

14 October 1983

PRIME MINISTER

## MAINTAINING THE STRENGTH OF THE SCIENCE BASE

1. I have seen a copy of the minute to you from the Secretary of State for Education and Science (dated 15 September) on maintaining the strength of the science base.
2. From the remarks made at your Seminar on Science, Technology and Industry, it is clear that the private sector of industry sees the successful exploitation of a strong science base as a key ingredient in developing a modern, competitive industry.
3. Scientific achievement is one league table where I believe the UK is still top in per capita terms and second probably only to the USA in absolute terms. If the UK is to have a prosperous future, it is imperative that this position is maintained and, of course, exploited far better than has been the case in the past.
4. The Research Councils, like our Universities, undoubtedly developed flab during the years of rapid expansion in the 1950s and 1960s. But the flab has been lost in the last ten years as new scientific and engineering opportunities have had to be accommodated in a Science Vote which has been static in real terms.
5. Now, as I have seen at first hand both as a member of SERC and in the last two years as a member of the Advisory Board for the Research Councils, the excellence of our science base is starting to be eroded through insufficient funding. The evidence is:
  - (a) a substantial fraction of first-class proposals from Universities to Research Councils in existing areas of science are not being funded (these are the so-called

*But the economy has been static in real terms*



"alpha" proposals which are judged to be essential to the development of the subject in question: no merely desirable "beta" proposals have been funded for many years now);

(b) we are not moving as fast as our competitors into some of the exciting new areas of science: neuroscience, biomolecular electronics, artificial intelligence, remote sensing, robotics, novel materials, medical diagnostic techniques;

(c) there is a renewed 'brain drain' amongst young people in some of the most exciting areas of science.

6. For these reasons, I strongly support the Secretary of State's bid for additional resources for the Science Vote in 1984/85 and subsequent years. I also welcome his intention to allocate the resources in a way which ensures that they are used to meet the problems I have referred to above and to continue the reform of research councils' organisation so that they become more flexible and better able in future to respond rapidly to the new scientific opportunities.

7. On the question of offsetting savings, raised in the Secretary of State's minute, I believe there are opportunities for these in the rest of the UK's R & D spend and that these opportunities will be more readily identifiable by Ministers after the study I am currently doing for you on the Government Research Capability (my minute to you of 2 August).

8. It is too early in the study for me to predict where savings might be found but it seems unlikely that it will be possible to find arguments to sustain the privileged position of the Ministry of Defence and the United Kingdom Atomic Energy Authority whereby they conduct substantial programmes of basic research themselves. As Professor Kingman pointed out in your Seminar, there are considerable difficulties in predicting which areas of basic research are likely to be relevant to specific technologies.



9. The Secretary of State for Defence is right in saying in his minute to you of 4 October that there are one or two technologies, such as nuclear weapons technology, where MoD has to do its own basic research. But I very much doubt that this argument can be used to justify more than a part of the £330M research spend of MoD or the £50M spend of UKAEA on long-term and non-nuclear R & D.

10. However, I must advise against making offsetting savings for the 1984/85 additional bid for the Science Vote by anticipating the outcome of my study. It would be better to treat the 1984/85 bid as an additional R & D cost and make plans to offset, in whole or in part, the 1985/86 and 1986/87 bids through properly planned savings.

11. It is tempting, of course, to postpone the increase in the Science Vote until the year when savings can accrue. I believe that this would be a disastrous course of action. It will be much harder (and more expensive) to restore the quality of our science base once it has started to erode rapidly; we must act quickly now to maintain its quality. Additionally the momentum created by your Seminar, which promises to redouble peoples' efforts in science and its application, will be lost.

12. I have copied this minute only to Sir Robert Armstrong.

*RBN*

ROBIN B NICHOLSON

Cabinet Office

14 October



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MR TURNBULL, No 10

MB

I attach my minute for the Prime Minister on the subject of  
'Maintaining the strength of the science base'.

2. As we agreed, I will confer with Oliver Letwin on his  
return from Blackpool on the subject of producing a brief  
handling note for the Prime Minister for her meeting on  
19 October.

RBN

ROBIN B NICHOLSON

cc: (with attachment) Mr Letwin