analysis of the SCS given in later tables. This explains the discrepancy between the total SCS figures in Tables 1 and 2. The Scientific Civil Service was some 17,227 strong at 1 January 1980, rather less than half of the largest specialist group, the Professional and Technology Group, numbering 40,468. By far the greatest proportion of the total non-industrial Civil Service, 548,553, is of course formed by the Administration Group, 239,382. Apart from the Open Structure levels, the remainder is made up by

numerous other specialist groups, some of them (eg statistician research officers, psychologists) being very small in relation to the total. The Scientific Civil Service is about 3% of the total non-industrial Civil Service.

TABLE 1

NUMBERS OF STAFF IN POST IN SELECTED GROUPS IN THE CIVIL SERVICE AT 1 JANUARY 1980

Group	Number of staff in post at 1 1 '80 Full-time equivalents[1]
Total non-industrial Civil Service[2, 6]	548,553
Open Structure[3] levels	780
Administration Group	239,382
Professional and Technology Group[4]	40,468
Scientific Civil Service[5]	17,227
Statistician Group	514
Research Officer Category	450
Psychologist Class	264

SOURCE: "Civil Service Statistics 1980", drafts of Tables 1 and 4

1 ie part-time staff are counted as half units.

2 Quarterly Staff Return figure.

3 Permanent Secretary, Deputy Secretary and Under Secretary excluding the Diplomatic Service, Parliamentary Counsel and period appointments, but including posts at intermediate pay points.

4 Plus Directing Grades A and B and Superintending Grade.

5 Science Group grades plus SPSO, DCSO and CSO(B).

6. The remaining is made up of the Secretarial Category ( ), the General Class (excluding psychologists), Departmental Classes ( ) and other smaller groups.

The age/grade structure of the Scientific Civil Service

3. Table 2 gives the numbers in each grade, by specified age band, of the Scientific Civil Service at 1 January for the years 1975 to 1980 inclusive. As noted in paragraph 2, these data have been prepared on the "PRISM population" basis. Hence the total for the SCS in 1980 is greater than that given in Table 1 which was on the "manpower count" basis. The HSO grade is the largest in size (4,429 at 1 January 1980) and over one fifth of those in the grade are in the age range 28-32 years. The next largest grade is that of SSO (3,732 at 1 January 1980) where numbers are more evenly spread across age bands above age 28. The grade SO has been roughly the same size in recent years (about 3,000). The numbers in the SO and ASO grades are concentrated in the lowest age bands with ASOs, in particular, having almost 47% aged less than 23 years. This of course reflects the nature of recruitment to these grades where, in general, ASOs tend to be drawn from appropriately qualified school leavers and SOs from newly qualified science graduates. An important feature is that a high proportion of those at PSO level and above are more than 15 years from retirement, a situation that could lead to a promotion blockage in the future. This may be mitigated to some extent by the fall in SSOs below the age of 33, though the pool for early promotion to PSO is thereby reduced.

Another notable feature

is the growth in numbers close to retirement age (ie those aged 58 and over) in the SSO grade. These grew from 257 in 1975 to 361 in 1980 - a growth of around 40%.

4. The age distribution for each grade from SPSO to ASO and the corresponding cumulative age distributions, for all departments, are shown in diagrammatic form in Figures 1 to 12 below.

The composition of the SCS by discipline

5. In Table 3 below the numbers in selected disciplines of the SCS at 1 January 1980 are shown in total and for each of the 4 main employing departments. It should be borne in mind that "discipline", as recorded on PRISM, relates to the professional, technological or scientific activity in which the individual has gained the most experience and which is considered to be his or her main skill. It is not necessarily that in which he/she specialised during training or the discipline in which he/she is currently engaged. This limitation is likely to apply more in the case of the P&T Group than in the SCS, but it should be noted nonetheless.

6. Meteorology accounts for the largest number of scientists (2,252), followed by electronic engineering (1,420) and classical physics (1,241). The remaining listed disciplines vary in size from 150 to about 900. MOD employs almost all the meteorologists (2,240) and a high proportion of the electronic engineers (1,340) and classical physicists (1,168). In contrast MAFF employs almost half (266) of the botanists and biologists (582 in total) whilst DOE/Tp employs a large proportion of civil engineers

(145 out of 195 in total). Nearly half (226) of the pure mathematicians (477 in total) are employed by DOI.

Trends in grade sizes and overall size of the Scientific Civil Service

8. PRISM was introduced in 1975 so that its data only go as far back as that year. Hence another source must be used if a longer time series is required. The Annual Staff-in-Post Returns enable a fairly long run of figures to be built up, but there are limitations attached to the use of ~~this~~ these data. The most important limitation is that of lack of consistency over time. This arises because of changes in the definition of what constitutes the Scientific Civil Service, for example through the transfer of a group of scientific staff (or even an entire establishment) from the Civil Service to a fringe body or vice-versa (the transfer of about 1,000 staff from UKAEA to MOD in 1973 is a case in point). Another aspect of this problem was the merging of separate classes in 1971 to form the Science Group and associated definitional difficulties in constructing statistical series. Clearly the further back the series goes, the less likely that the figures will be compatible. The series in Table 4 (and illustrated in Fig 13) gives the numbers, for each grade as well as the total, in the Scientific Civil Service from 1967 to 1979 inclusive. The figures have been adjusted to put them on as consistent a basis as possible, but any interpretation must have regard to the limitations just mentioned. It should also be noted that these data are not defined in the same way as the data given in Tables 2 and 3. Firstly, data from the Staff-in-Post returns, like those on Table 1, are on the "manpower count" basis (see paragraph 2) which means, inter alia, that they exclude some "departments" that are covered on the

"PRISM population" basis (notably, in the case of the SCS, about 400 staff in the Natural History Museum). Secondly, Open Structure staff with a scientific background are included in the category "SPSO and above"; such staff are excluded in Table 2. Finally, the Staff-in-Post returns relate to the position at 1 April of each year whilst the PRISM figures are for 1 January.

8. The size of the Scientific Civil Service has varied between about 17,000 and 18,500 over the 13 years 1967-1979. The slight decline in recent years is largely attributable to the fall in the number of scientists in MOD (which, as seen earlier, is the main employer of scientists). Looking at the figures for individual grades, the most striking feature is that of the marked decline in the number of ASOs. This was 4,532 in 1967 and only 3,110 in 1979, a decrease of around 31%. The drop in numbers has been very nearly uniform, particularly between 1973 and 1978 when about 100-200 staff were lost between successive years. The numbers in grades above ASO increased in total from 13,326 in 1967 to 14,281 in 1979 - a rise of just over 7%. Most of this increase can be attributed to growth in the PSO (about 34%) and the SSO (just over 29%) grades. This was counterbalanced by a notable decline in the number of SOs (nearly 15%) to produce the more modest growth observed in numbers of those above ASO. The number of HSOs, on the other hand, appeared on the whole to have remained remarkably stable at between 4,000-4,500 over the 13 year period considered.

9. The data in Table 4 are illustrated in Fig 13 in the form of an index (1967 = 100) for each grade. The figure thus shows how the size of each grade has changed relative to its size in 1967.

10. Table 5 shows the percentage distribution by grade of Science Group staff only. This confirms previous findings in that the ASO grade has contracted from over 26% of the Group in 1967

masking an even less favourable picture, as the number of vacancies actually filled may be smaller than the number appointed. This follows from the fact that the CSC figures for those appointed may include some "recruits who do not in fact eventually join the Civil Service", as noted earlier.

13. Data on "cases cleared" during the calendar year 1979 are given in Table 7. The data are broken down by level of degree and "band" in respect of those who were successful (and were issued with a certificate of qualification) in competitions for entry to the Science Group at the levels of SO and HSO only. The "banding" of SO and HSO posts is explained in more detail in Annex F2. The figures show that, of those successful in competitions for HSO and SO posts, the largest proportion of those appointed to Band I posts had degrees of at least 2(i) level or better. For Band II and Band III SO posts, the majority had questions of at most 2(ii) degree level.

Wastage from the Scientific Civil Service

14. Data on wastage are available from PRISM and these are given in terms of numbers, by age and grade, for the (calendar) years 1975 to 1979 (inclusive) in Table 8. However, the figures exclude those who entered the SCS after 1 January and left before the end of the year and cover all kinds of wastage so that, for example, deaths and dismissals are included as well as resignations and retirements. Nevertheless the last 2 categories will account for the great majority of leavers - retirements being the more important for older, senior staff and resignations for younger, junior staff. The data in Table 8 bear this out: for grades SPSO and above the relatively high number of leavers aged 58 and over indicate that retirements form the bulk of wastage. At PSO level, the numbers leaving between the ages of 33 and 57 show that resignation is an important factor in wastage from this grade:

to just 19% in 1979 whilst the PSO and SSO grades have increased as proportions of the total Group (from almost 11% in 1967 to over 15% in 1979 for PSOs and from 17.2% in 1967 to nearly 23% in 1979 for SSOs).

Sentence to be added!

Recruitment to the Scientific Civil Service

Sect 10 11. Statistics on recruitment to the Scientific Civil Service are available from the Annual Reports of the Civil Service Commission (CSC). Some date are also obtainable from PRISM and these are given in Annex E2. It is, however, important to note that CSD and PRISM data are not strictly comparable. CSC data on those appointed in a year relate to the number of candidates who, having been successful in competitions for which the results are announced in that year, were certified before February in the following year as being qualified for appointment, whether or not they actually join. PRISM data, on the other hand, include only those who join in a given year. The CSC data may include some who were already civil servants but appear in the figures by virtue of their having sat for open competitions.

Sect 10 ~~12~~. Table 6 gives the number of vacancies, applications and appointments to grades at SO up to SPSO in the Scientific Civil Service for each year between 1974 and 1979 inclusive. ASO recruitment is not covered as this is delegated as explained in Chapter V. There has been notable variation in the level of vacancies, applications and appointments over the 4 years considered. Vacancies were highest in 1974 (1,100) and lowest in 1976 (350). Applications always far outweigh vacancies, being highest in 1975 (16,249) and lowest in 1976 (10,901). The number of those appointed was highest in 1975 (718) and lowest also in 1976 (252). Despite the high level of applications, the numbers appointed still fall short of the number of vacancies by a substantial margin. The figures may however be

Resignation was however much more important than retirement as a component of wastage at the level of ASO. For this grade the numbers resigning in the 2 lowest age bands are substantial, no doubt reflecting the changing career aspirations of the young scientists generally recruited to this grade. In general the number of resignations increased substantially between 1977 and 1978.

15. The same data are presented in the form of (percentage) rates in Table 9. They have been obtained by expressing the number of leavers in a given grade, age band and year as a percentage of the corresponding total staff in post at 1 January of that year. The rates generally confirm the pattern observed in Table 12, although some notable trends are apparent. As remarked earlier, 1978 was a year in which resignations were particularly high compared with the 3 previous years and this is reflected in the rates. Leaving rates amongst young staff (mainly resignations) were particularly high for HSOs aged 23-27 and 28-32, SOs aged less than 23 and 23-27 and ASOs aged less than 23 and 23-27 over the 4 years 1976 to 1979. This is in marked contrast to the rates for those close to retirement age which, for SSOs and lower grades, actually fell between 1977 and 1979. It is worth pointing out that in 1979 over 14% of all ASOs in service at 1 January had left before the end of the year.

Promotions in the Scientific Civil Service

16. Table 10 below gives the number of promotions made to each grade, from the grade below, by age, in the (calendar) years 1975-79. The figures for promotions to Under Secretary, however, include those promoted from both DCSO and CSO(B). There are no particularly striking features in the data and, with such a short

run of figures, any attempt to discern trends is unlikely to be reliable. With this in mind, the data seem to indicate that there has been an increase in the number promoted from HSO to SSO in the 28-32 age band and a small increase in the number promoted from SSO to PSO in the 33-37 age band.

17. Data on the number of Individual Merit Promotion (IMP) holders by department, at 1 July 1979 are presented in Table 11. Under the IMP scheme, officers in the Scientific Civil Service[1] can be recommended for promotion to grades above PSO (up to which fluid grading could apply) on the basis of their outstanding and continuing scientific contributions to their job and a need to avoid the individual being overloaded with administrative duties normally associated with posts at those levels. Recommendations are considered by a panel organised by CSD. Fringe bodies also operate the scheme (see Annex D4). Table 11 gives the total numbers of staff in the relevant grades (complement plus IMP). In most departments 10-20% of the relevant grades are IMP holders. Table 12 gives the number of officers nominated and successful pre-1968 and annually thereafter. However the data also cover fringe bodies (see Annex D4) which account for about half of the numbers appearing in the table. About two-thirds of candidates are successful; there are no discernable trends in applications or success rates.

Open Structure Posts (To be revised)

18. Posts at and above Under Secretary and equivalent level are designated Open Structure posts. The number of Open Structure staff in post having a science background, by grade from 1972 to 1979, is shown in Table 13 below.

[1] The P&T Group and Medical Officer Class also have Individual Merit Promotions.

The total number of Open Structure staff in post is also given. It can be seen that the percentage of Open Structure staff with a science background has fallen from 11.0% to 9.1% between the years 1972 and 1979.

PRISM data also indicate that 16% of Open Structure staff held a science degree at 1 January 1979.

PMR

TABLE 2

SCIENTIFIC CIVIL SERVICE STAFF IN POST AT 1 JANUARY , BY AGE AND GRADE, 1975-1980[1]

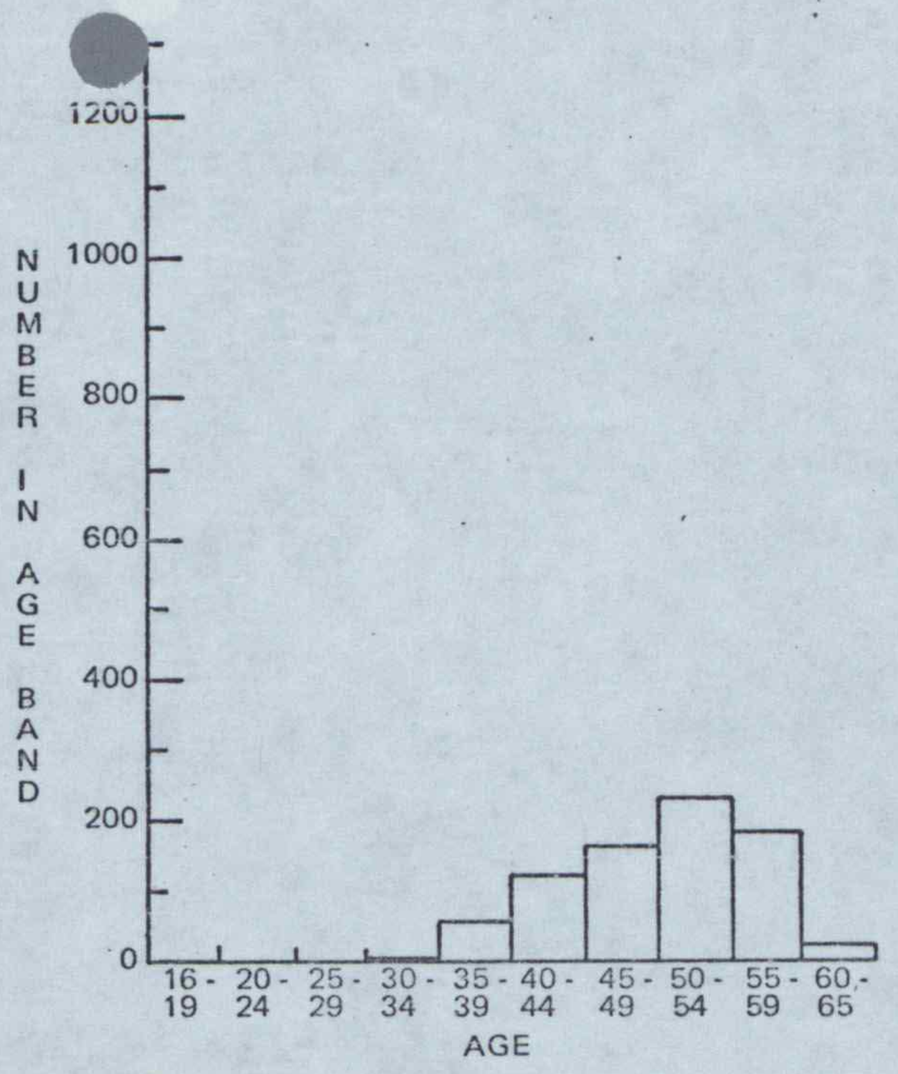
Number

		Less than 23	23-27	28-32	33-37	38-42	43-47	48-52	53-57	58 and over	TOTAL
CSO(B)	75	-	-	-	-	1	3	9	9	8	30
	76	-	-	-	-	1	4	6	10	8	29
	77	-	-	-	-	-	5	7	11	2	25
	78	-	-	-	-	-	2	12	11	2	27
	79	-	-	-	-	-	1	9	13	5	28
	80	-	-	-	-	-	-	5	18	7	30
DCSO	75	-	-	-	-	5	45	84	72	24	230
	76	-	-	-	-	5	41	82	71	30	229
	77	-	-	-	-	7	31	83	83	28	232
	78	-	-	-	-	7	21	78	86	33	225
	79	-	-	-	-	5	21	71	83	42	222
	80	-	-	-	-	6	23	59	79	48	215
SPSO	75	-	-	-	15	82	181	218	143	85	724
	76	-	-	1	17	88	169	207	172	75	729
	77	-	-	-	17	95	161	218	178	75	744
	78	-	-	-	17	93	144	226	187	66	733
	79	-	-	-	25	95	141	240	190	70	761
	80	-	-	1	29	91	130	221	220	89	781
PSO	75	-	1	89	387	403	498	492	355	226	2451
	76	-	1	88	404	421	493	528	386	209	2532
	77	-	-	70	396	459	466	546	430	170	2537
	78	-	-	54	383	491	482	512	481	177	2580
	79	-	-	66	349	509	430	529	496	206	2545
	80	-	-	52	365	504	411	524	505	253	2614
SSO	75	-	59	609	476	400	662	735	577	257	3775
	76	-	54	618	517	426	618	793	600	269	3895
	77	-	35	601	567	440	574	777	661	290	3945
	78	-	24	553	570	431	532	762	663	299	3834
	79	-	16	499	568	465	500	730	641	348	3767
	80	-	16	430	629	451	514	654	677	361	3732
HSO	75	-	497	890	865	720	592	472	281	255	4572
	76	2	527	984	838	719	552	479	285	275	4661
	77	1	455	1041	775	738	566	482	311	252	4621
	78	1	389	1028	789	739	564	470	341	199	4520
	79	-	407	1001	762	707	544	467	366	185	4439
	80	-	430	946	758	673	530	470	404	218	4429
SO	75	303	1218	458	210	224	214	253	183	131	3194
	76	321	1284	509	214	212	211	246	168	134	3299
	77	212	1324	569	206	207	218	215	184	114	3249
	78	134	1263	605	207	191	210	179	219	109	3117
	79	220	1129	632	206	195	192	190	219	140	3123
	80	237	1048	609	228	194	195	176	216	158	3061
ASO	75	1873	977	352	209	116	91	81	50	65	3834
	76	1860	1025	360	192	113	88	76	50	76	3840
	77	1536	1021	371	188	113	87	74	50	60	3500
	78	1338	987	371	190	120	93	76	57	50	3282
	79	1463	940	364	164	127	88	66	56	43	3321
	80	1528	880	330	169	113	78	71	60	41	3270
TOTAL ALL GRADES	75	2176	2752	2398	2162	1951	2256	2344	1670	1071	18810
	76	2183	2891	2560	2102	1985	2176	2417	1744	1076	19214
	77	1749	2835	2652	2149	2059	2108	2402	1908	991	18853
	78	1473	2663	2611	2156	2072	2048	2315	2045	935	18318
	79	1683	2402	2562	2075	2103	1917	2302	2074	1039	18246
	80	1765	2374	2368	2178	2032	1881	2180	2179	1175	18132

SOURCE: PRISM

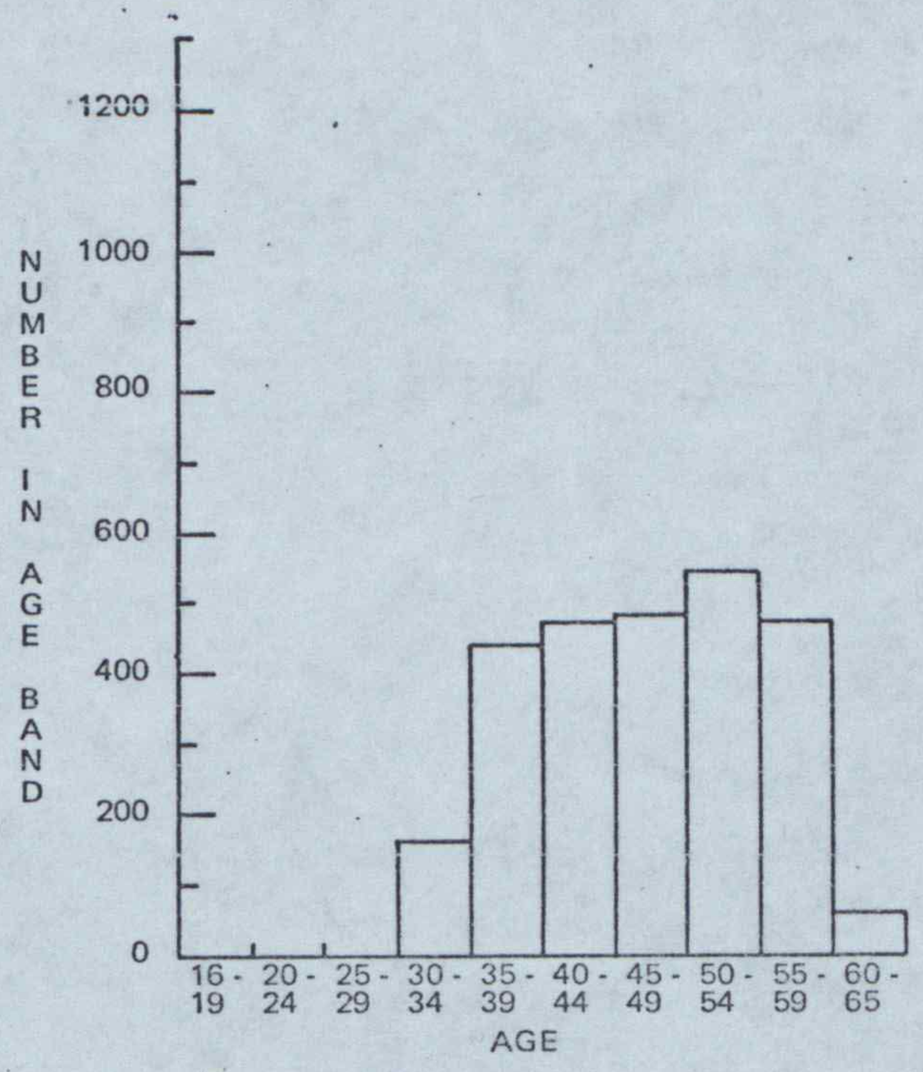
1 The figure for total staff in post at 1 January 1980 differs from that given in Table 1 as the population covered is not the same- see paragraph 2.

FIGURE 1 AGE DISTRIBUTION OF SPSO AT 1/1/80



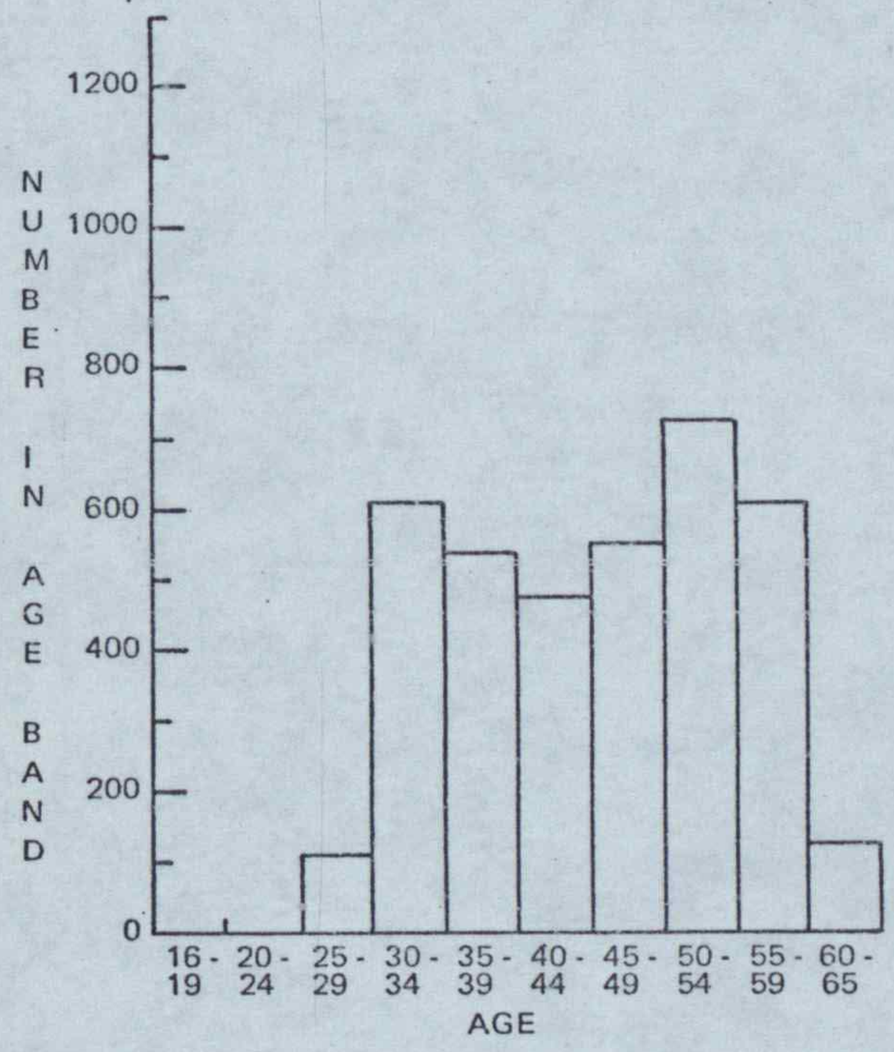
SOURCE - PRISM

FIGURE 2 AGE DISTRIBUTION OF PSO AT 1/1/80



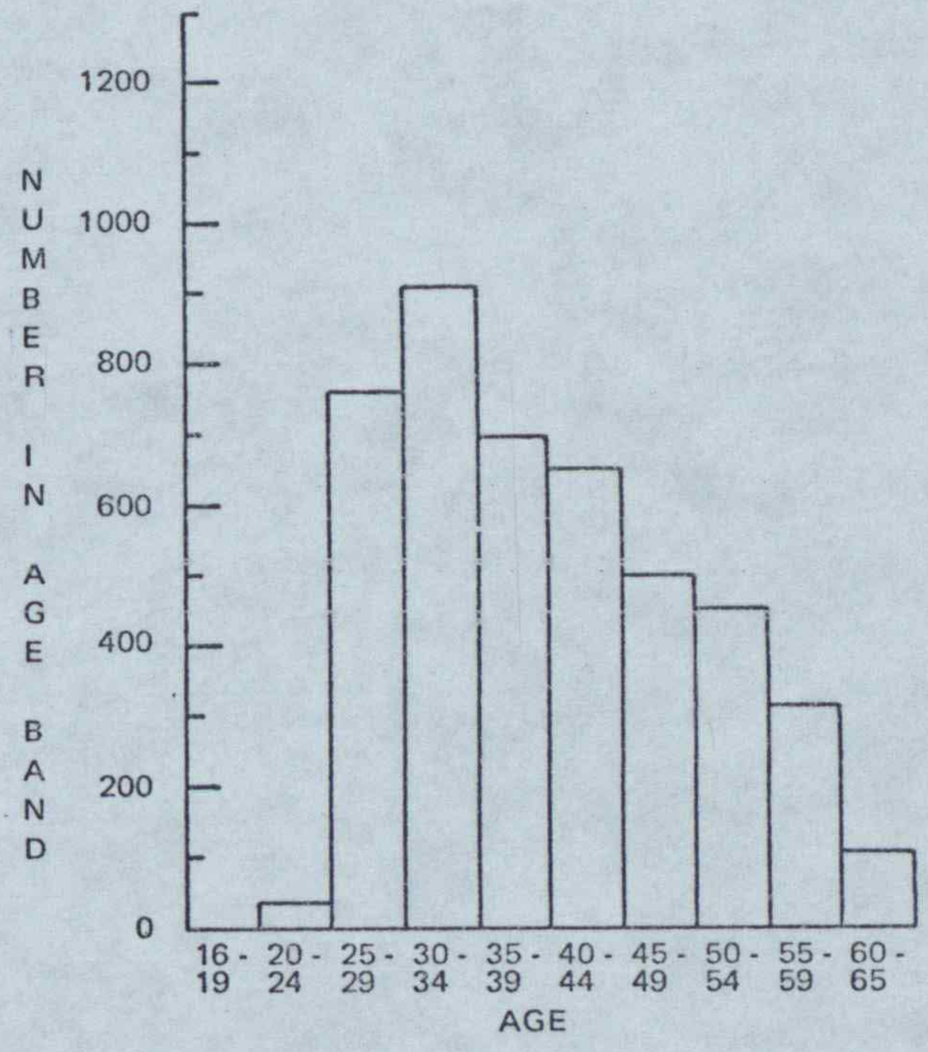
SOURCE - PRISM

FIGURE 3 AGE DISTRIBUTION OF SSO AT 1/1/80



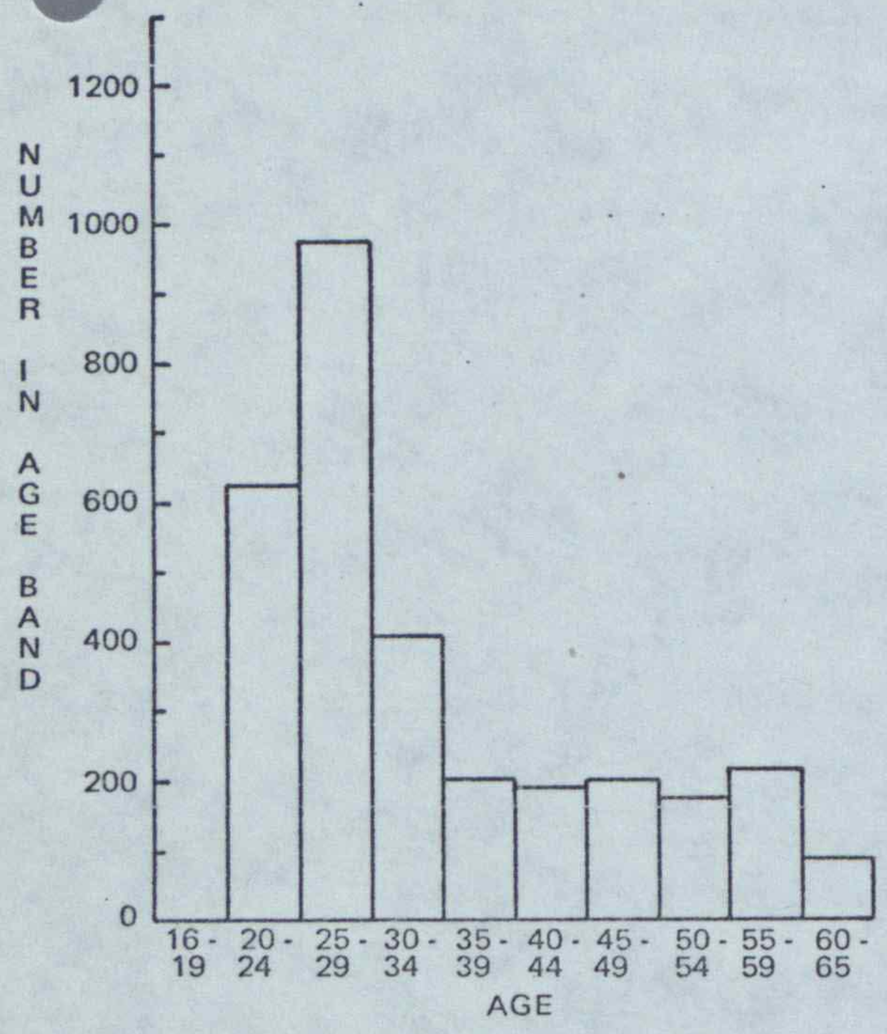
SOURCE - PRISM

FIGURE 4 AGE DISTRIBUTION OF HSO AT 1/1/80



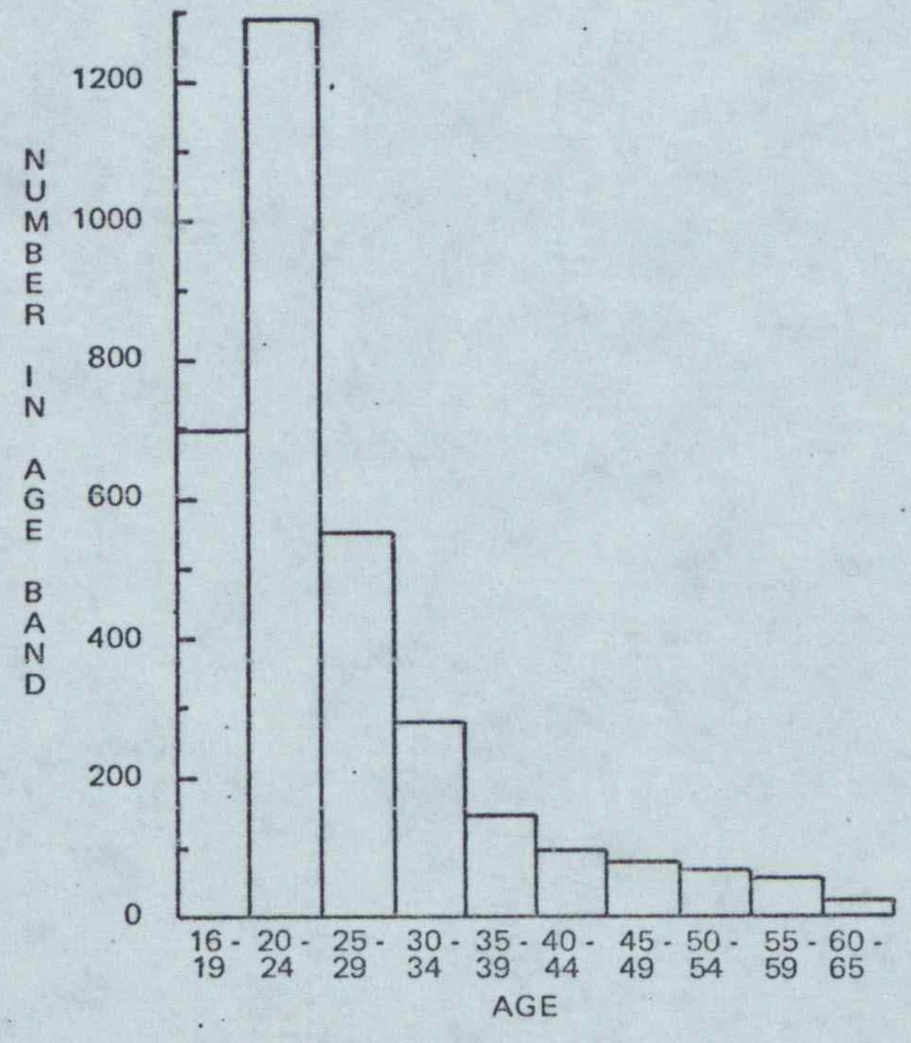
SOURCE - PRISM

FIGURE 5 AGE DISTRIBUTION OF SO AT 1/1/80



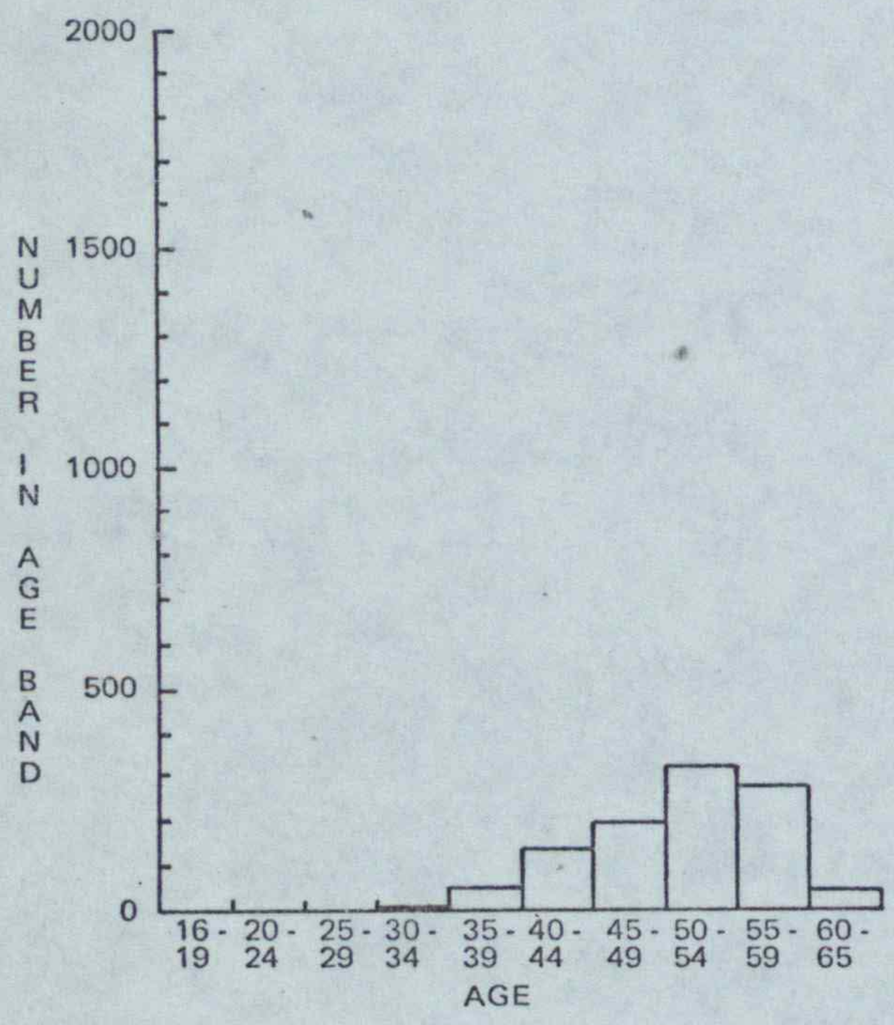
SOURCE - PRISM

FIGURE 6 AGE DISTRIBUTION OF ASO AT 1/1/80



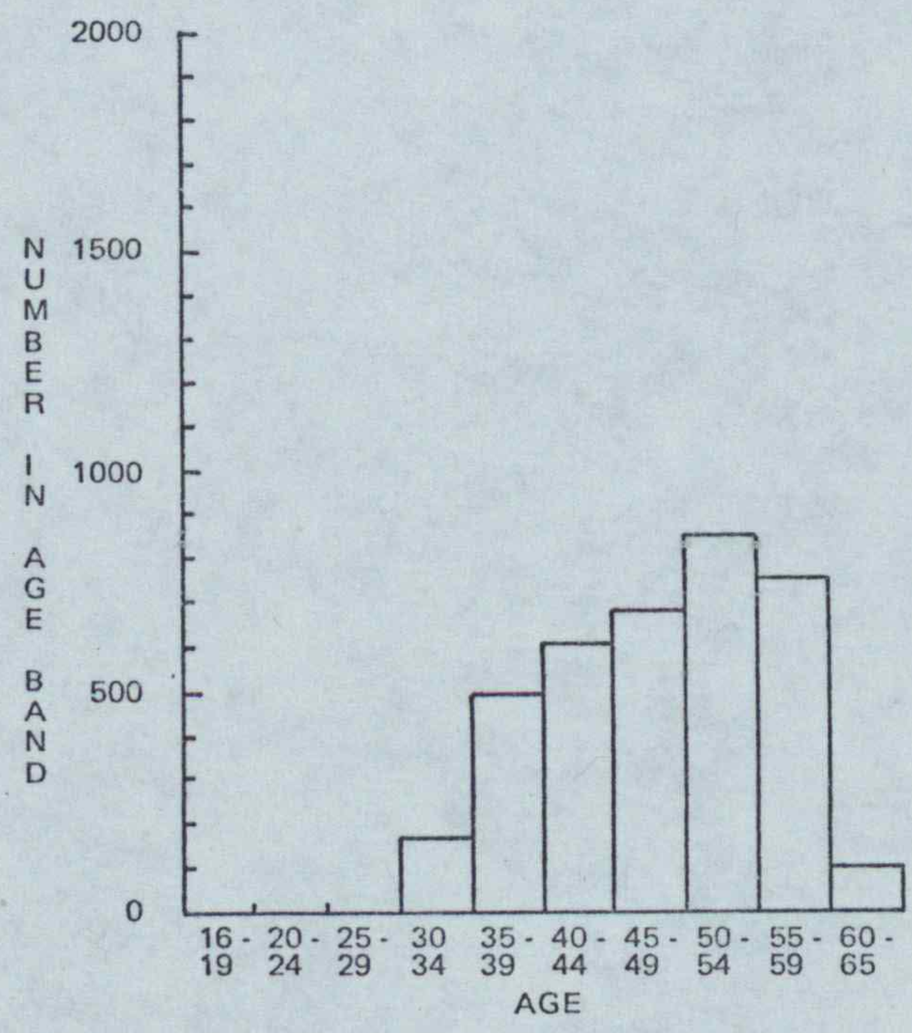
SOURCE - PRISM

FIGURE 7 AGE DISTRIBUTION OF SPSO AND ABOVE AT 1/1/80



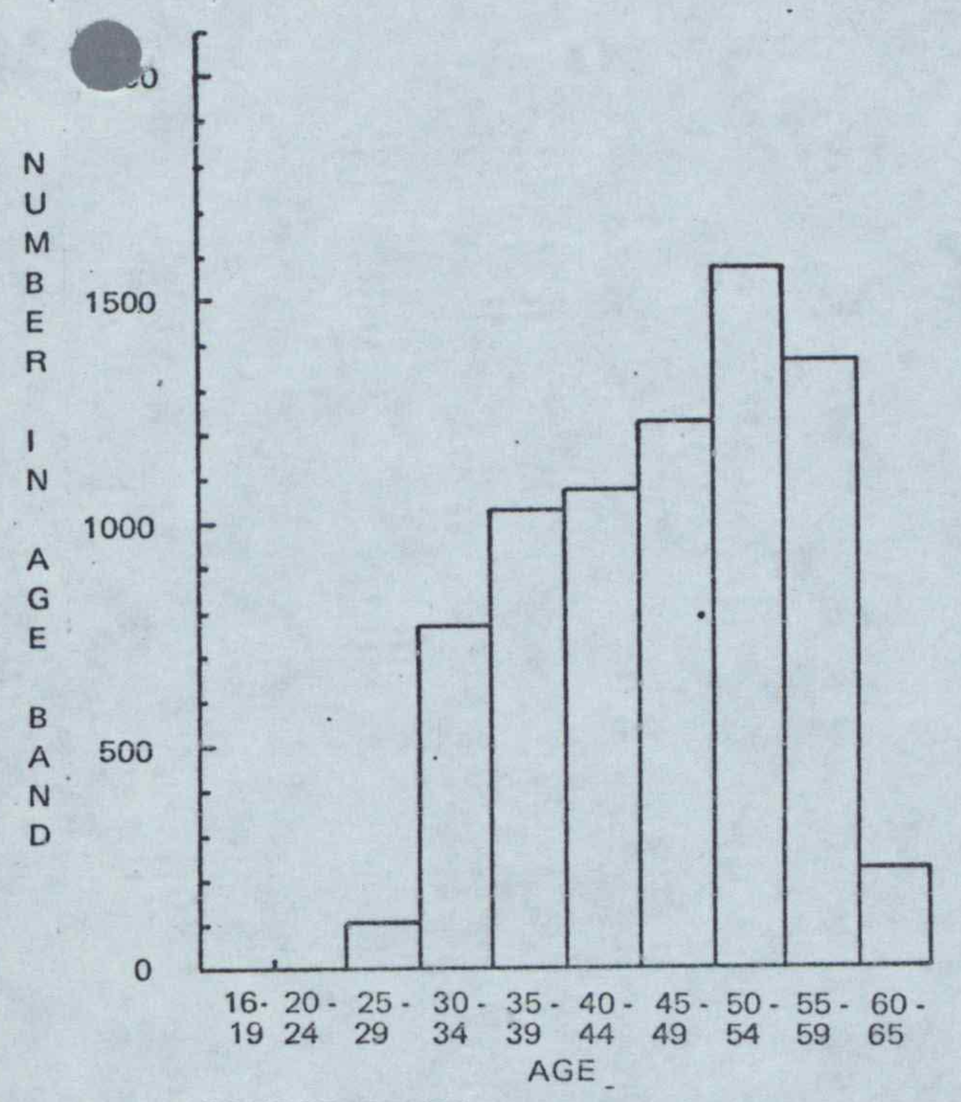
SOURCE - PRISM

FIGURE 8 AGE DISTRIBUTION OF PSO AND ABOVE AT 1/1/80



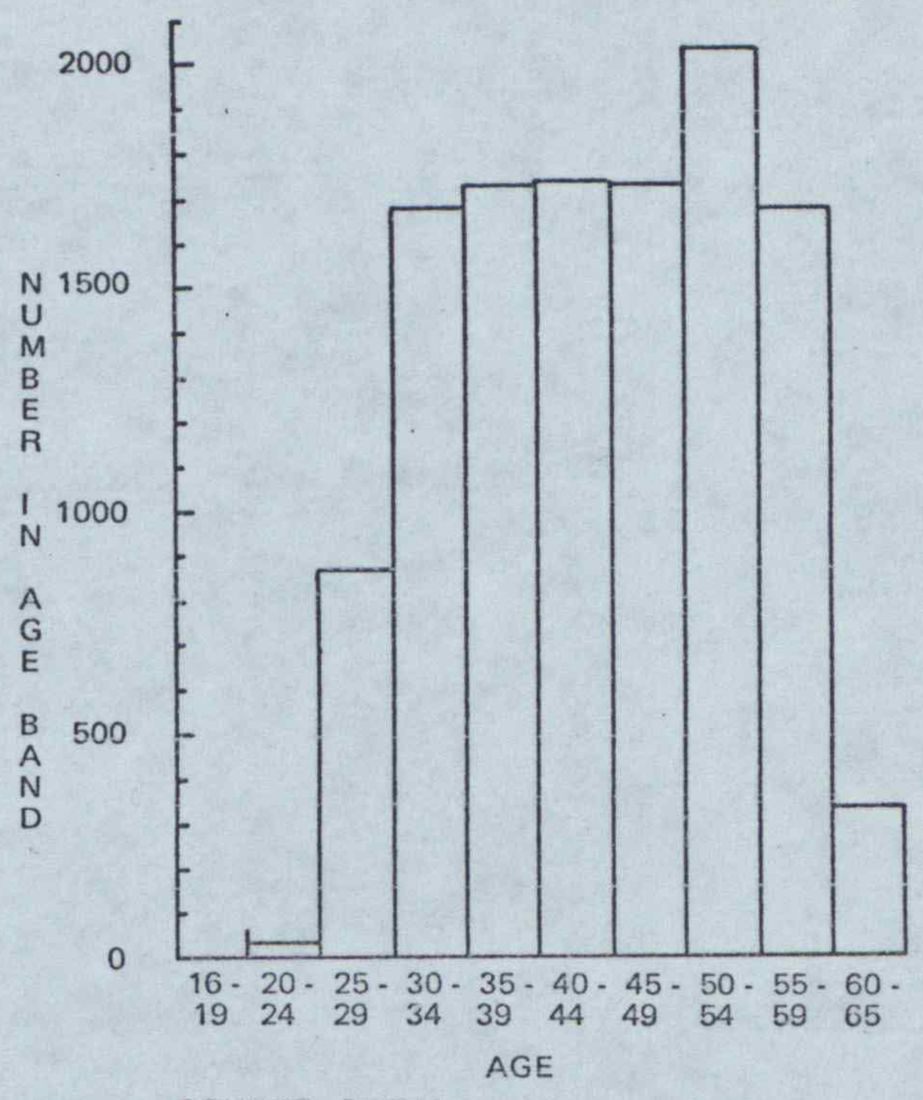
SOURCE – PRISM

FIGURE 9 AGE DISTRIBUTION OF SSO AND ABOVE AT 1/1/80



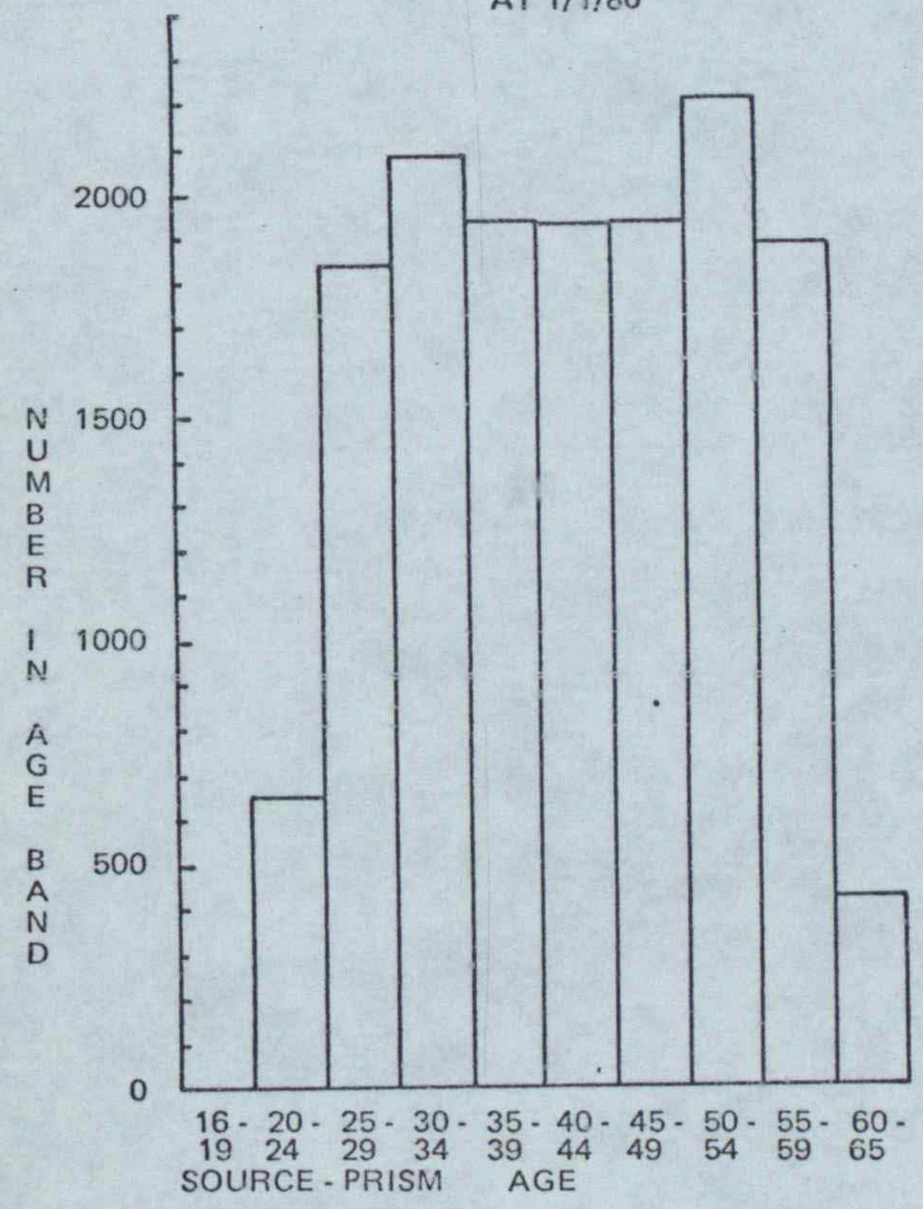
SOURCE - PRISM

FIGURE 10 AGE DISTRIBUTION OF HSO AND ABOVE AT 1/1/80



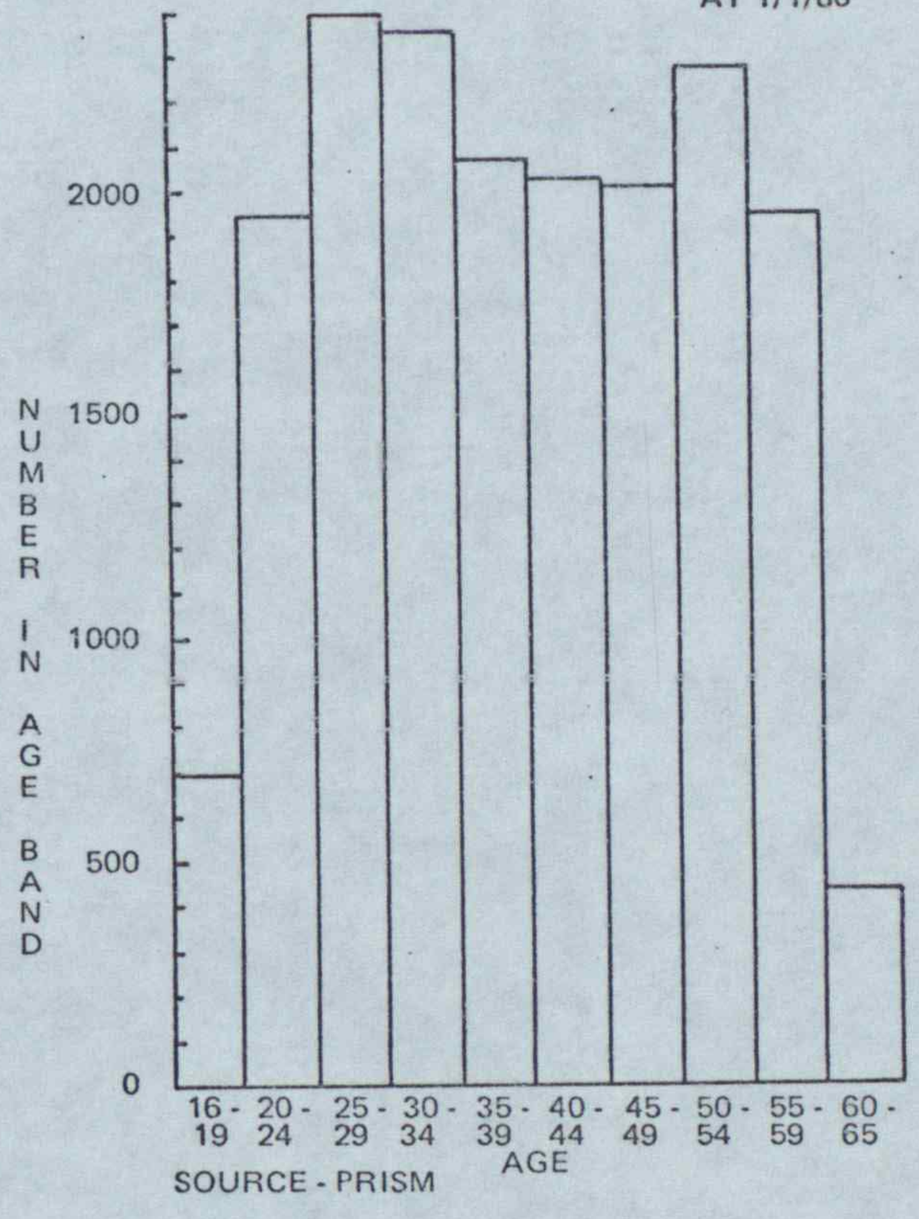
SOURCE - PRISM

FIGURE 11 AGE DISTRIBUTION OF SO AND ABOVE AT 1/1/80



SOURCE - PRISM

FIGURE 12 AGE DISTRIBUTION OF ASO AND ABOVE AT 1/1/80



SOURCE - PRISM

TABLE 3

SCIENTIFIC CIVIL SERVICE STAFF IN POST AT 1 JANUARY, BY SELECTED DISCIPLINES AND MAIN EMPLOYING DEPARTMENTS, 1980[2]

Number

Discipline[1]	Department					
	MOD	MAFF	DOI	DOE/Tp	Other	Total
Agriculture & Horticulture	0	204	0	4	147	355
Applied Mathematics	532	11	22	89	19	673
Biochemistry & Biophysics	84	35	7	2	127	255
Botany & Biology	32	265	0	9	275	582
Chemistry	242	0	39	31	88	400
Inorganic	122	95	4	21	20	262
Organic	133	149	4	31	63	380
Analytical	338	146	186	14	250	934
Industrial	227	0	4	1	13	245
Physical	230	0	58	11	54	353
Classical Physics	1168	0	15	3	55	1241
Computer Science	337	1	45	73	42	498
Aeronautical Engineering	265	0	7	7	3	282
Civil "	19	29	2	145	0	195
Communications "	132	10	3	2	3	150
Electrical "	482	0	17	13	33	545
Electronic "	1340	2	30	15	33	1420
Mechanical "	547	1	110	48	48	754
Other "	103	1	47	126	17	294
Entomology	1	117	0	5	95	218
Information Science	45	0	12	55	55	167
Materials Science	153	0	26	64	14	257
Meteorology	2240	1	3	2	6	2252
Metallurgy	233	0	27	4	19	283
Microbiology	39	68	3	1	21	132
Operational Research	108	0	5	37	72	222
Physics	319	0	61	152	44	576
Pure Mathematics	144	0	226	18	89	477
Solid State Physics	137	19	2	5	9	172
Zoology	11	623	1	3	268	906
Others (Specified)	262	13	75	240	150	740
Others (Unspecified)	721	140	765	3	283	1912
Total	10746	1931	1806	1234	2415	18132

SOURCE: PRISM

1 See paragraph 7 for definition of discipline.

2 The figure for total staff in post at 1 January 1980 differs from that given in Table 1 as the population covered is not the same - see paragraph 2.

TABLE 4

SCIENTIFIC CIVIL SERVICE STAFF IN POST AT 1 APRIL, BY GRADE, 1967-1979

Number

GRADE 1	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
SPSO AND ABOVE[2]	829	885	914	902	976	996	1,010	1,015	1,034	1,043	1,048	1,059	1,028
PSO	1,856	1,894	1,896	1,905	2,031	2,103	2,245	2,296	2,343	2,402	2,462	2,483	2,477
SSO	2,931	3,062	3,282	3,494	3,509	3,651	3,736	3,729	3,887	3,947	3,875	3,783	3,734
HSO	4,183	4,226	4,181	4,183	4,048	3,935	4,179	4,216	4,263	4,424	4,263	4,182	4,072
SO	3,527	3,581	3,425	3,415	3,491	3,414	3,088	2,984	3,032	3,156	3,141	2,999	2,970
TOTAL SO AND ABOVE	13,326	13,648	13,698	13,899	14,055	14,099	14,258	14,240	14,559	14,972	14,789	14,506	14,281
ASO	4,532	4,463	4,254	4,266	4,126	4,307	3,943	3,714	3,674	3,568	3,206	3,029	3,110
TOTAL ALL GRADES	17,858	18,111	17,952	18,165	18,181	18,406	18,201	17,954	18,233	18,540	17,995	17,535	17,391

SOURCE: Annual Staff in Post returns, adjusted for historical consistency.

1. Including numbers in equivalent grades in earlier years
2. Including those in the open structure having a scientific background.

Note: These data are not on the same basis as that for the PRISM figures given earlier in for example, Table 2-see paragraph 8.

TABLE 5

SCIENCE GROUP STAFF IN POST AT 1 APRIL, 1967-1979

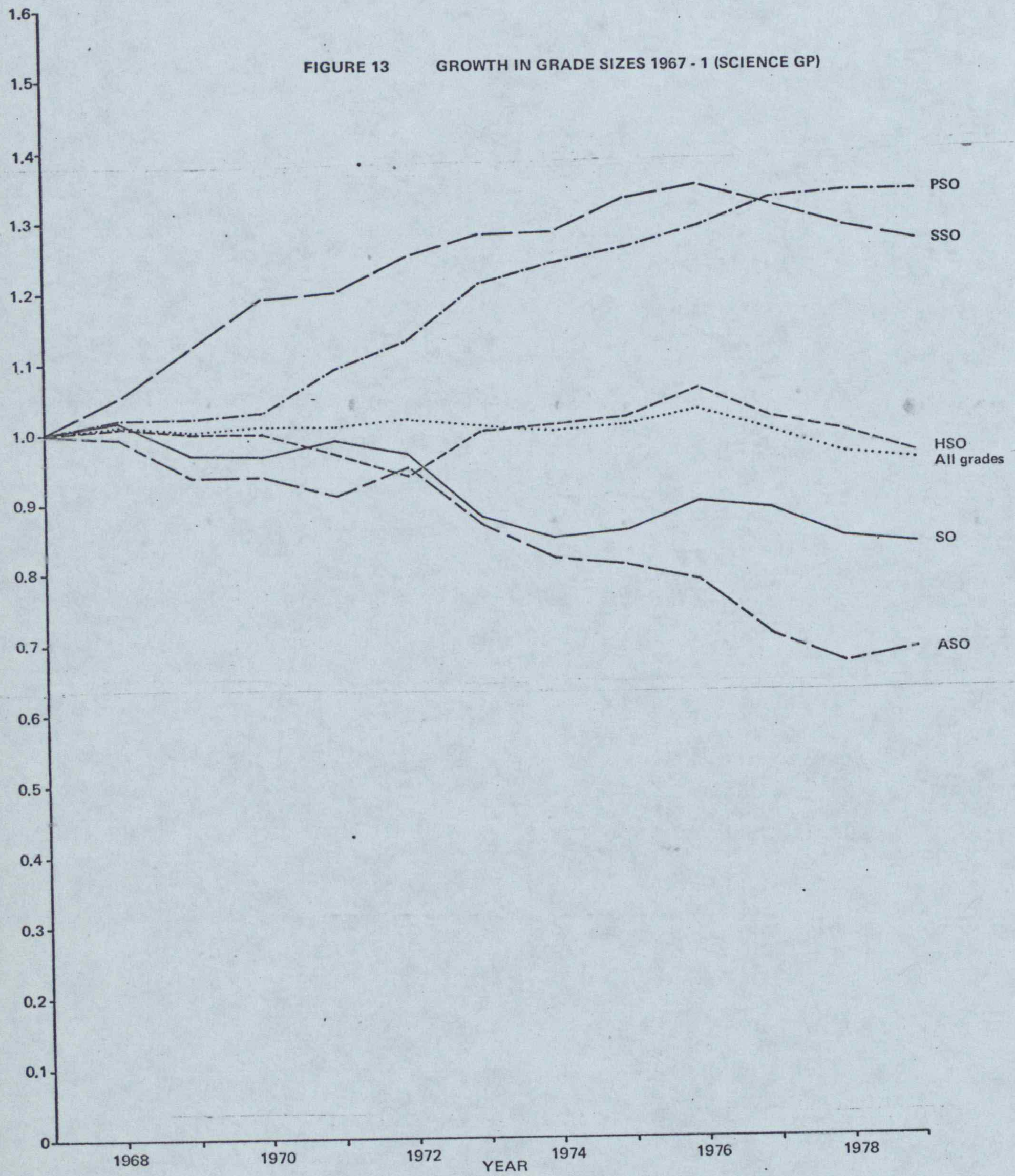
Percentage distribution by grade

	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
Grade[1]	%	%	%	%	%	%	%	%	%	%	%	%	%
PSO	10.9	11.0	11.1	11.0	11.8	12.1	13.1	13.6	13.6	13.9	14.4	14.9	15.1
SSO	17.2	17.8	19.3	20.2	20.4	21.0	21.7	22.0	22.6	21.3	21.5	22.1	22.8
HSO	24.6	24.5	24.5	24.2	23.5	22.6	24.3	24.9	24.8	25.6	26.2	26.1	24.9
SO	20.7	20.8	20.1	19.8	20.3	19.6	18.0	17.6	17.6	18.1	18.4	17.9	18.2
ASO	26.6	25.9	25.0	24.7	24.0	24.7	22.9	21.9	21.4	21.1	20.0	19.0	19.0

Source: Table 4

1. Including numbers in equivalent grades in earlier years

FIGURE 13 GROWTH IN GRADE SIZES 1967 - 1 (SCIENCE GP)



SOURCE: Staff in post returns adjusted for consistency

TABLE 6

RECRUITMENT TO THE GRADES OF SCIENTIFIC OFFICER UP TO SENIOR PRINCIPAL SCIENTIFIC OFFICER 1974-1978

NUMBER

	YEAR	1974	1975	1976	1977	1978	1979
A	Vacancies[1]	1100	900	350	400	800	925
B	Applications	11448	16249	10901	11025	13012	12667
C	Appointed[2]	661	718	252	268	515	536*

SOURCE: Civil Service Commission, Annual Reports

[1]Rounded to nearest 50

[2]ie Candidates for whom a Certificate of Qualification has been granted

*In addition 78 candidates from 1978 competitions were appointed in 1979

TABLE 17 ✗

RECRUITMENT TO THE GRADES SO AND HSO BY BAND AND LEVEL OF DEGREE
1 JANUARY 1978/9 TO 31 DECEMBER 1978/9

NUMBER OF CASES IN WHICH A CERTIFICATE OF QUALIFICATION WAS ISSUED [1]

NUMBER

LEVEL OF DEGREE	BAND I		BAND II		BAND III
	HSO	SO	HSO	SO	SO
1	58	34	2	8	1
2(i) or 2	69	66	13	50	6
2(ii)	16	27	9	53	14
3. Pass etc	8	9	12	29	17
HND/HNC	-	2	6	5	12
Others	-	18	1	11	13
TOTALS	151	156	43	156	63

SOURCE: Civil Service Commission

1 Not all those granted a Certificate necessarily enter the Civil Service.

TABLE 8

WASTAGE[1] IN THE SCIENTIFIC CIVIL SERVICE BY AGE AND GRADE IN THE CLAENDER YEARS 1975-1979

Number.

		AGE[2]									
		Less than 23	23-27	28-32	33-37	38-42	43-47	48-52	53-57	58 and over	Total
CSO(B)	75	-	-	-	-	-	1	-	-	-	1
	76	-	-	-	-	-	-	-	-	5	5
	77	-	-	-	-	-	-	-	1	2	3
	78	-	-	-	-	-	-	-	-	-	-
	79	-	-	-	-	-	-	-	-	-	-
DCSO	75	-	-	-	-	-	-	2	2	5	9
	76	-	-	-	-	-	2	1	1	8	10
	77	-	-	-	-	-	-	2	2	14	20
	78	-	-	-	-	-	2	-	5	5	10
	79	-	-	-	-	-	-	-	4	10	14
SPSO	75	-	-	-	-	-	2	7	2	28	39
	76	-	-	-	-	-	2	2	2	22	28
	77	-	-	-	1	1	1	1	8	27	38
	78	-	-	-	1	1	2	3	10	24	38
	79	-	-	-	-	-	-	5	3	15	27
PSO	75	-	-	2	2	9	5	12	3	56	89
	76	-	-	-	5	5	8	6	7	69	93
	77	-	-	2	4	7	8	8	12	57	90
	78	-	-	-	14	10	6	7	12	58	109
	79	-	-	5	10	11	3	7	8	46	90
SSO	75	-	1	24	11	5	8	7	12	58	126
	76	-	1	18	8	-	3	4	8	67	109
	77	-	1	25	10	3	4	11	30	103	187
	78	-	3	30	20	1	4	11	21	92	182
	79	-	5	37	21	7	11	15	16	87	199
HSO	75	-	23	38	22	7	15	7	9	49	170
	76	-	20	29	11	6	7	3	8	89	173
	77	1	35	46	13	9	8	5	12	94	223
	78	1	48	77	19	14	3	8	21	73	264
	79	-	61	76	24	17	12	13	12	40	255
SO	75	21	74	28	5	3	=	=	4	31	166
	76	26	86	23	4	2	1	5	4	44	195
	77	26	125	36	5	5	3	3	4	34	241
	78	18	186	39	10	5	2	3	6	24	293
	79	42	171	62	10	4	8	3	7	34	341
ASO	75	200	113	30	7	1	4	3	-	22	380
	76	184	101	20	7	3	-	4	2	24	345
	77	197	97	17	5	-	1	3	2	23	345
	78	229	169	28	6	2	5	4	2	17	462
	79	239	160	24	9	9	2	-	3	14	460
TOTAL ALL GRADES	75	221	212	122	47	25	35	38	32	250	980
	76	210	208	90	35	16	14	25	32.	330	960
	77	224	258	124	38	25	26	33	71	350	1149
	78	248	406	176	69	33	20	36	78	294	1360
	79	281	397	204	75	49	38	43	53	246	1386

SOURCE: PRISM

1 Staff who were in post at 1 January and left during the same year.

2 At 1 January.

NOTE Includes deaths and dismissals as well as other leavers but exoludes those who entered the SCS after 1 January of the year and left before the end of the year.

TABLE 9

WASTAGE[1] RATES FOR THE SCIENTIFIC CIVIL SERVICE, BY AGE AND GRADE, IN THE CALENDER YEARS 1975-1979

Percentages

		Less than 23	23-27	28-32	33-37	AGE[2] 38-42	43-47	48-52	53-57	58 and over	Total
		%	%	%	%	%	%	%	%	%	%
CSO(B)	75	-	-	-	-	-	33.3	-	-	-	3.3
	76	-	-	-	-	-	-	-	-	62.5	17.2
	77	-	-	-	-	-	-	-	9.1	100	12.0
	78	-	-	-	-	-	-	-	-	-	-
	79	-	-	-	-	-	-	-	-	-	-
DCSO	75	-	-	-	-	-	-	2.4	2.8	20.8	3.9
	76	-	-	-	-	-	-	1.2	1.4	26.7	4.4
	77	-	-	-	-	-	6.4	2.4	2.4	5.0	8.6
	78	-	-	-	-	-	-	-	5.8	15.1	4.4
	79	-	-	-	-	-	-	-	5.1	20.8	6.5
SPSO	75	-	-	-	-	-	1.1	3.2	1.4	32.9	5.4
	76	-	-	-	-	-	1.2	1.0	1.2	29.3	3.8
	77	-	-	-	5.9	1.0	-	0.4	4.5	26.0	5.1
	78	-	-	-	-	1.1	-	1.3	5.3	36.4	5.2
	79	-	-	-	3.4	1.1	1.5	2.3	1.4	16.9	3.5
PSO	75	-	-	2.2	0.5	2.2	1.0	2.4	0.8	24.8	3.6
	76	-	-	-	1.2	1.2	0.2	1.1	1.8	33.0	3.7
	77	-	-	-	1.0	1.5	1.7	1.5	2.8	30.0	3.5
	78	-	-	3.7	3.6	2.0	1.2	1.4	2.5	32.8	4.2
	79	-	-	9.6	2.7	2.2	0.7	1.3	1.6	18.2	3.4
SSO	75	-	1.7	3.9	2.3	1.2	1.2	0.9	2.1	22.6	3.3
	76	-	1.8	2.9	1.5	-	0.5	0.5	1.3	24.9	2.8
	77	-	2.8	4.1	1.8	0.7	0.7	1.4	4.5	35.5	4.7
	78	-	12.5	5.4	3.5	0.2	0.7	1.4	3.2	30.8	4.7
	79	-	31.3	8.6	3.3	1.5	2.1	2.3	2.4	24.1	5.3
HSO	75	-	4.6	4.3	2.5	1.0	2.5	1.5	3.2	19.2	3.7
	76	-	3.8	2.9	1.3	0.8	1.3	0.6	2.8	32.4	3.7
	77	100	10.5	7.4	2.4	1.9	1.4	1.0	3.8	37.3	4.8
	78	100	12.3	7.5	2.4	1.9	0.5	1.7	6.1	36.7	5.8
	79	-	14.2	8.0	3.2	2.5	2.3	2.8	3.0	18.3	5.8
SO	75	6.9	6.1	6.1	2.4	1.3	-	-	2.2	23.7	5.2
	76	8.0	6.7	4.5	1.9	0 9	0.5	2.0	2.4	32.8	5.9
	77	12.3	9.4	6.3	2.4	2.4	1.4	1.4	2.2	29.8	7.4
	78	13.4	14.7	6.4	4.8	2.6	0.9	1.7	2.7	22.0	9.4
	79	17.7	16.3	10.2	4.4	2.1	4.1	1.7	3.2	21.5	11.1
ASO	75	10.7	11.6	8.5	3.3	0.9	4.4	3.7	-	25.9	9.9
	76	9.8	9.8	5.5	3.6	2.6	-	5.3	0.4	31.6	9.0
	77	12.8	9.5	4.6	2.6	-	1.1	4.0	0.4	38.3	9.8
	78	17.1	17.1	7.5	3.1	1.7	5.4	5.3	3.5	34.0	14.1
	79	15.6	18.2	7.2	5.3	8.0	2.6	-	5.0	34.1	14.1
TOTAL ALL GRADES	75	10.2	7.7	5.1	2.2	1.3	1.5	1.6	1.9	23.3	5.2
	76	9.6	7.2	3.5	1.6	0.8	0.6	1.0	1.8	30.7	5.0
	77	12.8	9.1	4.7	1.8	1.2	1.2	1.4	3.7	35.3	6.1
	78	16.8	15.2	6.7	3.2	1.6	1.0	1.6	3.8	28.3	7.4
	79	15.9	16.7	8.6	3.4	2.4	2.0	2.0	2.4	20.9	7.6

SOURCE: PRISM

1 Staff who were in post at 1 January and left during the same year.
2 At 1 January.

NOTE: Includes deaths and dismissals as well as other leavers but exludes those who entered the SCS after 1 January of the year and left before the end of the year.

TABLE 10

PROMOTIONS IN THE SCIENTIFIC CIVIL SERVICE, BY GRADE AND AGE,[1] IN THE CALENDER YEAR 1975 - 19

Number

		AGE									
		Less than 23	23-27	28-32	33-37	38-42	43-47	48-52	53-57	58 and over	TOTAL
To US	1975	-	-	-	-	-	2	3	-	-	5
	76	-	-	-	-	2	3	3	3	-	11
	77	-	-	-	-	1	3	-	-	-	4
	78	-	-	-	-	1	3	3	-	-	7
	79	-	-	-	-	3	2	1	-	-	6
DCSO to CSO(B)	1975	-	-	-	-	-	2	-	1	-	3
	76	-	-	-	-	-	-	3	-	-	3
	77	-	-	-	-	-	1	5	1	-	7
	78	-	-	-	-	-	1	1	2	-	4
	79	-	-	-	-	-	-	1	4	-	5
SPSO to DCSO	1975	-	-	-	-	4	5	7	4	-	20
	76	-	-	-	-	3	5	10	7	-	25
	77	-	-	-	1	2	6	7	4	-	20
	78	-	-	-	-	3	2	5	5	-	15
	79	-	-	-	-	4	5	9	1	-	19
PSO to SPSO	1975	-	-	1	5	16	13	11	11	2	59
	76	-	-	-	12	14	22	16	5	1	70
	77	-	-	-	7	17	8	11	5	1	49
	78	-	-	-	17	24	18	10	8	1	78
	79	-	-	1	10	19	9	12	6	1	58
SSO to PSO	1975	-	-	51	64	25	26	29	21	-	216
	76	-	-	34	58	27	20	29	17	3	188
	77	-	1	31	51	32	22	15	16	3	171
	78	-	-	43	64	28	20	26	16	2	190
	79	-	-	32	81	24	15	20	16	5	193
HSO to SSO	1975	-	41	94	48	56	53	34	12	3	341
	76	-	31	95	48	50	40	10	8	-	282
	77	-	22	92	25	33	28	24	8	3	235
	78	-	23	100	46	61	30	20	10	4	294
	79	-	21	133	62	39	47	17	14	1	334
SO to HSO	1975	1	160	114	36	15	18	14	13	2	373
	76	1	98	122	21	15	8	9	12	1	287
	77	2	108	96	23	11	11	8	5	-	264
	78	1	128	126	26	15	8	5	11	-	320
	79	1	153	131	28	14	10	15	12	1	365
ASO to SO	1975	71	158	35	20	18	6	6	-	1	315
	76	70	143	41	20	13	6	3	3	1	300
	77	43	142	43	7	10	1	3	3	-	252
	78	64	147	43	22	9	4	2	2	-	293
	79	41	128	44	22	14	7	4	2	-	262
TOTAL (All Grades)	1975	72	359	295	173	124	125	104	62	8	1332
	76	71	272	292	159	124	104	83	55	6	1166
	77	45	273	262	114	106	80	73	42	7	1002
	78	65	298	312	175	141	86	72	54	7	1201
	79	42	302	341	203	117	95	79	55	8	1242

SOURCE: PRISM

[1]Age on promotion.

TABLE 11

INDIVIDUAL MERIT PROMOTION (IMP) HOLDERS IN THE SCIENTIFIC CIVIL SERVICE, BY DEPARTMENT, AT 1 JULY 1979

Grade	Total		SPSO		DCSO		CSO(B)	
	IMP Holders	Total in grades SPSO-CSO(B)	IMP Holders	Total in grade	IMP Holders	Total in grade	IMP Holders	Total in grade
Department								
MOD	83	551	65	418	17	122	1	11
DOI	24	147	19	107	5	35		5
MAFF	10	61	10	51		6		4
DOE	11	97	8	72	3	21		4
Home Office	5	21	5	12		8		1
DEn	2	20	2	16		4		-
ODM	1	23	1	16		5		2
GCHQ	1	1	1	1		-		-
DES	1	4		3	1	1		-
Scottish Office	2	15	2	10		4		1
FCO	1	1	1	1				-
Others	-	85		69		15		1
	141	1026	114	776	26	221	1	29

Source: CSD records updated annually (for IMP Holders)and PRISM(for staff in post)

TABLE 12

INDIVIDUAL MERIT PROMOTIONS IN THE SCIENTIFIC CIVIL SERVICE:[1] NUMBERS NOMINATED AND SUCCESSFUL BY GRADE 1946-67 AND 1968-1979 (INCLUSIVE)

	TO CSO		TO DCSO		TO SPSO	
Year	Nom	Suc	Nom	Suc	Nom	Suc
1946-67	6	4	125	90	491	307
1968			5	4	42	31
1969			8	7	21	19
1970			2	1	32	16
1971	1	1	12	11	28	17
1972			11	10	33	19
1973			8	4	35	26
1974	3	3	8	6	37	15
1975	1	1	8	1	39	17
1976	1	-	1	-	41	26
1977	1	-	17	7	36	20
1978	-	-	5	2	36	22
1979	1	-	10	6	36	23

Source: CSD IMP Statistics

[1] The figures cover also the 'fringe bodies' (see para 17)

TABLE 13

OPEN STRUCTURE[1] STAFF IN POST AT 1 JANUARY WITH A SCIENCE BACKGROUND[3], 1972-1979

Staff in post with a Science Background

	Perm Sec	Dep Sec	Under Sec	Total(i)	Total(ii) Open Structure	(i)/(ii)%
1972[2]	2	14	63	79	718	11.0%
1973	2	16	65	83	771	10.7%
1974	2	15	61	78	817	9.6%
1975	1	19	61	81	843	9.6%
1976	2	17	62	81	775	10.5%
1977	3	14	60	77	788	9.8%
1978	2	15	57	74	779	9.5%
1979	3	16	51	70	771	9.1%

Sources: CSD. Total Open Structure figures from "Civil Service Statistics"

1 Total Open Structure excludes the Diplomatic Service, Parliamentary Counsel and temporary appointments but includes intermediate posts.

2 1972 figures refers to April 1

3 "With a science background" means having served as a PSO at some stage

To be revised

ANNEX D2

SALARIES OF THREE MAJOR GROUPS OF CIVIL SERVANTS AND ASSOCIATED HIGHER GRADES AT 1.1.80

The figure shows the salary ranges of the grades in the Scientific Civil Service and in two other major categories. These figures are included as part of the background description of the SCS.

The abbreviations used in the figure are:

Administration Group

AS	=	Assistant Secretary
SEO	=	Senior Executive Officer
HEO	=	Higher Executive Officer
EO	=	Executive Officer
HCO	=	Higher Clerical Officer
CO	=	Clerical Officer
CA	=	Clerical Assistant

Science Group

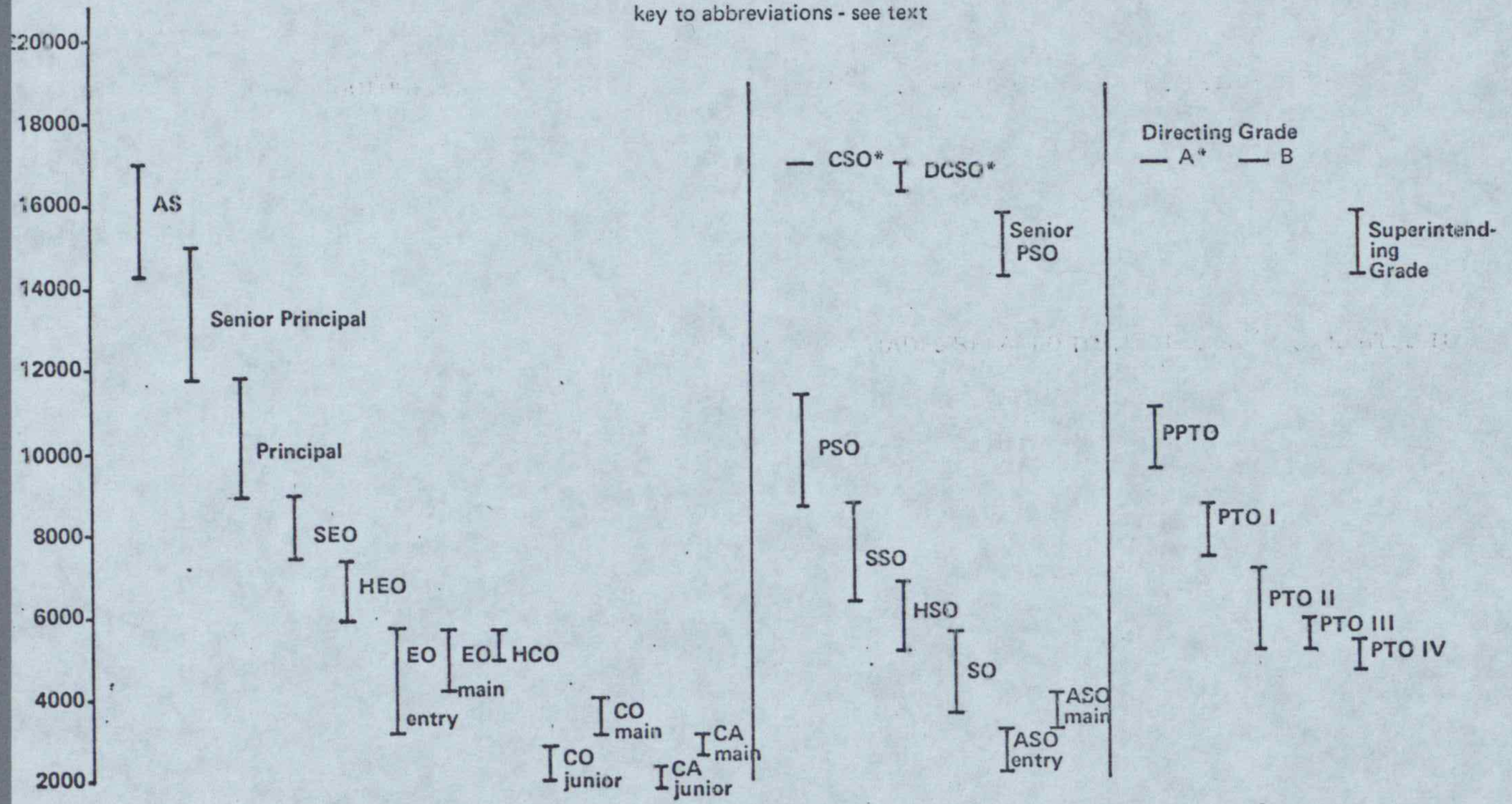
CSO	=	Chief Scientific Officer
DCSO	=	Deputy Chief Scientific Officer
PSO	=	Principal Scientific Officer
SSO	=	Senior Scientific Officer
HSO	=	Higher Scientific Officer
SO	=	Scientific Officer
ASO	=	Assistant Scientific Officer

Professional and Technology Group

PPTO	=	Principal Professional & Technology Officer
PTO	=	Professional & Technology Officer

FIGURE : SOME CIVIL SERVICE GRADES, WITH SALARIES AT 1.1.80

key to abbreviations - see text



*further increase for 1.4.80 already promulgated

Annex D3 - Analysis of the Scientific Personnel in Fringe Bodies

There are no centralised data sets concerning scientists in fringe bodies. Annex G2 shows such data on numbers of scientists and types of deployment included in the evidence from such bodies. It must be recognised that these are not comprehensive in terms of either the range of data (eg age, grade structures, recruitment levels) or the number of bodies concerned. Data submitted in evidence from the Research Councils are more comprehensive and have thus been included in this Annex.

Analysis of the Research Council Staff by grade and age

Tables 1-3 show, for the main three research councils employing science group staff (ie SRC, NERC and ARC), their current age and grade distributions. The common feature of all three is the dominance of scientists under 35 age group. This may have considerable implications for recruitment and career prospects over the next ten years.

The Research Councils have similar grades to the Scientific Civil Service; their grade structures are also shown in Tables 1-3.

Disciplines of the Research Council Staff

Tables 4-6 show data regarding the disciplines of scientists in the three research councils. As would be expected the ARC and its institutes are dominated by biologists and chemists (80% of staff) - the ARC made the point however, that within those broad categories there will be many sub-disciplines that will not be interchangeable. The SRC on the other hand has a spread of disciplines dominated by computing, electronics and physics. The data in Table 6 relating to the NERC are for grades at SO level and above; they show an expected predominance of geological disciplines in all grades. Tables 4-6 have not been combined because discipline definitions vary.

IMP Holders

Fringe bodies participate in the Individual Merit Promotion (IMP) scheme described in Annex D1, paragraph 18. The data for fringe bodies are given in Table 7.

TABLE 1: SCIENCE RESEARCH COUNCIL

STAFF IN POST ON 31.12.78 BY AGE AND GRADE

AGE/ GRADE	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60+	TOTAL
CSO I									3	1	4
CSO II								1			1
DCSO							8	5	5	1	19
SPSO					4	19	17	8	6	2	56
PSO				8	47	43	29	15	12	1	155
SSO			8	69	69	50	31	22	9	1	259
HSO		2	45	66	52	24	16	13	9		227
SO		34	42	23	9	3	2		4	2	119
ASO	9	23	8	1	4	3	2	3			53
TOTAL	9	59	103	167	185	142	105	67	48	8	893

NOTES: 1. Part-time staff shown as full-time.

2. SPSO and DCSO figures include 14 staff who have Individual Merit posts.

TABLE 2: NATURAL ENVIRONMENT RESEARCH COUNCIL

a) Age structure by grade (NERC Staff)

	18-22	23-27	28-32	33-37	38-42	43-47	48-52	53-57	58+	TOTAL
DCSO+							7	12	7	26
SPSO					9	20	22	26	10	87
PSO			7	77	111	60	46	24	6	331
SSO			81	102	44	30	35	16	6	314
HSO		34	159	78	22	8	9	5	-	315
SO	6	128	62	22	5	2	3	3	1	232
ASO	57	84	26	13	12	6	3	1	3	199
Total	63	246	335	292	207	126	125	87	33	1504

b) Age structure by grade (Grant-Aided Associations)

	18-22	23-27	28-32	33-37	38-42	43-47	48-52	53-57	58+	TOTAL
DCSO+							1	2		3
SPSO					1	3	5	3	1	13
PSO				14	12	11	4	4	5	50
SSO			7	14	3	5	2	1	1	33
HSO		8	16	8	5	3	2	1	1	44
SO	5	16	14	2	6	6	-	1	1	51
ASO	12	5	3	1	1	2	3	-	-	27
Total	17	29	40	39	28	30	17	12	9	221

NN

AEF

TABLE 3

AGRICULTURAL RESEARCH SERVICE*

AGE DISTRIBUTION OF SCIENCE GROUP STAFF AT 1 APRIL 1979 IN AGRICULTURAL RESEARCH SERVICE INSTITUTES IN SCOTLAND, ENGLAND AND WALES

Number

1 APRIL 1979							
AGE	ASO	SO	HSO	SSO	PSO	SPSO AND ABOVE	TOTAL
16-19	101	-	-	-	-		101
20-24	535	80	3	-	-		618
25-29	223	295	127	20	1		666
30-34	41	141	279	174	35		670
35-39	25	46	168	159	140	6	544
40-44	13	38	105	89	151	17	413
45-49	26	20	72	84	158	40	400
50-54	14	22	50	78	138	54	356
55-59	11	15	37	53	116	64	296
60-65	3	4	8	10	34	29	88
TOTAL	992	661	849	667	773	210	4,152

SOURCE: AGRICULTURAL RESEARCH COUNCIL

*The Agricultural Research Service includes institutes and units of the Agricultural Research Council and grant-aided institutes in England and Wales.

TABLE 4: AGRICULTURAL RESEARCH SERVICE

SCIENCE GROUP STAFF BY DISCIPLINE IN COUNCIL INSTITUTE AND UNITS AND GRANT-AIDED INSTITUTES IN ENGLAND, SCOTLAND AND WALES

Scientific Discipline	Approximate percentage of total Science Group (ASO-CSO) staff
Biology	62
Chemistry	18
Mechanical Engineering	5
Mathematics/Statistics	4
Physics	3
Computer Science	1
Electronic Engineering	1
Information Science	1
Miscellaneous	5
	100

TABLE 5: SCIENCE RESEARCH COUNCIL - SCIENCE STAFF (AST AT 30.4.79) DISCIPLINES

DISCIPLINE	
Computing	239
Electronics	124
Theoretical Physics	35
Experimental Research Physics	88
Applied Physics	131
Support Physics	113
Scientific Administration	81
Other	8
Senior Staff	85
TOTAL	904

Notes:
1. Discipline refers to current occupation rather than initial training
2. IM staff included under their disciplines rather than under senior staff
3. Senior staff - SPSO and above

TABLE 6: NATUR AL ENVIRONMENT RESEARCH COUNCIL

Present disciplines of NERC staff (PSO-SO grades)

Geology	264
Geophysics	102
Geochemistry	58
Hydrogeology	57
Hydrology	43
Zoology	89
Botany	84
Biological Oceanography	34
Physical Oceanography	66
Chemistry	77
Electrical and Electronic Engineering	63
Mechanical Engineering	9
Computer Science (including systems analysis)	87
Information Science	51
	1084

TABLE 7: INDIVIDUAL MERIT PROMOTION (IMP) HOLDERS IN FRINGE BODIES, AT 1.7.79

	IMP Holders	Total in Grades SPSO-CSO(B)	SPSO		DCSO		CSO(B)	
			IMP Holders	Total in Grade	IMP Holders	Total in Grade	IMP Holders	Total in Grade
ARC	73	206	62	165	10	40	1	1
NERC	26	na	25	100	1	na		
SRC	14	77	10	57	4	19		1
UKAEA	30	na	23	na	7	6		
Metro-politan Police Office	1	6	1	6				
British Museum	5	na	5	na				
TOTALS	149		126		22		1	

ANNEX E1

THE CIVIL SERVICE SHARE OF THE NATION'S SCIENTISTS AND ENGINEERS

This Annex summarises the statistics underlying the Working Group's conclusions on the share of the national stock of qualified scientists and engineers employed in the Civil Service (Chapter IV).

2. Data from the Civil Service Personnel Record Information System for Management (PRISM) (See Annex D1, para 1) were obtained on numbers of staff in post, with particular qualifications, at 1 January in 1976 and 1979. All qualifications, of at least first degree or equivalent level, in a science or engineering subject were included to match as far as possible the definitions used in the Census of Population. These data required adjustment in two ways. As some staff have both science and engineering qualification and appeared in both PRISM populations, estimated reductions were applied to allow for this. The major adjustment however was an increase to compensate for the known under-recording of qualification data on PRISM. The correction factors were calculated from the recorded and estimated true proportions of staff in particular grades, with any qualification (above A level), allowing for differences between departments.

3. The resulting estimates and shares of the national stock (estimates from Census of Population data)[1] for January 1976 are shown below.

	Adjusted PRISM Numbers	Share of economically active national stock Best Estimate	Range[2]
SCIENCE	14500	6. %	5. - 7. %
ENGINEERING AND TECHNOLOGY	9500	4. %	3 - 5%

[1] -"Changes in the population of persons with qualifications in engineering, technology and science 1959 - 1976", Studies in Technological Manpower No 6, HMSO, 1977.

[2]The lower limit of the range for each share estimate was derived by using the unadjusted PRISM numbers (ie those obtained before adjustment for under-recording of qualifications) but after an allowance for double counting. The upper limit of the range was derived by making an adjustment over and above that used to obtain the "best estimate" (given above) as well as the correction for double counting.

4. No national stock figures are available for 1979 but share estimates were made by assuming that growth between 1976 and 1979 was half that shown in 1972 - 75.. The ranges for the estimates allow for variation in this assumption. The share estimates are 5.3% for Science (range 4.6 - 6.1%) and 3.3% for Engineering and Technology (range 2.8 - 3.9%). Recorded PRISM figures fell only slightly compared to 1976 but the adjusted figures (and consequently the shares) were considerably lower because of an overall improvement in recording qualification data.

Triennial Survey Data

5. The only other source capable of providing reasonably reliable estimates of the share is the survey of qualified scientists and engineers carried out up until 1968 by the Ministry of Technology. The results for "Government Departments" have been used to calculate the following shares:

	1965	1968
SCIENCE	5.4%	4.4%
ENGINEERING AND TECHNOLOGY	5.4%	4.5%

The 1965 results are, however, not comparable with those for 1968 as they include staff whose work was subsequently transferred to Research Councils and staff in the Forestry Commission and Metropolitan Police. The 1968 results stand better comparison with those of the PRISM results but some machinery of government changes since then have had a distorting effect on the figures.

6. As the returned questionnaires are no longer available it has not been possible to check the accuracy or the coverage of the survey results. A survey carried out on behalf of the Working Group on Biological Manpower

(Cmnd 4737), however, identified the same number of biologists in government departments as the 1968 Triennial Survey although it only covered staff engaged on biological work. It thus appears that either there were no qualified biologists on other work or they were omitted, erroneously, from the Triennial Survey. The Biological Manpower survey also raised some doubts about the validity of the Agriculture results in the Triennial Survey. PRISM data indicated that in 1976, about 50% of scientifically qualified civil servants were employed in the SCS and P&T Groups together and roughly one fifth in "generalist" grades (Administration Group, Local Offices, Tax Inspectorate) but this may be a relatively recent phenomenon. For example, recruitment of graduates to the EO grade rose from about 700 in 1971 to over 2100 in 1975.

Other Sources

7. For reasons of definition and coverage none of the remaining sources can yield any reliable share estimates. They can, however, help to give an indication of the validity of the PRISM estimates and changes over time.

8. It is not possible to isolate Civil Service numbers from the Census of Population results. The most that can be done is an analysis for "Government and Research". This includes Research Councils and other fringe bodies, privately owned research establishments and the Armed Forces as well as the Civil Service. The share for "Government and Research" remained constant at 11% for science in 1961, 1966 and 1971 and fell from 9.4% in 1961 to 8.2% in 1971 for Engineering and Technology. Triennial Survey results indicate that about 40% of the scientists and about 54% of the engineers in this category were in the Civil Service in 1968.

9. Several scientific and engineering institutions carry out regular salary surveys. Although the results include data on employment they are of limited value because membership is not compulsory and response rates are low. The surveys should yield higher estimates than PRISM because of the effect of double-counting. Some individuals will be eligible to join more than one institution. The PRISM figures have however been adjusted to allow for double counting; there are also differences in the definition of qualifications used in the institutions surveys and that used in the PRISM estimates.

10. The 1977 Institute of Physics survey[1] indicates that about 13% of respondents were employed by Central Government. This covered more than just

1. See list of Further references at ANNEX B.

the Civil Service. Using Triennial Survey data as a guide the Civil Service share of physicists reduces to about 9%. Previous surveys by the Institute indicate that the Central Government share only rose slightly from 12% in 1968. The 1978 Royal Institute of Chemistry survey showed a Central Government share of 7.4%, implying about 5% for the Civil Service. The 1977 Institute of Biology survey gives a figure of 5.3% for Central Government.

11. The Council of Engineering Institutions surveys of chartered engineers show a slight fall in the Central Government share from 6.1% in 1966 and 1971 to 5.7% in 1977. The Central Government shares in 1978 surveys carried out by the individual engineering institutions were 5.0% for civil engineers, 6.3% for electrical engineers and 6.3% for mechanical engineers. Even allowing for the relatively small proportion in research councils and other fringe bodies, these are substantially higher than the PRISM estimates.

12. Recruitment share figures are of limited value when assessing estimates of stock share because of probable differences in wastage patterns. There are also a number of problems in using the First Destination of University Graduate statistics and not all recruits arrive straight from University. The percentage of university graduates entering employment whose first destination was the Civil or Diplomatic Service varied between 7 and 9% for science graduates and between 2 and 4% for engineering and technology graduates over the period 1967-1976. Further details are given in Annex E2.

13. Figures of Central Government research and development employment are collected annually by the Treasury. Between 1972 and 1976 the number of Civil Service scientists and engineers in this category rose from 13,100 to 15,400, an increase of 18%. As the national stock rose by the same amount any increase in the Civil Service share over this period seems likely to have been in areas other than R&D.

(1 See list of Further references in ANNEX B).

STATISTICS: RECRUITMENT SHARE

This Annex examines the published data on first employment destination of graduates and considers other data on recruitment of scientists and engineers to the Civil Service.

First Destination Statistics

2. The results of surveys on the First Destination of University Graduates were published annually by the University Grants Committee until 1976, after which the Central Services Unit for Careers and Appointment Services published them.

The statistics relate to the first destination (employment, academic research or study, etc) between the time of graduation and 31 December in a given year, for those graduating in the 12 months prior to 30 September of that year.

3. The statistics of recruitment share given in this Annex cover the number of graduates who entered permanent employment in the United Kingdom as identified in the surveys. Those continuing full-time study or training, academic research, not available for employment, still seeking employment at 31 December and not responding to the surveys are excluded. Together these latter categories comprise over half of the total output of science graduates as identified in a 1977 survey. Non-respondents alone made up one tenth of this total. Those taking up further study or research appear in subsequent surveys if they are awarded another university degree. This does not apply to teacher training courses, so the shares for education under-estimate the proportion of graduates eventually taking up employment in this field.

4. Table 1 gives the share proportions for Science and Engineering/ Technology graduates in various employment sectors. It is however important to note that, here, "Civil and Dipolomatic Service" includes the Research Councils and other fringe bodies as well as central government departments. Nevertheless the share was small, having a maximum in 1975 of only 9% for Science between 1968 and 1977. The share was lower in 1977 than at any other time since 1968. There was a sharp rise for "Other Public Service" (NHS, local authorities, etc) after 1970 but this sector's share has also decreased

Table 1: University Graduates by Employer Category

Percentages of total who entered permenent UK employment[1]

	Civil and Diplomatic Service	Other Public Service	Education[2]	Industry	Commerce	Others[3]	Total Number (100%)
Science	%	%	%	%	%	%	
1968	7	6	21	55	7	4	6,456
1969	7	6	17	56	9	5	6,400
1970	7	7	17	53	11	5	6,243
1971	8	10	21	42	14	5	5,777
1972	7	12	20	37	17	7	6,039
1973	8	10	17	42	17	6	6,990
1974	8	13	14	43	15	7	7,505
1975	9	13	15	40	17	6	6,732
1976	7	11	13	46	17	6	6,908
1977	6	9	13	48	17	7	7,423
Engineering and Technology	%	%	%	%	%	%	
1968	3	8	4	82	1	2	5,514
1969	2	7	4	84	1	2	5,305
1970	2	9	4	81	2	2	5,740
1971	3	12	6	74	3	2	5,578
1972	3	11	5	75	4	2	5,487
1973	3	8	4	78	5	2	5,850
1974	3	7	3	81	4	2	6,006
1975	4	9	4	77	4	2	5,527
1976	3	7	4	80	4	2	5,515
1977	3	4	4	83	4	2	5,544

Source: "First Employment of University Grdduates, 1967-68", University Grants Committee, HMSO, 1969, etc (see paragraph 2)

[1]See paragraph 3.

[2]Covers employment (not study or training) at all educational establishments.

[3]Includes private practice (nec), publishers, arts, media and fringe bodies (nec).

in recent years. The "Industry"[1] share fell to 37% in 1972 but has since increased. The number entering "Industry" in 1977 was higher than in any other year. Prior to 1973 there were very large increases in the "Commerce"[2] sector. The pattern is broadly similar for Engineering/Technology graduates, though a much greater proportion entered "Industry" throughout the period.

5. Figures 1 and 2 are graphs of the numbers entering the various sectors between 1968 and 1977. They show clearly that the large falls in numbers entering "Industry" in 1971-72 and 1975 were not accompanied by corresponding increases in the public services; numbers rose but not by enough to account for the decline in those entering "Industry".

6. The published statistics also include some information on first destination by class of degree, but not by subject group. Figure 3 shows the "Civil Service" share of first class honours degree and all first degrees for all subjects. The patterns are similar, though the first class share is somewhat higher. The difference has however increased markedly since 1970.

7. The "Civil Service" has taken a much higher share of Science higher degree graduates (Figure 4) than of the first degree output, especially since 1972. From 1973 the share has been over 10%. It seems likely that a substantial proportion join the Research Councils. The number of Engineering/Technology higher degree graduates joining the "Civil Service" is small and subject to erratic variation.

Polytechnic Graduates

8. Universities are of course not the only source of entrants to the national stock of qualified scientists and engineers. In recent years, details of first destination and employment for polytechnic first degree graduates, on the same basis as the university graduate statistics, have been published by the Polytechnics Careers Advisers:

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[1]Includes Agriculture and Forestry (including Forestry Commission) and nationalised industries.

[2]Includes Accountancy (private practice only), advertising and market research agencies, the distributive trades, shipping companies, surveyors, estate agents, merchants, catering and property companies, banking and insurance.

Table 2: Polytechnic Graduates by Employer Category

Percentages entering permanent UK employment

	Civil and Diplomatic Service	Other Public Service	Education	Industry	Commerce	Others	Total Number (=100%)
Science	%	%	%	%	%	%	
1974	7	16	11	51	11	4	505
1975	7	14	10	54	12	3	702
1976	4	14	7	56	15	4	707
1977	3	12	7	58	14	6	749
Engineering and Technology	%	%	%	%	%	%	
1974	2	12	1	84	1	1	804
1975	4	16	1	74	4	1	1,187
1976	2	10	1	81	5	1	1,357
1977	3	7	1	78	10	1	1,326

Source: "Polytechnic First Degree and HND Students", Polytechnics Careers Advisers: Statistics Working Party, 1974 to 1977.

(Statistics Working Party). The shares (Table 2) are not very different from those for University Graduates (Table 1), with "Industry" taking a larger share of science polytechnic graduates and the "Civil Service" a slightly lower share. The total number of polytechnic graduates is small (less than 10% of the total for universities and polytechnics) for science but amounts to almost 20% of the engineering and technology total.

PRISM Data

9. The Civil Service Personnel Record Information System (PRISM) was described briefly in paragraph[1] of Annex 1. The First Destination Statistics are not directly comparable with PRISM data on those joining the Civil Service because of differences in coverage, timing and definition as well as the problems of unknown first destination and under-recording of qualification data. However, time series should each be internally consistent and the PRISM results show the same kind of decline in the number of graduate entrants after 1975. This decrease is more pronounced in the PRISM figures indicating a bigger reduction in demand in the Civil Service itself than in the "fringe bodies" included

[1] See list of 39 further references at Annex B.

in the First Destination figures.

10. Newly qualified graduates form only part of the intake of qualified scientists to the Civil Service. Whilst PRISM holds details on type of activity immediately prior to recruitment, the data are not wholly reliable. This limitation is in addition to that relating to data on qualifications mentioned above (and described in more detail in Annex E1, paragraph 2). In what follows it should therefore be borne in mind that the percentages refer to those recruits whose degree qualification has been recorded on PRISM. Interpretation must therefore be cautious.

11. Less than 40% of all Science and Engineering graduates who entered the Civil Service between 1975 and 1978 were students immediately before joining (see Table 3). For the Science Group this proportion varies considerably between grades, irrespective of whether or not qualifications were recorded.

12. Table 4 summarises the PRISM distribution of graduate entrants by category. Only just over a quarter of entrants with science degrees between 1975 and 1978 entered the Science Group. Half were recruited to the Administration Group (or to equivalent Local Officer or Tax Inspectorate grades) and just over a fifth to the other specialist grades, (Statisticians, MAFF grades, Lecturers, etc). In contrast, 70% of those recorded as having Engineering or Technology degrees entered the Science or P&T Groups.

Table 3: Entrants to Civil Service in 1975-78[1] by previous activity.

Percentages of Total Entrants

	Public Sector				Private Industry and Commerce[6]	Others[7]
	Students[2]	Education[3]	Nationalised Industries[4]	Others[5]		
To total home Civil Service	%	%	%	%	%	%
Entrants with Science degrees	39	9	2	7	24	19
Entrants with Engineering/ Technology degrees	37	5	3	7	39	9
To Science Group						
All entrants	54	5	1	5	21	13
SSO and above	12	18	6	14	38	12
HSO	46	14	2	9	22	7
SO	68	4	1	4	15	8
ASO	55	2	1	4	21	17

Source: PRISM - see paragraph 9.

[1] The 1978 figures are provisional.

[2] From any educational establishment.

[3] Those previously employed, in any capacity, in an educational establishment.

[4] Includes public corporations.

[5] HM Forces, local government, NHS, Police, Fire, Ambulance services and fringe bodies.

[6] Includes manufacturing, service and extractive industries, banks, insurance and finance companies.

[7] Unemployed, housewives, retired, previous employment outside UK and reinstatements.

Table 4: Occupational Group Distribution of Graduate Entrants[1] Civil Service

Percentages of Total Entrants

	Science[4] Group	P & T[4,5] Group	Admin Group + DHSS/IR[6] 'generalist' grades[3]	Others
	%	%	%	%
Science Graduates				
1975	31	4	46	18
1976	20	3	53	24
1977	21	3	55	21
1978[2]	30	3	48	20
1975-78[2]	27	3	50	21
Engineering/ Technology Graduates				
1975	26	16	20	9
1976	22	11	21	16
1977	18	53	22	8
1978	18	55	17	10
1975 - 78	23	47	20	10

Source: PRISM- see paragraph 9.

[1] See paragraph 10.
[2] Provisional.
[3] A proportion of these will hold degrees in computer science and will be in posts where programming, etc form part of the job.
[4] Includes related higher grades.
[5] Includes graduate trainees.
[6] DHSS/IR grades cover Local Officers and Tax Inspectors, Officers and Collectors.

Other Data

13. Limited data are available on recruits prior to 1975 from the Civil Service Central Staff Record. This was the information system in use before the introduction of PRISM in 1975. These data are however largely confined to age by grade distributions whose reliability may be doubtful.

Table 5: Recruits to SCS

Numbers

	DCSO	SPSO	PSO	SSO	HSO	SO	ASO	All Grades
1975	1	4	19	108	222	352	750	1,456
1976	0	2	12	44	115	155	331	659
1977	0	2	8	22	85	132	396	645
1978	1	2	6	24	153	280	806	1,272
1975-78 Total	2	10	45	198	575	919	2,283	4,032

Source: PRISM - see paragraph 9.

14. The other main source of data is the Civil Service Commission (CSC) (see Annex D1). The published[1] CSC figures on numbers of graduates appointed to EO and generalist equivalents show a steady increase from less than 100 in 1964 to about 700 in 1971. There was a large rise to around 1,200 in 1972 followed by further rises to a peak of about 2,100 in 1975, after which the total remained steady at roughly 1,400 each year. In 1972 and 1973 about a third of these graduates had Science degrees.

[1]CSC Annual Reports

(C)

THE MSL INDEX
(published by MSL International Management Consultants)

15. This index is published quarterly and shows the aggregate numbers of "executive" jobs advertised in some sections of the press. A paper by G Long,[1] published in 1979, analysed the records over 20 years. Although not of comparable precision with the Civil Service data in this Annex, it is the only readily available indication of professional vacancies generally. Accordingly it may be useful as an indicator of changes in demand for senior management, professional and technical personnel. It does not however throw any light on the causes of these changes. For example, the general downward trend in demand for research, development and design personnel during the past twenty years or so (see Figure 5) does not necessarily mean a decrease in the total number of posts. If mobility (wastage of any kind from R&D areas in individual organisations) decreases, there will be a corresponding decline in vacancies. Recruitment advertising will therefore also drop. In this case however there is hard statistical evidence, from the Department of Industry's R&D Surveys, to show that the numbers employed have fallen. The estimated number of scientists and engineers employed on R&D work in private industry fell from 59,000 at the end of 1969[2] to 51,000 at the end of 1975.[2]

16. There are certain similarities between the Index and CSC data on Science Group vacancies (Figure 5). The Index may include at least a part of the CSC vacancies and the two graphs are similar in some respects, though with a time lag (MSL leading) of about a year. One partial explanation might be that higher than expected wastage from the Civil Service, caused by increased demand from the private sector, will not be reflected in the CSC vacancies until the following year. Conversely, less demand from industry will reduce Civil Service wastage and lead to a lower level of vacancies in the next year.

17. Although the definitions involved are very different, it is also interesting to compare the Index with the First Destination Statistics, which look at numbers actually recruited. Both sets of figures show falls in 1971 and 1975, suggesting that industry gets as many graduates as it actually wants.

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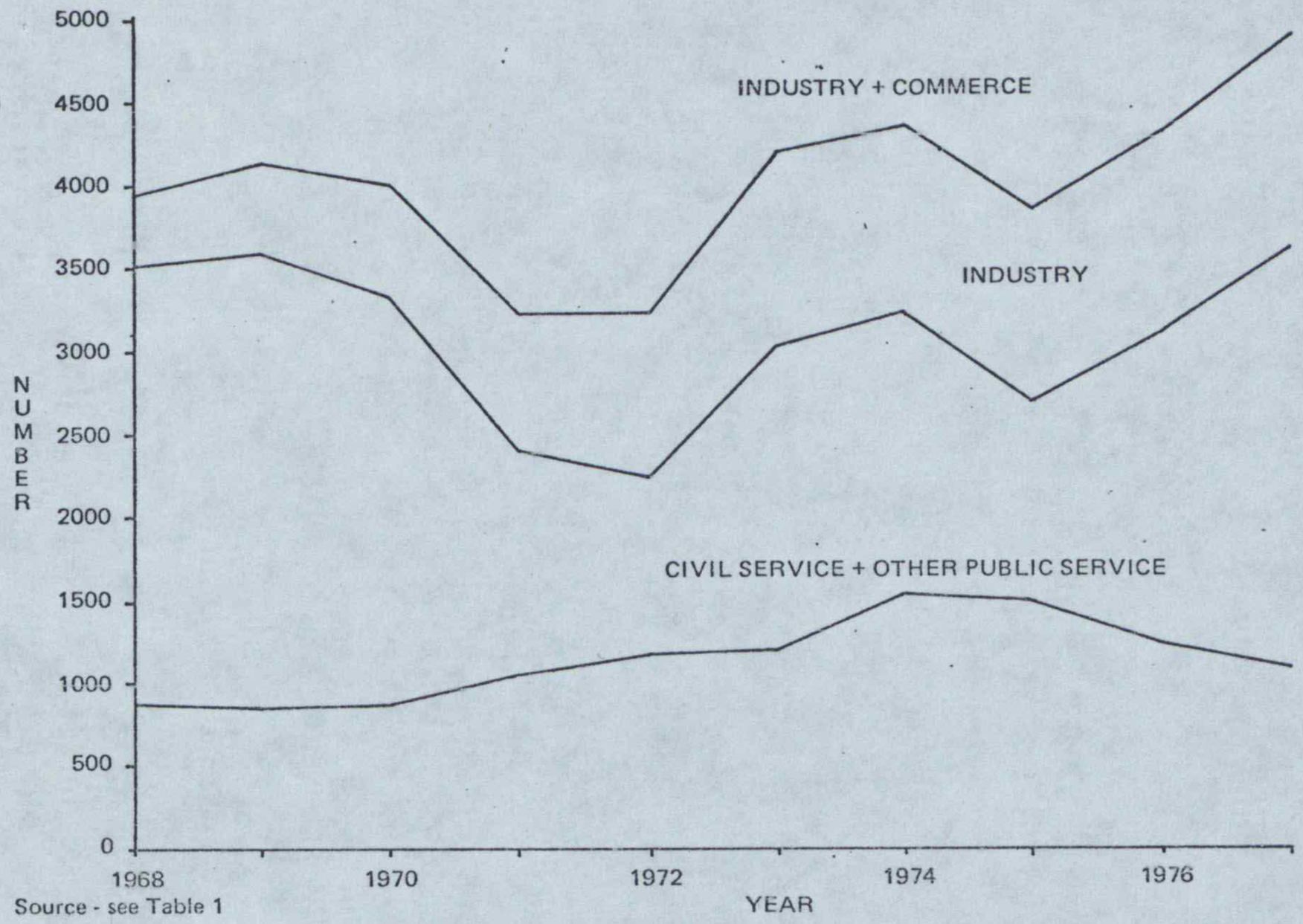
[1] G Long: "Changing Executive Demand; A twenty years' tally". Management Matters (1979) No 62: MSL International Management Consultants.

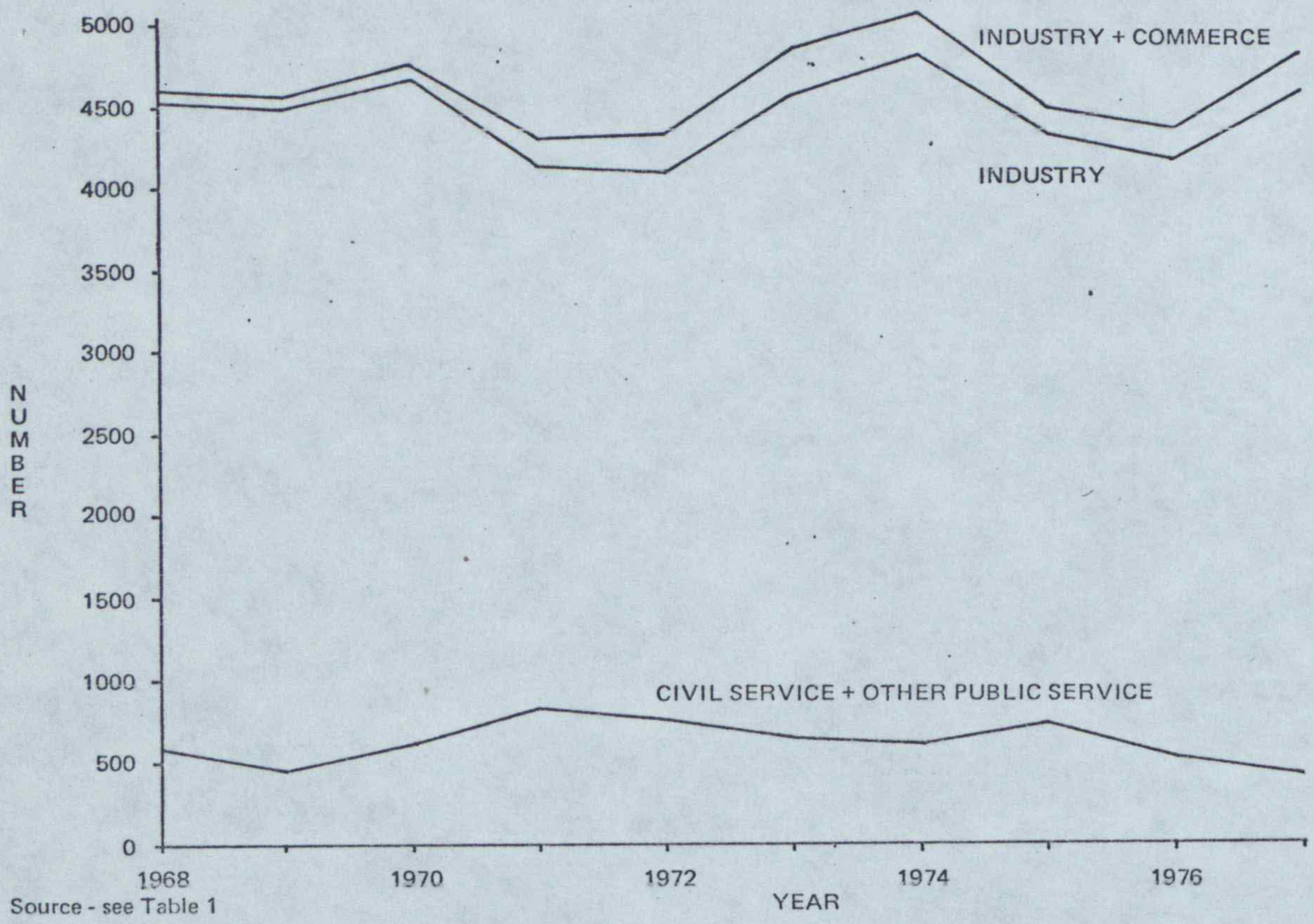
[2] "Employment on scientific research and development in industry in 1975", Trade and Industry 1977:

FIGURE 1 FIRST DESTINATION OF UNIVERSITY GRADUATES IN SCIENCE



Source - see Table 1

FIGURE 2 FIRST DESTINATION OF UNIVERSITY GRADUATES IN ENGINEERING AND TECHNOLOGY

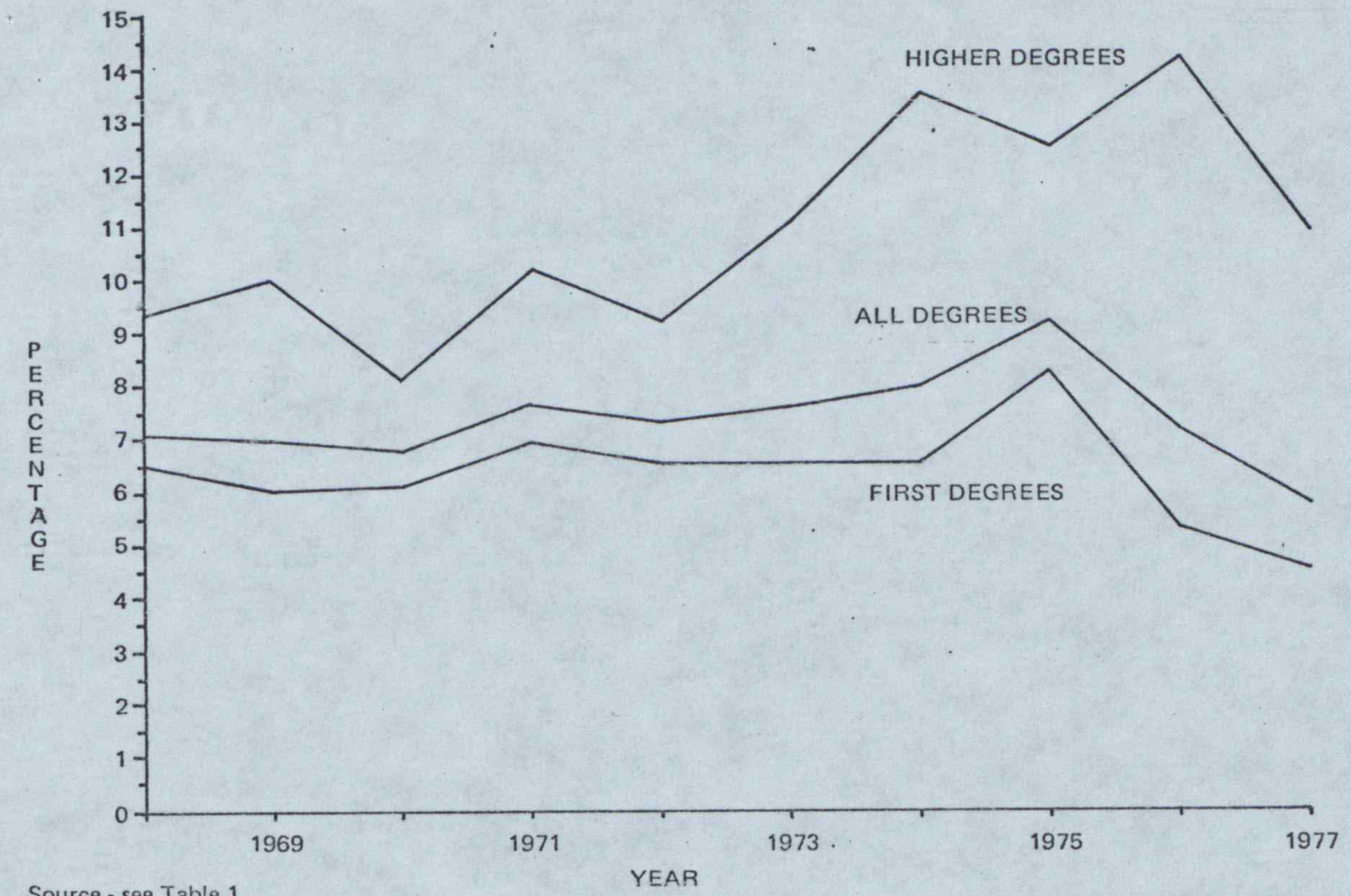


Source - see Table 1

FIGURE 3 CIVIL SERVICE SHARE OF FIRST DEGREE GRADUATES ENTERING HOME EMPLOYMENT

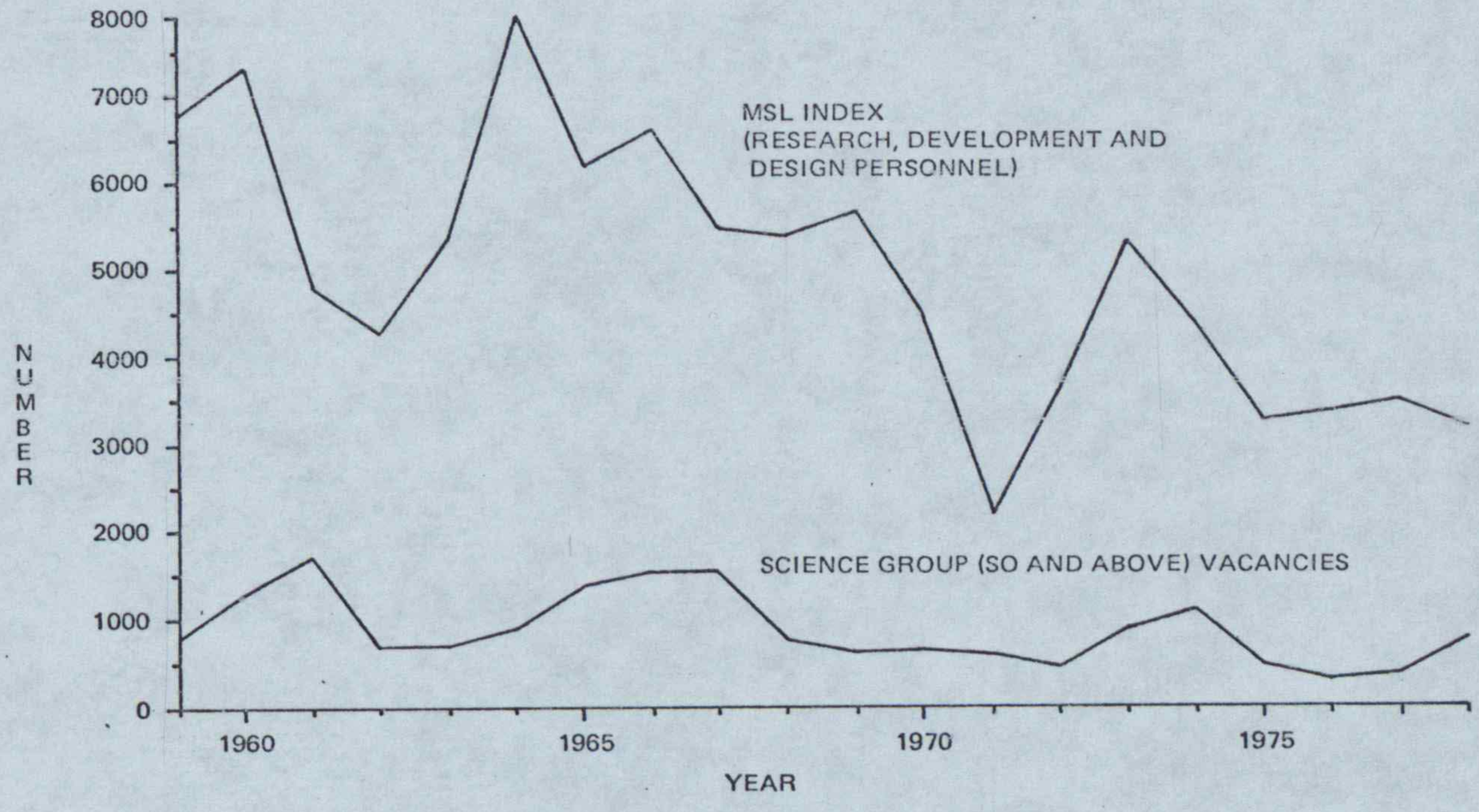
Source - as in Table 1

FIGURE 4 CIVIL SERVICE SHARE OF SCIENCE GRADUATES ENTERING HOME EMPLOYMENT



Source - see Table 1

FIGURE 5 MSL INDEX AND SCIENCE GROUP (SO AND ABOVE) VACANCIES



ANNEX F1

OUTLINE OF PERSONNEL MANAGEMENT IN THE SCIENCE GROUP

INTRODUCTION

Personnel Management policy for the Science Group is developed through a process of continuous consultation to which a number of bodies and mechanisms contribute.

This note summarizes briefly the elements which contribute towards the career management of scientists. The first section lists the organizations which are concerned with broad principles as well as individual matters. The second section deals with those mechanisms which relate directly to individuals.

1. Organizations concerned with Personnel Management

1.1 Within Departments the Personnel Divisions, answerable to the Principal Establishment Officer, handle most personnel management functions. They take a broad view of the department's needs as a whole, matching people and jobs and relating present needs to the requirements of the future. They rely to a great extent on line managers, who are in particular responsible for Annual Staff Reports and Job Appraisal Reviews, . In some departments, Heads of Professions provide leadership on professional matters. Their presence alongside line managers, CSD and outside professional bodies adds a most useful extra dimension to career management.

1.2 The Civil Service Department (CSD) is responsible for general policy on Structure and for general developments for the SCS such as

guidance on promotion procedures and career development of staff employed in small numbers. In addition the CSD is responsible for the operation of certain central service-wide procedures such as Individual Merit Promotion (IMP), the Senior Professional Administrative Training Scheme (SPATS), the trawling of vacancies in the Science Group which cannot be filled departmentally and manpower projections on a service-wide basis. CSD's powers are limited by the degree of autonomy possessed by the different departments of state flowing from the constitutional concept of Ministerial responsibility to Parliament.

1.3 The Management Committee for the Science Group advises CSD and departments on general problems such as career development, recruitment, the problems of scientists employed in small groups and the operation of IMP and SPATS. The Chairman is a senior scientist and members include line managers, senior scientists and Personnel Division managers from the major employing departments. The Working Party on Scientists and Technologists (WPST) is an inter-departmental committee comprising representatives from personnel divisions at Assistant Secretary level chaired by the CSD head of division responsible for personnel management of specialists. It considers matters affecting both the Science and P&T Groups and provides a forum for preparing important matters for SMC or Establishment Officers meetings. It also acts as a channel of communication between CSD and Personnel divisions in departments.

1.4 Staff Associations. Many valuable initiatives come from the Staff Side and the CSD is in close touch with individual Staff Associations and with the National Staff Side on personnel management and structural matters.

2. THE TOOLS OF PERSONNEL MANAGEMENT

2.1 Appraisal and Development

a. Annual Staff Reports (ASRs)

The Annual Staff Report fulfils a number of functions. It provides a continuous record of performance from which an individual's progress can be judged; it assesses his capacity to do a particular job (and incidentally helps in preparing more accurate job descriptions); it indicates his suitability for other jobs within the department; it provides information to help in selection for promotion boarding and in assessing his future potential; it is a useful source of information on training needs; and it is the basis for conducting Job Appraisal Reviews.

b. Job Appraisal Reviews (JARs)

The main objective of the JAR interview is to give an individual a formal opportunity to discuss, usually with his countersigning officer, the work done in the past year and to look at ways in which job performance might be improved by the actions of either management or the individual in the coming year. The individual can also comment on the job and the working environment and raise any points which may be causing problems. It should be a free and frank two-way exchange of information at the end of which a note should be made of any action needing to be taken by either party, or by the Personnel Division concerned.

c. Career Development Schemes

Career development schemes aim to make the most effective use of staff by seeking to match individuals and jobs, by giving

weight to future needs, and by improving staff morale. Benefits to the individual, increasing job satisfaction or creating promotion opportunities, are a consequence of the wider function of career development.

i. Career Development Interviews (CDIs)

The Career Development interview will normally be conducted on an individual basis by trained Career Development Officers (often drawn from the relevant specialist group). They have access to comprehensive information about the individual and the needs of the department and are also aware of the scope which exists for effective action.

The CDI is thus concerned with a wider perspective than is the case with ASRs and JARs which relate largely to the immediate line management situation.

ii. Career Development Panels (CDPs)

Career Development Panels must be sufficiently representative of management to identify the needs of the work, and have direct personal knowledge of as many staff as possible, supplemented by written reports and discussions with others who work closely with the staff involved. CDPs bring together line management, Heads of Professions, training branches and Personnel Divisions in order to make career development procedures more effective. CDPs assist with

succession planning in the interests of the department and of the individual. Although this may be relevant to, and be made available to Promotion Boards, it should be clearly understood that CDPs are not a substitute for Promotion Boards. Panels may also advise on the training needs of staff. By taking a long term view they make it easier to provide the right programme and to plan the release of staff without unduly damaging the department's efficiency.

2.2 Training

Most training is based on work experience but to gain the maximum benefit it is frequently necessary to supplement such experience by directed self-development and formal courses. Responsibility for the effective use of training rests with the individual scientist and his line and personnel managers. However, the personnel management framework of ASRs, JARs and career development activities should ensure that the individual's wishes, the needs of line management and the long term requirements of the department are considered and relevant training needs identified. The Departmental Training Officer and his staff provide advice on the design of suitable programmes. The wide range of courses available in departments and the Civil Service College are frequently used, particularly when formal training in management skills and techniques is required. For professional and technical training considerable use is made of the external courses run by Universities, Polytechnics, Industry and Professional Institutions. Induction programmes which involve an element of formal training aim to help the new entrant to settle in quickly and work effectively. Subsequently the balance of training needed will change with time and will depend on the scientist's career profile.

To help specialists to adapt to the increasing organisational and administrative content of the work they do as their careers develop two central training programmes have been developed.

i. The broadly based Introductory Course for Graduate Specialists, normally taken towards the end of the second year of service, which is designed to give specialists an appreciation of the government environment in which they work and to develop their management capabilities.

ii. The Senior Professional Administrative Training Scheme (SPATS) designed to allow able specialists who have obtained early promotion to Principal level to gain experience in policy making and management and in this way help to equip them for the senior posts that some will later come to occupy. The aim is <u>not</u> to turn specialists into administrators, but rather to improve the quality of advice and decision-making at the higher specialist levels of the Civil Service.

2.3 <u>Movement</u>

Most scientists will tend to see their natural line of advance as being within their own specialism. However, those specialists who want to move into posts of a more managerial/administrative type should wherever possible be given the opportunity to do so if it appears likely that they have the capability for such work. Various schemes exist to remove artificial barriers to movement and promotion.

a. <u>Lateral movement</u> to work of a different class or group may be on a temporary or a permanent basis. Temporary movement should be for a specified period (usually up to 2 years).

For permanent movement, the individual should satisfy the normal procedures for selection to the relevant grade in the new group or class and also have the ability to perform the full range of duties of that grade.

b. Opportunity Posts are designated as either 'open' or 'limited'.

i. open opportunity posts are those for which suitably qualified and experienced members of the appropriate grade in all groups are eligible.

ii. limited opportunity posts are those for which suitably qualified and experienced members of the appropriate grade in specified groups only are eligible.

Anyone selected for such a post remains in his existing group (being promoted within it where applicable) and continues to be paid as a member of that group.

c. Trawling

Trawling is the name given to the normal procedure for notifying vacancies within the Service whenever departments cannot fill them from within their own internal resources or where by agreement between official and staff sides there are specific obligations to trawl.

A vacancy will be trawled initially among members of the Group in which it occurs except where the post is an Opportunity (Open) post or where it has been agreed with the staff association concerned that, although the post remains in a particular group or class, members of other groups may apply.

Under certain conditions posts can also be trawled, on a reciprocal basis, between the Civil Service and certain "fringe" bodies (such as the Forestry Commission, the UKAEA, and the Research Councils).

d. Linking arrangements

Arrangements have been made to alleviate the problems of career development of staff employed in small numbers, where the employing unit has not the full range of posts to provide career outlets. For such staff in the Science Group specific "links" have been established with other departments having greater numbers of such staff and more senior level posts. The aim is to improve opportunities for broadening their experience. These links take into account work affinities, the numbers and ratios of grades in both the small and large groups, geographical location and, of course, the wishes of the departments and the individuals concerned.

Ways in which the larger departments may be able to help the career development of staff in small groups include, for example:-

- the provision of assistance with internal promotion boarding procedures, by the loan of a Chairman or members of a board, or by including the small group staff being considered alongside those in the larger departments' boarding arrangements;

- the inclusion of small group staff in the larger departments' training provisions;

- participation by small group staff in the larger departments' trawling arrangements;

- assistance with common recruitment problems;

- provision by the larger department of a broader range of work experience, by loan or exchange of staff for limited periods or, possibly, by help in finding a suitable temporary post for a successful SPATS candidate.

The links that have been agreed are as follows:-

i. links with Ministry of Defence (Procurement Executive)

Ordnance Survey

Her Majesty's Stationery Office

ii. links with the Department of Environment

The British Museum

The Welsh Office

Health & Safety Executive

iii. links with Department of Industry

Civil Service Department

Department of Energy

The Imperial War Museum

The Royal Mint

iv. links with the Ministry of Agriculture, Fisheries and Food

a. Science Group

FCO (not including GCHQ)

The Forestry Commission

v. links with the Scottish Office

The National Museum of Antiquities of Scotland

vi. links with the Department of Education and Science

The National Gallery

vii. links with the Department of Health and Social Security

The Scottish Office

e. Interchange for Scientists (and science-based engineers)

There is continuing though small interchange of specialist staff between the Civil Service and the universities and industry (and also abroad).

Following the disbandment of the Scientists Interchange Unit in 1977, responsibility for arranging secondments falls to departments. The CSD, however, remains available to help departments in arranging secondments to and from outside organisations.

2.4 Promotion

Most departmental promotion procedures tend to follow similar lines although it is necessary to adapt them to the size, organisation and needs of the particular department.

a. Annual Promotion Reviews and Promotion Boards

In most departments selection and assessment for promotion is determined in accordance with procedures agreed with departmental Staff Sides which give proper weight both to current performance and to potential. In some

departments there are separate Reviews/Boards covering different grades, sometimes with sub-Panels for various disciplines within a grade. Potential may be assessed on the basis of likely fitness for one, two or three possible future promotions and ability may be rated on a graduated scale. Officers may appeal against non-selection for interview under the various departmental rules. Officers may also appeal against non-selection for promotion and are usually allowed three or more weeks to present their written case. In every department the Permanent Secretary bears the ultimate responsibility for decisions on appeals although he may elect to allow an Appeals Board to examine certain cases.

b. Fluid Grading and Personal Promotion

i. Fluid grading

Agreements exist for the limited operation of fluid grading in certain areas of work. Within such agreed areas all the following criteria have to be met:-

1. There is a high potential for original and creative work (this is most likely to occur in areas of research and development).

2. Subject to the programme of the work, the job content of an individual post is not precisely circumscribed by its allocated tasks and its position in the organisation and the work assignment covers a vertical span at a number of possible grade levels any one of which may be justified by the contribution of the job holder. Thus it would be

impracticable to establish a fixed pattern of grading: the nature of the work in this vertical span is such that it can be uplifted to a higher grade within the span as a result of the incumbent's personal contributions.

3. The needs of the work and the objectives of the Department dictate that the work can properly be done at a higher level.

4. There is no extension upwards beyond Principal Scientific Officer.

ii. Personal Promotion

There is the possibility of Personal Promotion on grounds of merit. Above the Principal level this has been formalised in the Individual Merit Promotion Scheme for officers working in Science and Technology.

The standards are high and the criteria applied are broadly that:-

1. the candidate is making, and is likely to continue to make, an outstanding individual contribution in his particular field;

2. it is in his own and management's interest that he should continue in this work and be promoted without the additional managerial responsibilities normally attaching to an organisational post.

Candidates are sponsored by their departments and nominations are submitted to an appropriate panel of independent experts who may also seek the advice of outside referees. Recommendations for promotion are made by the Panel, normally after interviewing the candidate, to the CSD which is responsible for monitoring the future work and progress of the Individual Merit promotee.

RECRUITMENT INTO THE SCIENCE GROUP

1. The most junior grade in the SCS is Assistant Scientific Officer (ASO) with a minimum entry qualification of 4 "O" levels, the minimum entry age being 16 years. Graduate and higher degree entry is generally at either Scientific Officer (SO) or Higher Scientific Officer level (HSO). Because work in the SCS is so varied requiring a wide range of ability and qualifications, a system of banding is used to define types of posts within these two recruitment grades.

2. For HSO posts, two Bands are defined:

Band I — These posts require a deep knowledge of the fundamentals of relevant science, as would normally be given by a good honours degree and some experience of good quality scientific work, as well as a proved ability for advanced theoretical or experimental research or for contributing significantly to development processes with little supervision and guidance. Such posts will involve individual research or leading a small team, in R&D or other SCS duties, when they will call for the demonstration of some management potential, including possibly the managing of work contracted to industry.

Band II — These posts require a good knowledge of relevant science as would normally be provided by an HNC or a degree together with some years of sound technical experience, but are generally acting in a supporting role in R&D or other SCS duties. Posts in the band often call for a very good practical approach, or the ability to apply established theoretical knowledge, and often call for the capability of undertaking responsibility for small groups of staff engaged on reasonably straightforward work.

3. For SO posts three bands are defined.

Band I — Posts requiring a deep knowledge of fundamentals of relevant science, as would normally be provided by a good honours degree, as well as the capability for advanced theoretical or experimental research, or for contributing to development processes, all with limited supervision and guidance. Posts in this band generally need a scientifically minded innovator, with indications of management potential, who should be able, at an early age, to lead a team in R&D or other SCS work.

Band II — Posts requiring a sound knowledge of the fundamentals of relevant science as would normally be associated with good academic qualifications, but generally not as challenging as posts in Band I. Thus they would not

normally call for dedicated research activities or for unsupervised participation in development projects. They will therefore generally need a broadly based young scientist with clear potential to play a full part at an early age in a team undertaking or managing R&D or other SCS work.

Band III Posts requiring a good general knowledge of relevant science as would normally be provided by an HNC or pass degree, and generally acting in a supporting role in R&D or other SCS work. Posts in this band often call for a good practical approach or the ability to apply established theoretical knowledge, and with potential to develop into a supervisor of such work.

4. These definitions provide guidance in selecting candidates for the posts so banded and help to ensure an appropriately balanced intake of staff. Banding should also help candidates to understand the nature of the post for which they are being considered. There is, however, no direct link between banding (which relates to the post) and subsequent career management procedures (which relate the officer's abilities to the needs of the Service).

THE STRUCTURES OF THE SCIENTIFIC CIVIL SERVICE IN DEPARTMENTS AND THE EQUIVALENT GRADES FRINGE BODIES

1. The evidence from departments and fringe bodies provided information on the distribution of scientists between work areas. Tables 1 and 2 have been constructed from this information to show, as far as possible, the numbers of scientists in the various units and establishments and to analyse these according to the broad types of work defined in para 2.2 of the report; these definitions are based on these used for the survey summarised in Annex H.

2. The objective of presenting these tables is to give an overall impression of the breadth of activities within the SCS and the considerable number of groups with small numbers of staff. The descriptions under "Type of Work" have been checked with departments but differences of interpretation are possible and complete consistency is not claimed.

3. The reference date is 1 July 1979 except when otherwise indicated.

4. Abbreviations used are:-

P/S	Permanent Secretary
D/S	Deputy Secretary
U/S	Under Secretary
UIPP	Unified Intermediate Pay Point (lower) (between U/s and D/S)
CSO(A)	Grade used in SRC equivalent to U/S.

ANNEX G

TABLE ONE

DEPARTMENTAL STRUCTURE OF THE SCIENTIFIC CIVIL SERVICE
(AS AT JULY 1979 EXCEPT WHERE OTHERWISE SHOWN)

Department	UNIT/DIVISION	Nos	Most senior science post	TYPE OF UNIT: REs	TYPE OF UNIT: HQ Posts	TYPE OF WORK: Research and Development	Project Management	Scientific Services	Technical Support	Admin and Senior Management	Policy Contribution	RELATED GROUPS
Met Office	23 Branches in 5 directorates	2278	D/S	X				X	X	X		
MOD (1.1.80)	Procurement Executive: and											
	a. CER HQ and 12 Establishments	6223	D/S	X	X	X	X	X	X	X	X	) P&T
	b. 3 Systems Controllerates	982	D/S	X	X	X	X		X	X	X	) AEC
	Chief Scientific Adviser and Staff	96	2nd P/S	X	X				X	X	X	) Service
	Service Departments' HQs, Units etc	699	D/S	X	X	X		X	X	X	X	) Officers
DOI	Laboratory of Government Chemist	)		X		X		X				
	National Engineering Laboratory	)		X		X						
	National Maritime Institute	) 1666		X		X						
	National Physical Laboratory	)		X		X						
(1 4 79)	Warren Spring Laboratory	)		X		X						
	Chief Scientist & Engineer	80	D/S		X					X	X	
	Industry Sponsor Divisions	60			X		X			X		
	Regional Offices	27			X					X	X	

Dept of Trade (1 4 7)	International Technology Group				X			X	X			
	European Components Section	)			X			X	X			
	←Navigation division	)			X			X	X			
	← Defence, planning and ships' records	) 18			X			X	X			
	←Operational Research and Consumer Protection	)			X			X	X			
DOI/DT (1 4 79)	Common Services	12			X					X		
MAFF	Central R&D and Servicing Labs	1180	CSO(B)	X		X		X				
	Regional R&D and Servicing Labs	660	SPSO	X		X		X				
	Chief Scientists Group	14	D/S		X					X	X	
DOE/DTp	Building Research Establishment	496	CSO(B)	X		X		X		X	X	P&T
	Transport Road Research Laboratory	470	CSO(B)	X		X		X		X	X	P&T
	Hydraulics Research Station	158	CSO(B)	X		X		X		X	X	P&T
	Directorate General of research	31	D/S		X					X	X	AEC/RO
	HQ posts	113	CSO(B)		X			X		X	X	P&T/AEC/ECON
Home Office	Scientific Advisory Branches (3)	51	DCSO	X		X					X	
	Police Scientific Development Branch	65	DCSO	X		X						
	Police National Computer Unit	7	PSO		X				X			
	Forensic Science Service:											
	Central Research Establishment	58	CSO(B)	X		X						
	Laboratories	395		Field Posts (civil)				X				
	Radio Regulatory Department	2	PSO		X						X	
Scottish Office	Agricultural Scientific Services	119	DCSO	X		X		X				P&T
	Fisheries Research	192	CSO(B)	X		X					X	
	Botanical, Horticultural Research	38	DCSO	X		X		X				
	Scientific Advisers Unit	3	DCSO		X					X	X	AEC
	Scottish Home and Health Dept	2	SPSO		X					X	X	Medical
	Scottish Education Dept	2	PSO	X				X				Museum Keepers

DHSS	Scientific & Technical Branch of Supply	9	SPSO		X	X		X	X			P&T
	Operational Research	29	CSO(B)		X	X			X			AEC
	Biomedical R&D Unit	13			X	X						P&T
	Computer Technical Services	3	DCSO		X				X			AEC
	Medical Scientific Division											
	i. Medicines	1	-		X	X		X				Medical Staff
	ii. Environment, Toxicology, Smoking	12			X	X		X				" "
	iii. Medical Scientific Services	4	CSO(B)		X	X		X			X	" "
	British Pharmacopeia Commission	28	SPSO		X			X				" "
ODA (1.8.79)	Tropical Products Institute	217	CSO(B)	X		X		X			X	
	Centre for Overseas Pest Research	115	CSO(B)	X		X		X			X	
	Land Resources Development Centre	76	DCSO	X			X	X			X	
	Natural Resources Advisory Group	31	U/S		X					X	X	
BC												
DEn	HQ Units	55	CSO		X					X	X	
	Gas Standards Laboratory	25		X		X						
CSD	Central Computer and Telecommunications Agency	7	CSO		X				X			P&T
	Management Services (Operational Research)	26	CSO		X	X					X	AEC/ECON/STATS
	Civil Service College	3	PSO		X			X		X	X	AEC/mixed discipline
	Training Division	1	PSO									"
	Civil Service Commission	3	SPSO		X					X		"
Royal Mint	Assay & Scientific Dept	23	PSO		X	X		X	X			
Inland Revenue	Data Processing Central Services group - Operational Research	4	PSO		X	X			X			AEC/stats
Cabinet Office		4	U/S		X					X	X	AEC
HM Customs, Excise	Operational Research Unit	9	SPSO		X	X			X			AEC/mixed discipline

ANNEX G
TABLE TWO

FRINGE BODY SCIENCE STAFF STRUCTURE
(EQUIVALENT SCIENCE GRADES)

FRINGE BODY	UNIT/DIVISION	Nos	Most senior science post	Research and Development	Project Management	Scientific Services	Technical Support	Admin and Senior Management	Policy Contribution	RELATED GROUPS
UKAEA (1 Jan 80)	5 management Units	2500		X	X	X	X	X	X	P&T Group
Forestry Commission (1 2 80)	R&D Division	76	SPSO	X						Foresters
British Museum (1 6 79)	Research Laboratory	20	SPSO	X		X				Museum Staff
	Dept Conservation/Technical Services	5	SPSO	X			X			
British Museum (Natural History)	Scientific Depts	326		X		X	X	X		
	Biometrics	4		X						
	Exhibition and Technical	58		X		X	X	X		
	Directorate and Library Services	31				X		X		
Health, Safety Executive (1 5 79)	Research & Laboratory Services Division:	1	CSO(B)					X		
	Safety Engineering Lab	58	DCSO	X		X				
	Explosion & Flame Lab	71	DCSO	X		X				
	Occupational Medicine & Hygiene Lab	134	DCSO	X		X	X			
	British Approvals Service for medical equipment - Flammable atmospheres	4	SSO			X				P&TO
	Technical & Specialist Services	39	SPSO	X		X	X			
	Research Planning Group	5	SPSO	X		X		X		
	Field Consultant groups	30				X				mixed discipline
	Factory Inspectorate	1				X				mixed discipline
	Employment Medical Advisory Service	9				X				AEC/medical
	Policy Division	1						X	X	AEC/STATS

SRC (31.7.79)	5* Research Establishments: physics, computing, maths, and electronics	841	CSO (A)	X		X	X			P&TO
	Central Office	69	U/S					X		
NERC	Institutes & grant Aided Assoc	1675	u/s	X		X	X			
	HQ	25	UIPP					X		
ARC	30 Institutes, 6 Units	4154	CSO	X		X	X			
	HQ	16	CSO					X		
MPO (9 8 79)	Forensic Science Laboratory	196	DCSO		X	X			X	P&T
	Management Services Dept	13	SPSO					X	X	P&T AEC

*Since 1 10 79 The Rutherford and Appleton laboratories have merged, reducing the number of SRC research laboratories from 5 to 4.

BC

Annex H

DISTRIBUTION OF SCIENTISTS BETWEEN JOB TYPES

1. An exercise was conducted by CSD and IPCS in 1979/80 with a view to determining the distribution of scientists between job types. Departments were asked to provide a breakdown of their scientific staff by grade and by job type (as well as by functional area, not further analysed here). The grades were from ASO to DCSO and the job types were defined as follows:

a. Research and Development (R&D)
Investigations undertaken in order to gain scientific knowledge and understanding. The use of such knowledge in order to produce new or substantially improved materials, devices, products, processes, systems or services. The operation of experimental facilities and non-routine testing in support of R&D.

b. Project Management (PM)
The management of major development projects carried out directly by a Department or by industry eg MRCA project (not normally found outside MOD).

c. Scientific Services (SS)
The provision of scientific advice services and information to other organisations and the general public, including the analysis of samples as a service. Collection, analysis and dissemination of technical and scientific data in pursuance of the advisory, standards, statutory, and inspectorial functions of Government.

d. Administration (Ad)

Staff whose work is primarily of an administrative nature in both Headquarters divisions and R&D establishments. It includes those giving advice on and formulating policy, representing the Government on national and international committees, those concerned primarily with the management of scientific resources generally, those letting and managing R&D contracts and those concerned with general administrative matters, eg training, management services, personnel management, etc.

2. These definitions correspond broadly to those given in para 2.2 of this report except that in the survey "research and development" included also the technical support which was listed as item iv. in para 2.2; and administration included technical contributions to policy listed as item vi. in para 2.2.

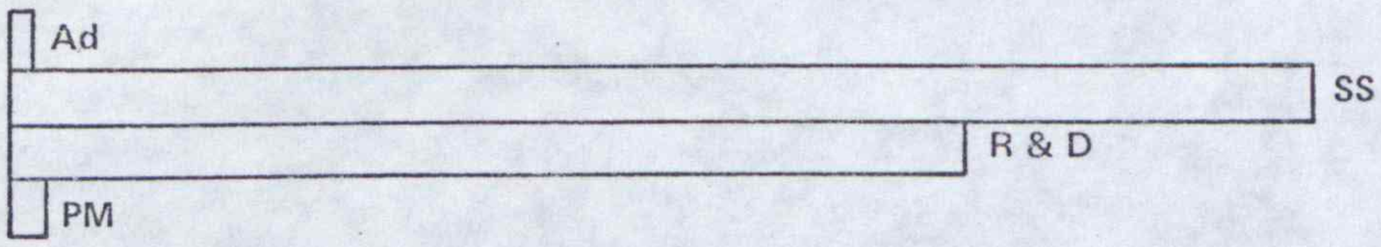
3. The tables attached are based on an analysis of returns from departments which between them employ some 17300 members of the Scientific Civil Service from ASO to DCSO. This represents approximately 98% of the staff in these grades. Table 1 gives the distribution by grade between the job types. Figure 1 shows, for each grade, the percentage distribution between job types. R&D is done by just under half the SCS as a whole (in agreement with a previous survey) but by over half the SO's and HSO's and half the SSO's. Scientific Services are provided predominantly by ASO, SO and HSO grades and administration, management and policy formulation mainly by PSO and higher grades.

4. The data illustrate the variety of jobs done by members of SCS and the need for the majority of those in the higher grades to have abilities appropriate to "administration" as here defined.

Table 1 The numbers in Scientific grades analysed by job type (1979|80)

BY JOB TYPE	ASO	SO	HSO	SSO	PSO	SPSO	DCSO	Total	% of overall total
Research and Development	1244	1680	2555	1835	1026	170	23.	8533	49.3
Project Management	52	32	143	420	354	71	17	1089	6.3
Scientific Services	1695	984	1024	643	261	24	7	4638	26.8
Administration	33	167	399	661	856	458	160	2734	15.7
Others	55	47	89	79	32	8	1	311	1.8
Total	3079	2910	4210	3638	2529	731	208	17305	

Fig 1. Percentage distribution of each grade between types of job
(for abbreviations see text)



Grade	(Number = 100%)
ASO	(3024)
SO	(2863)
HSO	(4121)
SSO	(3559)
PSO	(2497)
SPSO	(723)
DCSO	(207)

MANAGEMENT IN CONFIDENCE

Civ Service

Civil Service Department
Whitehall London SW1A 2AZ
Telephone 01-273 3000

Minister of State

The Lord Strathcona
Minister of State
Ministry of Defence
Main Building
Whitehall
LONDON SW1

7 December 1979

Dear Euan.

P&T DISPUTE AND ARBITRATION

I am pleased to say that, after several meetings with us on the P&T pay dispute, Mr McCall has agreed to recommend to his Executive Committee that the terms of reference for arbitration should be only a claim for the 1979 P&T Pay Review. He wrote to my officials yesterday enclosing such terms, and they have now gone forward. The Civil Service Arbitration Tribunal will hear the case later this month, starting on 24 December. We expect to receive their award early in the New Year.

We may not have seen the end of the recent difficulties, however. Mr McCall has told me that his decision not to press the 1978 differentials claim at arbitration was because he did not wish to delay the hearing of the 1979 claim. He will return to that issue after the Tribunal's award.

I think that the meeting we had the other day with you and your line managers was most useful. I am very pleased that we seem at long last to be in the final stages of what has been a long and bitter dispute. But, no doubt, there will be many problems yet to come. I shall, of course, keep you in touch with developments.

Copies of this letter go to the Prime Minister, Keith Joseph, Jim Prior, Michael Heseltine, Geoffrey Howe and Sir Robert Armstrong.

Yours,
Paul

PAUL CHANNON

MANAGEMENT IN CONFIDENCE

Civil Service

Caxton House Tothill Street London SW1H 9NA
Telephone Direct Line 01-213 6400
Switchboard 01-213 3000

123/12

The Rt Hon Sir Keith Joseph MP
Secretary of State for Industry
Department of Industry
Ashdown House
123 Victoria Street
London SW1E 6RD

3rd December 1979

Dear Keith

I have seen a copy of Paul Channon's letter to you of 28 November about the 1979 pay review for Civil Service Professional and Technology Staff.

I entirely agree with the line Paul suggests. There can be no question of our agreeing to any claim for arbitration which was designed to reopen a past settlement. This would be quite unacceptabel on grounds of public policy and we would be right to use our veto. Any acceptance by the Government of the claim for arbitration on the issue for 1978 would obviously carry with it repercussions throughout the public services.

I do hope in any further discussions which the Civil Service Department has with the unions that they will make every effort to persuade them to drop this idea so that the need to use our veto could be avoided.

I am sending copies of this letter to Paul Channon and the recipients of his letter.

Yours

10 DOWNING STREET

From the Private Secretary 3 December 1979

MANAGEMENT - IN CONFIDENCE

IPCS Pay Negotiations

The Prime Minister saw your Minister's letter of 28 November to the Secretary of State for Industry on her return from the European Council in Dublin. She has commented that she agrees that there should be no question of our reopening past settlements.

I am sending copies of this letter to Brian Norbury (Ministry of Defence), Ian Fair (Department of Employment), David Edmonds (Department of the Environment), Martin Hall (H.M. Treasury) and Martin Vile (Cabinet Office).

N. J. SANDERS

G.E.T. Green, Esq.,
Civil Service Department.

GB

MANAGEMENT IN CONFIDENCE

Civil Service

CHIEF SECRETARY TO THE TREASURY

Treasury Chambers, Parliament Street, SW1P 3AG

P Channon Esq MP
Minister of State
Civil Service Department
Old Admiralty Building
LONDON
SW1A 2AZ

30 November 1979

Dear Minister,

IPCS ARBITRATION

Geoffrey Howe has asked me to respond to your letter of 28 November to Keith Joseph.

As you will recall from my letters of 16 and 27 July about MOD Chief Police Officers and Royal Ulster Constabulary Superintendents respectively, I have been most reluctant to allow reopening of old claims which have previously been turned down. A part of my reasoning then was the fear of serious repercussions elsewhere. This is now one of those possible repercussions, and a major one.

The fact that the 1978 claim was turned down by the previous Administration on grounds of a pay policy with which we would totally disagree should not in any way affect our judgment here. It is the principle of reopening that is objectionable. I therefore agree with your view that we should refuse to allow arbitration on the 1978 claim.

I am copying this letter to the Prime Minister, Francis Pym, Jim Prior, Michael Heseltine, Keith Joseph and Sir Robert Armstrong.

Yours sincerely,

JOHN BIFFEN
(Approved by the Chief Secretary and signed in his absence)

MANAGEMENT IN CONFIDENCE

PRIME MINISTER

Civil Service Department
Whitehall London SW1A 2AZ
Telephone 01-273 3000

Minister of State

This is not good news.
Content, subject to the views of colleagues, that CSD should resist this attempt by the IPCS?

MS
28/XI

The Rt Hon Sir Keith Joseph Bt MP
Secretary of State
Department of Industry
Ashdown House
123 Victoria Street
LONDON SW1E 6RB

28 November 1979

Dear Keith,

You will remember the protracted dispute in which we have been engaged with the Institution of Professional Civil Servants over the 1979 pay review for Civil Service Professional and Technology staff. This has now taken a new turn which could bring further industrial action.

At a meeting with me last Friday Mr McCall, the General Secretary, stated that if negotiations on the 1979 claim broke down (which then seemed very likely) he would wish to proceed as speedily as possible to arbitration. This was what we had earlier agreed. He then made clear, however, that he wished to couple the reference on the 1979 claim with another on a claim for an allowance for all P&T staff to run from 1 July 1978 to 31 March 1979. That claim was submitted by the IPCS in January this year; it was rejected in February by the previous Administration as being incompatible with its pay policy.

Clearly there are very considerable difficulties over agreeing to a claim of this kind. It would cost some £24m for the Civil Service and the controlled fringe bodies alone. To that must be added a substantial sum for the National Health Service and the Northern Ireland Civil Service. Moreover at no stage in all the long negotiations on the 1979 claim under this Administration has that earlier one been referred to. Nor was it mentioned at the earlier hearings before the Civil Service Arbitration Tribunal in September.

The previous Administration refused to allow the CPSA and the SCPS to take their 1 April 1978 pay claims to arbitration. They had to settle within the 10% pay norm. The National Staff Side were also refused free arbitration on the 1978 London Weighting claim for the Civil Service. The IPCS had their full share of the 1978 10% settlement. This revived claim therefore amounts to asking for a much larger settlement for that year than any other group received. The other public service unions may well try to re-open their 1978 claims if we allow the IPCS to go to arbitration on this issue.

Therefore I believe that we should refuse to allow arbitration on the 1978 claim as we cannot re-open past settlements. If the IPCS mean what they say about tying this old claim to the 1979 one, it may well be, despite their earlier undertaking (and the binding terms of the Civil Service Arbitration Agreement), that they will refuse to go to arbitration on the 1979 claim. This may be their real objective - to avoid defeat at arbitration while placing the blame on the Government for the 1979 claim not having gone to arbitration.

The timetable on all this is critical. We have only until the end of next week to establish whether or not we are going to arbitration and to submit the cases to the Tribunal. Otherwise there can be no hearing until February and the IPCS would seek to blame the Government for this delay. We will need to plan very carefully but very quickly how the Government's case can best be presented to public opinion at large and to the staff.

Meanwhile I think that we must let the IPCS have our reply to their proposal on Friday of this week at the latest. I should be grateful therefore to hear by Friday morning at the latest whether you or other recipients of this letter have any reservations on what I propose - namely to refuse to allow them to go to arbitration on the 1978 claim. We are able to do this under the established system on the grounds of policy. We will of course urge that the Institution go to Arbitration on the 1979 claim but they may refuse to uncouple the two issues. We would then have to consider whether to refer the 1979 claim unilaterally. This would also cause problems and I will write to you again about this should this seem a possibility.

I am sending copies of this letter to the Prime Minister, Francis Pym, Jim Prior, Michael Heseltine, Geoffrey Howe and Sir Robert Armstrong.

PAUL CHANNON

Civil Service

10 DOWNING STREET

Tym Steve yes, thanks. P.

See NJS to MOD 9.8.79.

Has this BF now been overtaken by the formation of E (CS) Sub-Committee on Industrial Relations in the Civil Service, for which the MOD have work in hand?

Steve
1.11.79

original in GR

Air Service File

10 DOWNING STREET

THE PRIME MINISTER

10 August 1979

Dear Mr. Morgan.

Thank you for your letter of 28 July, enclosing a further letter from Mr. Sidelmann raising additional points on the pay negotiations with his union, the Institution of Professional Civil Servants.

Since Mr Sidelmann wrote again I am glad to say that the Institution of Professional Civil Servants have agreed, after a Special Delegate Conference, that the dispute over the pay of the Professional and Technology Group should be referred to the Civil Service Arbitration Tribunal. In order to deal with the union's concern that the Tribunal might not be able to consider matters of principle, which they claim are involved, we have agreed to a 2-stage reference. The Tribunal will first give an advisory opinion on those aspects which the IPCS believe form a matter of principle and subsequently, if necessary, they will be asked to award pay rates for 1979-80.

Following this agreement the IPCS have instructed their members to return to normal working at once and to take no further militant action. The Government has agreed that, where appropriate the interim 9% and 5% stages of the eventual amount due can now be paid. I am very pleased that the industrial action is now over and that this long dispute is on the road to a solution.

/I have

I have noted Mr. Sidelmann's views on the issues which he raises. The relationship of previous settlements to the medians of the pay research evidence and the value of special factors will be central to the arguments put forward by the parties to the arbitration. In these circumstances I am sure that your constituent will understand if I do not reply in detail to the questions which will be ultimately determined by the Arbitration Tribunal.

Yours sincerely

Margaret Beckett

Geraint Morgan, Esq., Q.C., M.P.

file

SECRET/MANAGEMENT-IN-CONFIDENCE DS

2

8f 10-9-79.

9 August 1979

Industrial Action in the Civil Service

The Prime Minister has seen a copy of your Secretary of State's letter of 6 August to the Lord President. She would be glad to be kept in touch with the progress of the discussions which are proposed.

NJS

8f

Roger Facer, Esq.,
Ministry of Defence.

SECRET/MANAGEMENT-IN-CONFIDENCE

MINISTRY OF DEFENCE WHITEHALL LONDON SW1A 2HB

TELEPHONE 01-218 9000
DIRECT DIALLING 01-218 2111/3

2

PRIME MINISTER

To see. We will keep you in touch with the progress of the discussions proposed by Mr Pym

MS 7/8

P.A.

SECRET
MANAGEMENT IN
CONFIDENCE

6th August 1979

MO 20/17/6

Dear Christopher,

INDUSTRIAL ACTION IN THE CIVIL SERVICE

Now that we are coming to the end of the IPCS industrial action over the pay of the professional and technology group, I should like to thank you and the Minister of State for your untiring efforts to bring the dispute to an end as quickly as possible. At the same time I think I should set out the severe effect this dispute has had on the Ministry of Defence. There is no doubt that the IPCS has brought about considerable disruption and its actions have come close (despite the Union's protestations to the contrary) to being a real threat to our operational capability, and to health and safety.

The air defence stations and radar, and the early warning system, have been maintained by a series of improvisations. Over 50 Royal Air Force and 7 United States' Air Force stations have been affected by IPCS action to varying degrees, and in a number of cases defence operations have been kept going only by the slenderest margin. Disruption at the Clyde Submarine Base has been considerable but the deterrent has been maintained with the assistance of Naval personnel. Operational training and important trials have been seriously

/ hit ...

The Lord Soames GCMG, GCVO, CBE

SECRET MANAGEMENT IN CONFIDENCE

hit by action in the Royal Maritime Auxiliary Service; submarines have been left with insufficient torpedoes; stocks of important charts and military maps have been exhausted; the Army has experienced difficulties in its workshops; and Servicemen in many areas have been without hot water and hot food at various times.

All the dockyards have been seriously affected and production has been cut to something like 20-25% of normal. About 40,000 man-weeks have been lost and refits have made little or no progress. The time lost cannot be recovered. The loss of overtime earnings by industrials has accelerated the run-out of dockyard craftsmen and there has been a build-up of ill-will locally which will make a return to normal working difficult, let alone attractive to the recruitment of new labour the prospect for which is bleak.

In the Royal Ordnance Factories production also has been down by a quarter, often through the action of a few essential staff in key positions. In some factories a large proportion of the work force has had to be laid off with pay. At the Atomic Weapons Research Establishment where, as you know, there have been special and very serious problems for some time, the vital production and trials programmes have been further delayed. More generally research, development and the checking of technical costs at our contractors have suffered. The Government is then asked to sign a 'no victimisation' clause!

All this has been brought about by the IPCS on the cheap, following the earlier example of the CPSA and SCPS. Twenty chosen non-industrials can cripple or close a production unit of 2,000 people. The pay of the twenty is made up by their Union, while the remaining staff and industrials are paid whether there is work for them or not. In other cases selective working can have a significant effect on output, but the only apparent legal remedy of dismissal seems of doubtful utility in situations of this kind.

Moreover, the conditions of service for non-industrials were drawn up in times when there was a real sense of vocation.

/ Industrials ...

Industrials cannot operate a selective strike because if a few of them hamper production the remainder are laid off without pay. Thus, not only have we been left without adequate weapons to deal with the current dispute but there is also a basic and no longer excusable distinction between industrial and non-industrial conditions of service.

I know the difficulties of securing change, but change we must. I have instructed my officials to study the possibilities fully and present some ideas. I am very glad that your people have agreed to join in. My officials will also keep in touch with Department of Employment officials. I will take every step I can to reduce the vulnerability of defence installations and operations. But by itself this cannot be enough. We need to consider changes in conditions of service and it is quite likely that we may also have to consider a change in the law. Other countries have different arrangements, which are surely worth at least examination. We cannot have our defences put at risk in this way. Nor can we be put in a position where management does not have available suitable responses. Unless we can find some solution to these admittedly very difficult issues, the action taken in this year's disputes will be a watershed, and the Government's ability to secure its objectives in defence or for that matter in other departmental programmes will be threatened. Somehow, between us all, we need to find a way to redress the balance.

I am copying this letter to the members of OD, the Secretary of State for Employment, the Attorney General, the Lord Advocate, and to Sir John Hunt.

Yours ever

Francis

Francis Pym

2

PRIME MINISTER

Good news

NJS

Civil Service Department
Whitehall London SW1A 2AZ
01-273 4400

2 August 1979

Nick Sanders Esq
Private Secretary
10 Downing Street
London SW1

Dear Nick,

CIVIL SERVICE PROFESSIONAL AND TECHNOLOGY STAFF: PAY DISPUTE

I am glad to say that we have now heard that the IPCS special delegate conference today accepted the package involving a two stage reference to the CSAT on the lines agreed by the two sides last week (my letter of 27 July). In consequence the IPCS are calling for a full return to normal working from next Monday, and have undertaken that no further industrial action will be taken in connection with this pay review.

attached NJS

We are now going to authorise as speedily as possible payment of the first 1 April and 1 August stages of the settlement (on account) in accordance with the arrangements agreed for the Civil Service as a whole.

In dealing with any press enquiries we are taking the line that we welcome the IPCS decision to accept the package which we believe provides a fair and sensible way forward which safeguards the interests of both parties.

Copeis of this letter go to Private Secretaires to all members of Cabinet, of the Minister of Transport, and of John Hunt.

Yours sincerely,
Jim Buckley.

J BUCKLEY
(Private Secretary)
2 August 1979

MANAGEMENT IN CONFIDENCE

Civil Service

10 DOWNING STREET

From the Private Secretary 30 July 1979

IPCS DISPUTE

Thank you for your letter dated 27 July. I am sorry the Prime Minister was not able to see this before she left for Lusaka. I should therefore be glad to be kept in touch with developments, so that we can report them to the Prime Minister at the right time.

I am copying this letter to Martin Vile (Cabinet Office).

N. J. SANDERS

Jim Buckley, Esq.,
Lord President's Office.

MANAGEMENT IN CONFIDENCE

Civil Service Department
Whitehall London SW1A 2AZ
01-273 4400

27 July 1979

Tim Lankester Esq
Private Secretary
10 Downing Street
LONDON SW1

Dear Tim,

IPCS DISPUTE

The Prime Minister will wish to know that following a meeting between the Lord President and IPCS representatives last week we have now made substantial progress towards resolving the procedural side of the dispute on the pay of Civil Service professional and technology staff.

Officials have put to the IPCS a package involving a two stage reference to the Civil Service Arbitration Tribunal (CSAT) which specifically allows the IPCS to raise what they assert to be an issue of principle before the Tribunal considers the appropriate rates. This proposal, which was approved in advance by the Chairman of the CSAT, has been accepted by the National Executive Committee - subject to endorsement by a special delegate conference next Wednesday or Thursday. There are still a number of hard liners in the IPCS who are for rejection but there seems a reasonable chance of the delegates accepting the proposals.

The package preserves the Government's position that any third party reference must be to the CSAT and should not involve conciliation. If it is accepted the IPCS will instruct all staff to resume normal working and we shall authorise payments of the 9% and 5% stages (in accordance with the general civil service settlement) on account.

The Lord President believes that the proposed procedure, though perhaps clumsy, is a reasonable compromise which fully protects the Official Side's interests without prejudicing those of the union or its members.

Copies of this letter go to the Private Secretaries of members of the Cabinet, of the Minister of Transport, and of Sir John Hunt.

Yours sincerely,
Jim Buckley.

J BUCKLEY
Private Secretary

MANAGEMENT IN CONFIDENCE

Dennis Mainwaring

Air Force

T. Lankester

17/7

Tim Lankester Esq
Private Secretary
10 Downing Street
LONDON SW1

Dear Tim,

INSTITUTION OF PROFESSIONAL CIVIL SERVANTS DISPUTE

As the Prime Minister knows, the Lord President met representatives of the IPCS at lunchtime today at their request. Mr McCall the General Secretary of the union had written yesterday undertaking to discontinue all action affecting the Houses of Parliament, including the St Stephen's Press from the date of the meeting. Although, of course, the effect on the Houses is only one small part of the effects of this dispute with the Professional and Technology Group represented by the IPCS, I understand that Mr McCall's undertaking has indeed been honoured today so that there is some small relief. The remaining action affecting areas such as Defence continues.

At the meeting the IPCS pressed again for some third party conciliation other than the established Civil Service Arbitration Tribunal on the basis that the dispute concerns the principle of pay determination rather than the actual rates. In response the Lord President stressed his view that the Civil Service Arbitration Tribunal was the most appropriate avenue to resolve this dispute and he urged the IPCS once again to go to Arbitration. Nevertheless, he undertook to consider the points put by Mr McCall and agreed to meet IPCS representatives again when he returned from Strasbourg and we have now fixed a meeting for Friday morning.

I am sending a copy of this letter to the Private Secretaries to the Chancellor of the Exchequer, the Secretaries of State for Defence and Employment and the Chancellor of the Duchy of Lancaster and to Martin Vile in Sir John Hunt's office.

Yours sincerely,
Jim Buckley.

J BUCKLEY
Private Secretary
17 July 1979

Original in G/R. cc CSD (MPO) Ian Gow FO

File JS

10 DOWNING STREET

THE PRIME MINISTER

17 July 1979

Dear George,

Thank you for your letter of 30 June enclosing correspondence, from Mr. D.P. Sidelmann, an official of the Institution of Professional Civil Servants (IPCS), Ministry of Agriculture, Fisheries and Food and Welsh Office Agriculture Department Branches. Mr. Sidelmann wrote to comment on the pay negotiations for Civil Service Scientists, Technologists and related grades.

I would agree with Mr. Sidelmann about the value of the work done by the scientific and technical staff in the Ministry of Agriculture, the Welsh Office and indeed elsewhere in the Civil Service. Certainly we must ensure that we pay the right rates and attract our fair share of recruits to the Civil Service. However, I cannot agree with Mr. Sidelmann that the Government has broken agreements with the union representing these staff (the IPCS) or overturned established practices for determining their pay.

I am pleased to say that the Civil Service Department and the IPCS have now reached agreement on scientists' pay for 1979. Because there was some misunderstanding about the basis of this year's pay settlement for scientists, as a gesture of goodwill the Minister of State in the Civil Service Department offered the IPCS exactly what they wanted - the pay link with the administrative Civil Service to which Mr. Sidelmann refers in

/ his letter.

his letter. This was subject to both sides reaching an agreement to avoid future misunderstandings and repercussions. Such an agreement has now been reached and detailed pay scales agreed.

Like most of the Civil Service, the pay of the Professional and Technology Group (P & T Group) is determined on the basis of fair comparisons applied through pay research, which provides details of the pay received by staff employed outside the Civil Service on work broadly comparable to that done outside the Civil Service. The Civil Service Department has made an offer to the IPCS for the P & T Group based on exactly the same interpretation of the outside evidence as offers made to and accepted by unions on behalf of other civil servants. This offer is firmly founded on the Pay Agreements and the Priestley principles of fair comparison which has been the basis for determining Civil Service pay since 1956. I could not accept, therefore, that there is anything novel or unprecedented about the Civil Service Department's offer. It is true that the IPCS claim that, historically, they have justified settlements higher than the average outside pay because of a number of "special factors", to which they have drawn attention, but in CSD's judgement, there is nothing in these "special factors" to justify more than the average pay received outside by comparable staff. If the IPCS cannot accept this judgement, the way is clear for them to refer their claim to the independent Civil Service Arbitration Tribunal, whose findings the Government will accept. This is precisely what the IPCS did in 1974, when the issues were largely the same.

I regret very much that the IPCS have not followed the well established practices leading to arbitration and, instead, have resorted to strike and other disruptive action. Certainly given the existence of the independent Civil Service Arbitration

/ Tribunal

Tribunal, I can see no justification for such action.

Mr. Sidelmann also mentions the 9 per cent and 5 per cent stages agreed with the rest of the Civil Service. For scientists and professional staff, as for all other civil servants, the Civil Service Department has followed the normal practice of refusing to pay out any money on account while there remains a significant dispute about the substantive pay of the grades concerned. In the case of the scientists, agreement has been reached and payment of these stages has been authorised. For the P & T Group, as soon as the IPCS refer their claim to arbitration, which I hope they will do soon, we can authorise payment of the first stages of the 1979 pay settlement.

I hope that what I have said in this letter and the fact that we have reached agreement on scientists will reassure you and your constituent that the Government has not broken any agreement or overturned previously accepted practice, but is determined to treat its staff, whether specialist or administrative, fairly and consistently.

Yours sincerely

Margaret Thatcher

Geraint Morgan, Esq., QC, MP.

Civil Service 2
Prime Minister

To note

PR

11/7

PRIME MINISTER

1979 PAY REVIEW FOR CIVIL SERVICE SCIENTISTS

1. We have at last reached long overdue agreement with the IPCS on the temporary Administration Group linkage for 1979 for the Science Group. The IPCS have put a ring fence around this year's arrangements; we have agreed precise scales; no current dispute remains on this review. X1

2. There is no change on the main P & T dispute; we continue to press the IPCS to go to the Civil Service Arbitration Tribunal but so far still without avail.

3. We shall continue to put out information to Departments so that they are able to present management's case effectively to their staff.

4. Copies of this minute go to Cabinet colleagues, the Minister of Transport, and Sir John Hunt.

S.

SOAMES
11 July 1979

X This means that CSD have agreed with IPCS that this year's linkage to Administration Group scales will not influence next year's settlement: starting next year, the scientists will come within PRU which will look at analogues in the private sector. PR.

JE

MANAGEMENT IN CONFIDENCE

Civil Service

DEPARTMENT OF EDUCATION AND SCIENCE

ELIZABETH HOUSE, YORK ROAD, LONDON SE1 7PH

TELEPHONE 01-928 9222

FROM THE SECRETARY OF STATE

Geoffrey Green Esq
Private Secretary to
Paul Channon Esq MP
Minister of State
Civil Service Department
WHITEHALL SW1A

5 July 1979

P 11/7

Dear Geoffrey

This is to let you know that my Secretary of State met a delegation from the IPCS on Friday, 29 June, composed of local representatives from the DES and the Research Councils together with national officials; the subject for discussion was the pay of scientists and the P&T Group.

My Secretary of State refused to accept criticism of CSD and gave them no change. He did however undertake to convey their views to your Minister.

The IPCS were singularly weak on the Science side; they had no satisfactory response as to why they were unable to agree a form of words to cover the temporary Administration Group linkage now that they had been offered exactly what they had asked for. On the P&T side, they argued cogently about the level of the settlement but were somewhat disingenuous about why they would not go to arbitration.

The IPCS were very worked up. They were particularly angry about the publication of the CSD version of the dispute, with which they strongly disagreed. This may well be because their own versions of disputes have previously had no competition.

Yours sincerely

Peter

P A WILSON
Private Secretary

Copies go to the Private Secretaries of members of the Cabinet, including the Minister of Transport, and to Martin Vile in Sir John Hunt's Office.

MANAGEMENT IN CONFIDENCE

1/c.

Original to GLR
cc Ian Gow
Civil Service
Press Office
CSD
FILE

10 DOWNING STREET

THE PRIME MINISTER

9 July 1979

Dear Ken.

You wrote to me on 25 June after seeing a deputation of the Institution of Professional Civil Servants from the Ordnance Survey Department who are in dispute with the Civil Service Department about the 1979 pay settlement for the professional and technical grades.

They are suggesting that the pay of the technical grades has previously been related to points which were on average about 15 per cent above the median of the comparable rates outside the Service. You requested a detailed note about the issue in the dispute and the view the Government takes on the matter.

I hope that the note, which I now attach, will help to explain the background to the dispute and enable you to reassure your constituents that there is no question of the Civil Service Department's discriminating against the Professional and Technology staff in determining their pay. The Government fully appreciates the contribution which they make to the community and is determined to ensure that their pay is settled in precisely the same way as that of other civil servants. If the Institution cannot accept the Civil Service Department's offer, the way is clear for them to refer the issue to the Civil Service Arbitration Tribunal, whose findings the Government will accept.

/I am most

M

I am most anxious that the pay negotiations should be brought to a speedy and fair conclusion. The best way to achieve this is to refer the matter to arbitration and I very much hope the Institution will take this course as quickly as possible.

Yours sincerely,

Margaret Thatcher

Ken Weetch, Esq., MP.

MANAGEMENT IN CONFIDENCE

2

PRIME MINISTER
To see
MJS

CIVIL SERVICE DEPARTMENT
WHITEHALL LONDON SW1A 2AZ
Telephone 01 273 5400

Sir Ian Bancroft G.C.B.
Head of the Home Civil Service

AMT.

T Lankester Esq
10 Downing Street
London SW1

5 July 1979

Dear Tim,

IPCS PAY DISPUTE

Ministers will wish to be aware that as the latest development in the dispute with the IPCS, members employed by the Property Services Agency at the Palace of Westminster have been instructed by their union to begin a two-week strike from Monday, 9 July. PSA expect the degree of support for the strike to be high. The total of 28 staff, controlling 180 industrial staff, are responsible for supervising, running and maintaining heating, lighting, air conditioning, fire alarms and public address systems and lifts, and for the standby generators, which would normally supply emergency power for these in the event of failure of the supply from the National Grid. We are asking PSA to make an urgent assessment of what effect the absence of the supervisors might have on the industrial civil servants who work to them. No employees of the House of Commons Commission are involved.

It is expected that the primary cause of disruption to members of both Houses may be caused by picketing, if this occurs. This could affect the delivery of supplies, delivery and despatch of mail, and the supply of Parliamentary printing.

Although no staff of HMSO normally at the Palace of Westminster belong to IPCS, SOGAT drivers responsible for all traffic between the Parliamentary Press, HMSO warehouses and the Palace may be expected to refuse to cross picket-lines. If this happens such Parliamentary printing as is currently being undertaken will not reach the Palace, replenishment of stationery will be halted, and contingency action will have to be taken. We are getting advice on how far picketing would conflict with the rules, enforced by the police, about maintaining access to the two Houses.

I am sending two copies of this to the Private Secretaries to Permanent Secretary Heads of departments, so other Cabinet Ministers can be kept informed. Copies also go to John Stevens, Richard Prescott, Martin Vile and Charles Reynolds (Sir Robert Cox's office).

Yours sincerely,
David.

DAVID LAUGHRIN
Private Secretary

MANAGEMENT IN CONFIDENCE

CONFIDENTIAL

2 Vcc Mr Lankester
Cust Service
PRIME MINISTER
to see
MS

Civil Service Department
Whitehall London SW1A 2AZ
01-273 4400

29 June 1979

Tim Lankester
10 Downing Street
LONDON SW1

Dear Tim,

IPCS PAY DISPUTE

1. David Laughrin wrote to you on 22 June about the industrial action taken that day by the IPCS. This letter is to bring you up to date for the return of the Prime Minister from Japan.

2. Limited industrial action continues, with a pattern of localised action for either one day or one week. Targets may well change next week but at present action is concentrated on the following MOD units:

a. The Hydrographer's Department, Taunton which produces naval charts and where production has stopped;

b. The Royal Ordnance Factories at Bishopton, Chorley and Radway Green producing military supplies;

c. The Aircraft servicing and storage unit at Kemble, Gloucestershire, which supplies spare parts to operational aircraft.

Though disruptive none of this action is at present jeopardising essential operations, health, safety or security. In addition, however, a number of other areas are affected by the IPCS withdrawal of goodwill which is causing disruption of work programmes in the dockyards and reducing production in other Ordnance Factories.

Some developments are expected next week with half-day walkouts at Portsmouth Harbour Control Centre and contingency arrangements are in hand to deal with this.

3. The Minister of State has again seen an IPCS delegation led by their General Secretary. It is Mr Channon's view that a solution to the scientists dispute ought to be possible quite quickly, provided the IPCS do not choose to hang out on the scientists until the Professional and Technology issue is resolved. Officials will resume negotiations early next week. On the pay of the Professional and Technology Group, the gulf between management and unions remains wide. Sir Ian Bancroft has, on the Minister of State's behalf, written to the IPCS today setting out fully the reasons for not being able to offer more than has already been put on the table. This accords with the Prime Minister's views.

We shall, of course, continue to report as the situation developes.

I am sending copies of this letter to the Private Secretaries of members of Cabinet (including the Minister of Transport), and to Martin Vile, in Sir John Hunt's Office.

Yours sincerely,
Jim Buckley.

J BUCKLEY
Private Secretary

MANAGEMENT IN CONFIDENCE

Civil. Service. 2

Prime Minister

Sitrep. on today's strike action.

R

22/6

CIVIL SERVICE DEPARTMENT
WHITEHALL LONDON SW1A 2AZ
Telephone 01 273 5400

Sir Ian Bancroft G.C.B.
Head of the Home Civil Service

T Lankester Esq
10 Downing Street
London SW1

22 June 1979

Dear Tim,

IPCS INDUSTRIAL ACTION

Today's strike call by the IPCS was made to all members of the union but perhaps because substantial numbers (45-50%) have already received administration-linked pay settlements, the response has varied substantially from group to group.

There was high response among Professional and Technology Officers, particularly in areas supervising industrials such as those at the Royal Ordnance Factories, HMSO, Royal Mint, GCHQ and British Nuclear Fuels, where the response has been virtually 100%. (This may be a result of a long-running IPCS dispute over differentials between industrials and non-industrials). There was also a substantial response in PSA.

Among Scientists the pattern is more difficult to discern but it seems that about two-thirds of staff in the major Government laboratories joined the strike.

From other IPCS grades, the support for the strike has been very mixed. It possibly amounts to about 33% including Inland Revenue valuers, Information Officers in some Departments, Librarians and Photographers.

Turning to specific areas, public attention has been focussed on Heathrow Airport. While the CAA say that absenteeism among Air Traffic Controllers was only 10%, interruption to power supplies caused severe disruption to air services; 25% of services from Heathrow were maintained during the day; the position will remain the same, or perhaps slightly improve during the evening. Some difficulties could also arise tomorrow. Despite strike action at the meteorological Office, weather reports for air traffic and shipping were maintained. One result of the strike has been the laying off of several thousand industrials because IPCS grades

were not present to provide supervision. Production stopped at the Royal Mint, HMSO presses, British Nuclear Fuels and in Royal Ordnance Factories. No firm indications of the targets for the forthcoming campaign of selective industrial action have been received; it is assumed that this will mainly affect the dockyards, Government printing and the Royal Mint.

... For your general information, I am attaching to this letter two schedules setting out the basic details of the offers made to the IPCS, their claims, and the cost of these.

I am sending two copies of this note to Private Secretaries of Permanent Secretary Heads of Departments to keep them informed of the position and to enable them to inform Ministers of the position, and to Sir John Hunt.

Yours sincerely,
David.

DAVID LAUGHRIN
Private Secretary

PROFESSIONAL AND TECHNOLOGY STAFF

Numbers: Civil Service (including consequentials): 51,300
Fringe Bodies : 7,000
Total : 58,300

Grade	Present Maximum	Current Pay Bill £m	IPCS Claim	% Increase	Cost Increase £m	CSD Offer	% Increase	Cost Increase £m	Difference %	Difference Cost £m
PPTO	8729		12675	45.2		10700	22.6			
PTO I	7064		10150	43.7		8350	18.2			
PTO II	5739		7850	36.8		6675	16.3			
PTO III	4869		6750	38.6		5625	15.5			
PTO IV	4326		6375	47.4		5050	16.7			
Over all:										
Civil Service		263.0		43.3%	113.8		17.5%	46.1	25.8%	67.7
Civil Service + Fringe Bodies		307		43.3%	132.9		17.5%	53.8	25.8%	79.1

SCIENTISTS

Numbers: Civil Service (including consequentials): 20,000
Fringe Bodies : 12,000

Grade	Present Maximum	Offer/Claim
PSO	8461	11300 (33.6%)
SSO	6898	8700 (26.1%)
HSO	5448	6737 (23.6%)
SO	4415	5480 (24%)
ASO	3303	4030 (22%)

	Old Pay Bill	New Pay Bill	Cost
Total (Civil Service)	£103.1m	£130.6m	£27.5m (26.7%)
Total (Fringe Bodies)	£62.5m	£79.2m*	£16.7m* (26.7%)
Overall Total	£165.6m	£209.8m*	£44.2m* (26.7%)

*Approximate Estimate only.

Prime Minister Seen by the P.M.

AMS.

MR WHITMORE

Strike by Air Traffic Controllers

The Prime Minister will want to be aware that there is likely to be severe disruption at UK airports tomorrow. As she already knows, the Institution of Professional Civil Servants has called their members out on a 24 hour strike. The air traffic controllers are represented by the IPCS, and although they have actually settled along with the main Civil Service groups, the IPCS are asking them to strike in sympathy. Individual branches are deciding whether or not to accept the strike call.

Controllers at the London Air Traffic Control Centre and at Heathrow are expected to come out. However, the Civil Aviation Authority are confident that enough will report for duty to make it possible for air services to be maintained at up to 25 per cent of normal. The controllers have in any case agreed to provide basic NATO air defence commitments.

At other airports and at the Scottish Air Traffic Control Centre the controllers are expected to work normally.

RAF Northolt is operated by civilian controllers. Contingency plans have accordingly been made for the Prime Minister's aircraft to return to RAF Benson which have military controllers. We will let you know the final decision on this tomorrow.

21 June 1979

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Civil Service

DEPARTMENT OF TRADE 1 VICTORIA STREET LONDON SW1H 0ET Telephone 01-215 7877

From the Secretary of State

Dictated note
to Strasbourg.
21/6

Tim Lankester Esq
10 Downing Street
Whitehall
London SW1

21 June 1979

Dear Tim,

CIVIL AVIATION AUTHORITY - EFFECT OF IPCS STRIKE CALL

You should be aware that the CAA now expects the 24 hour strike called by the IPCS tomorrow to cause major problems for civil aviation because of the anticipated response of air traffic control officers (ATCOs) in certain areas.

The ATCOs are represented by the IPCS but have no pecuniary interest in this strike; their pay is linked to the central Civil Service pay settlement which took effect in April. They have a strike-free record and sought exemption on safety grounds from the IPCS call which the union refused to grant. Individual branches have been left to make their own decisions and as a result the ATCOs at the London Air Traffic Control Centre (LATCC) at West Drayton have been advised to strike. The extent of likely support is not known, but the result could be major disruption in the London Flight Information Region which covers most of the UK south of the Scottish border. ATCO representatives at LATCC have agreed to provide basic NATO air defence commitments.

ATCOs at Heathrow are also expected to come out but at other airports and the Scottish Air Traffic Control Centre are expected to work normally.

contd/.....

The CAA yesterday issued a NOTAM (Notice to Airmen) to warn airlines that there may be disruption on Friday; they will have to decide very soon on whether to issue a much more severe warning. The CAA/ National Air Traffic Services will also have to decide what arrangements it may be possible to make in respect of overflying UK airspace.

The situation is still very confused and subject to rapid change. The CAA is continuing its efforts to persuade the IPCS to change its line and to make it clear that the CAA is not involved in the dispute.

I am copying this letter to Stephen Wall (FCO), John Chilcott (Home Office), Richard Prescott (Paymaster General's Office), Jim Buckley (CSD) and Martin Vile (Cabinet Office).

Yours sincerely,

Tom Harris

T G HARRIS
Private Secretary

Reference .....

PS/Secretary of State

cc PS/MOS(T)
PS/PUSS(T)
PS/Secretary
Mr Steele
Mr Dick CAP
Mr Roberts CAIR
Nrs Rowe Inf
Mr Payne CAP3
Mr Gildea CAP1

CAA - EFFECT OF IPCS STRIKE CALL

Further to my earlier minute, I have now had another report from the CAA.

During this evening, by applying flow control procedures, the National Air Traffic Services (NATS) will reduce traffic to about 20% of normal. The CAA has now been able to reach an understanding with ATCO/IPCS representatives whereby the union will authorise sufficient ATCOs to work at the London Air Traffic Control Centre (LATCC) from midnight to maintain air services at up to 25% of normal. The CAA is confident that more than enough ATCOs will report for duty to give effect to this agreement. It is unlikely to be possible to handle more than 25% of normal traffic because of the effects of the strike upon telecommunications and power supplies. The CAA must take account of the availability of maintenance engineers, the extent to which radar will remain effective, and the lack of back-up power once LATCC is switched to the National Grid supply (from its normal diesel generated supply) when the PSA engineers walk out at midnight.

As the Scottish Air Traffic Control Centre is still expected to work normally, overflying aircraft will be directed north over Scotland and, with the cooperation of Shannon Control, it is hoped also to operate a southerly track. On the other side of the Atlantic, Washington and Gander have been advised that these restrictions may apply. Airlines are being told.

A slight worsening in the position is that ATCOs at Glasgow airport and at Sumburgh have now decided to support the strike.

E W BESTON
CAP 2B
21 June 1979

Cab Secretary

Prime Minister

To note - a further report on the dispute with the IPCS. Strike action on Friday now virtually certain.

PRIME MINISTER

My Private Secretary's letter of 15 June reported on the current dispute with the IPCS on the pay of the Professional and Technology and Science Groups. Since then there have been further negotiations on the latter which culminated in Paul Channon summoning in representatives of the IPCS last night on both disputes.

2. Having emphasised that Ministers were determined that these staff should be treated fairly and that there was no question of their being discriminated against he urged the IPCS to call off the strike planned for Friday. He pointed out that there could be no justification whatsoever for it; on Scientists the IPCS had been offered exactly what they had asked for - subject only to agreeing to conditions which would prevent repercussions or future misunderstandings. The P & T grades were included in pay research and had had an offer, substantial by any standards, calculated in exactly the same way as those which had produced settlements for other groups. If the IPCS were not able to accept the offer their proper recourse was to the independent Civil Service Arbitration Tribunal.

Between 15 and 22%

3. Negotiation between officials and the General Secretary of the IPCS had produced an acceptable conditions package on Scientists but Mr McCall had been unable to persuade his executive committee to accept it. Evidently he is not in control to the extent which he used to be. He emphasised the anger and resentment of his members and made it clear that there was no possibility whatsoever of calling off Friday's strike.

4. I am sure that there is no scope or justification for any further concession on either the Science or the P & T negotiations. Many civil servants are ignorant about what has already been offered and what the basis of management's case is. CSD last night released a Press Notice following Paul Channon's meeting. Officials wrote to Principal Establishment Officers in all departments last week about communicating with staff and have done so again today. Sir I Bancroft is also emphasising today to Permanent Secretaries the need for effective communication. Paul Channon will be seeking opportunities to put our case across through press, radio and TV between now and Friday. It is important that colleagues should see that their people concerned are aware of management's side of the story, the nature of the dispute and what is already on offer.

5. Some of the effects of a strike were covered in my Private Secretary's letter. Inevitably, it is not easy to estimate the damage a strike will cause but it is expected that it will be possible at least to provide safety cover in the more sensitive areas such as early warning stations and the air traffic control centre at West Drayton by local agreement with union members. At the Meteorological Office the hope is that not more than 25 to 30% of staff will strike so that services can be maintained to air traffic. There is greater anxiety about the tug and jetty services provided to navy vessels by the Royal Marine Auxiliary Service and this is one area which seems likely to be affected by the further selective action threatened by the IPCS. GCHQ is expected to be hit by the strike and, contrary to earlier indications, strong support for the strike is expected at at least two British Nuclear Fuel sites, although there is no hazard to safety.

6. We are continuing to gather intelligence about the likely impact of Friday's strike and the subsequent selective action. I shall make further reports as circumstances demand. In the meantime, we have arranged for copies of a note, explaining the position, to be placed in the Government Whips' Offices in both Houses in order to inform Members and Peers of the present position.

7. Copies of this go to Cabinet colleagues, the Minister of Transport, the Chief Whip and Sir John Hunt.

S.

SOAMES
20 June 1979

CONFIDENTIAL

VB

Civil Service
cc last para

10 DOWNING STREET

From the Private Secretary

20 June 1979

Dear Jim,

I have shown the Prime Minister your letter of 15 June about the threatened action by members of the Institution of Professional Civil Servants. She fully agrees that it would be wrong to improve your offer for Professional and Technology grades to a level above that indicated by the pay research evidence in order to secure a negotiated settlement.

I am sending copies of this letter to the Private Secretaries to members of the Cabinet, including the Minister of Transport, and to Martin Vile (Cabinet Office).

Yours ever.

Tim Lankester.

Jim Buckley, Esq.,
Lord President's Office.

CONFIDENTIAL

JS

cc Mr James
Mr Whitbourn

CONFIDENTIAL

Prime Minister
Strike action in prospect by government engineers etc. We must clearly stand firm - they are asking for more than PRU has recommended! To concede would not only cost money, but would also run clean counter to the priority we accord to the private sector. - Hope we must stand firm. MT 18/6

Civil Service Department
Whitehall London SW1A 2AZ
01-273 4400

15 June 1979

Tim Lankester Esq
10 Downing Street
LONDON SW1

Dear Tim,

A one-day strike has been called for 22 June by the Institution of Professional Civil Servants (IPCS) which represents members of the 81,000 Professional and Technology (engineers, architects, surveyors etc) and Science grades. Selective industrial action in certain vulnerable areas will follow. The Association of Government Supervisors and Radio Officers (with a membership of over 10,000, mainly in the Ministry of Defence) will probably strike.

2. The main problem lies with the Professional and Technology (P&T) Group. Negotiations based on evidence from the Pay Research Unit have not resulted in a settlement. IPCS claim significantly more than the pay research evidence indicates. To concede the amounts beyond pay research would cost £68m for the Civil Service and nearly £120m counting all public service consequential settlements. There now seems little prospect of a negotiated settlement. And the IPCS will not agree to arbitration. Paul Channon will therefore call in Mr McCall the IPCS General Secretary early next week to make clear to him the Government's view that IPCS are quite wrong to ignore the established arbitration machinery which could resolve this dispute. We will brief the press on the Government's view.

3. The level of P&T, and Scientists, pay has been subject to persistent, well directed, and justified criticism in the past as being too high relative to the pay of similar people outside the service. I am quite clear that it would be wrong to improve our offer for P&T grades to a level above that indicated by the pay research evidence in order to secure a negotiated settlement. Not only would that cost a lot of money but the P&T grades would be treated much more generously than the rest of the Civil Service.

There is more room for flexibility on scientists (a smaller group) who were not included in pay research this year. Paul Channon saw Mr McCall today and offered a link with the Administration Group, subject to certain conditions. Discussions are, however, adjourned until Monday.

4. The effects of the one-day strike will vary from department to department and will greatly depend on the degree to which the IPCS pickets are successful in preventing staff of other unions from working. We have, however, taken steps to inform all staff of the consequences of industrial action. It is, however, IPCS policy not to take industrial action affecting public health and safety and IPCS members at British Nuclear Fuels Limited, including Windscale, are being advised not to participate in the action. A strike by scientists, who work in long-term research and development, is unlikely to have a significant effect. Major problems will arise in those departments employing P&T staff, who provide technical services such as the supply of power, heat, light and air conditioning to computers and to key establishments as diverse as the Houses of Parliament and Fylingdales. Air Traffic Controllers, who are Civil Aviation Authority staff, are not expected to be involved but PSA staff at the West Drayton Air Traffic Control Centre may take strike action which could affect air traffic. Longer-term selective action could affect nuclear submarine bases, dockyards, armament factories, Home Office labaratories and Government printing. We understand that the IPCS National Executive Committee will decide next week where and when to withdraw key personnel, but clearly the two main targets will be the major employers of IPCS grades - Ministry of Defence and Department of the Environment. Where IPCS grades supervise industrial civil servants in MOD, PSA, HMSO, and the Royal Mint one immediate consequence will be the lay-off of industrial staff who would be unable to work without the supervisor. I will report when the targets for the selective longer-term industrial action become clear.

I am copying this letter to the Private Secretaries of Cabinet Ministers, including the Minister of Transport, and Martin Vile (Cabinet Office).

Yours sincerely,

Jim Buckley.

J BUCKLEY
Private Secretary
15 June 1979