



file

VC

cc Dr Nicholson

10 DOWNING STREET

THE PRIME MINISTER

21 May, 1984

Dear Sir Alec,

Many thanks for sending me your note on CERN and the UK. I understand that you met Sir John Kendrew and his Committee last week when you were able to give them a copy of your note and speak to it. I have read your note with interest and look forward to seeing the report from the Kendrew Committee which will address the critical issues which you raise.

Yours sincerely

Raymond Stalder

Sir Alec Merrison, D.L., F.R.S.

ECL

18 May 1984

PRIME MINISTER

LETTER FROM SIR ALEC MERRISON ON CERN

Sir Alec Merrison is now President of the Council of CERN and it is natural that he should be concerned about the review being carried out by Sir John Kendrew and his Committee on High Energy Particle Physics (HEPP).

2. The Kendrew Committee had a formal meeting with Merrison earlier this week at which he gave them the same document that he has sent you. The Committee will be seeing him again when they visit CERN in October.

3. Much of Merrison's document would be common ground between him and the Committee but I think they will question the logic of his arguments in paragraphs 9 and 10 which, in effect, propose the view that HEPP research should be done regardless of cost.

4. On Merrison's paragraph 11, present evidence suggests that many European countries secretly admire our decision to review our HEPP activities although they may publicly say otherwise. There are currently no consequential problems with our discussions in Europe on scientific collaboration.

5. My advice is that you should take a neutral stance on the issue until the Kendrew report is available at the end of the year.
I have drafted your reply accordingly.

MBN
ROBIN B NICHOLSON
Chief Scientific Adviser

020
W.0379

file
18 May 1984

MR TURNBULL, NO 10

CERN AND THE UK

- with AT?
- Attached are a minute for the Prime Minister and a draft
 - reply to Sir Alan Merrison prepared after consultation with the Secretariat of the Kendrew Committee in DES.

I am copying this and the attachments to Elizabeth Hodkinson (DES).

RBN
ROBIN B NICHOLSON
Chief Scientific Adviser

GR not types
to reproduce

DRAFT LETTER FROM THE PRIME MINISTER TO SIR ALEC MERRISON

Many thanks for sending me your note on CERN and the UK.

[As you know, I have always enjoyed my visits to CERN and admire the research which is carried out there.]

I understand that you met Sir John Kendrew and his Committee last week when you were able to give them a copy of your note and speak to it.

I have read your note with interest and look forward to seeing the report from the Kendrew Committee which will address the critical issues which you raise.



18/5 ✓

10 DOWNING STREET

From the Private Secretary

DR. NICHOLSON

CERN AND THE UK

Professor Merrison has sent the Prime Minister the attached note on CERN and the UK. I propose to put this in the weekend box. Could you let me have comments on the paper and advice on the terms in which the Prime Minister could reply, by Friday.

I am sending a copy of the note to Elizabeth Hodkinson (Department of Education and Science).

HT

15 May 1984

✓

TELEPHONE: BRISTOL 24161



THE UNIVERSITY,
SENATE HOUSE,
BRISTOL,
BS8 1TH.

VICE-CHANCELLOR:
SIR ALEC MERRISON, D.L., F.R.S.

22/5
14th May 1984

Dear Prime Minister,

Here is the short note on CERN and the U.K.
which I said I would send to you.

It is, of course, partisan but as I said in
my previous letter it is a matter on which I feel
deeply.

With all good wishes

Yours sincerely
Alec Merrison

The Rt. Hon Mrs Margaret Thatcher M.P.
10 Downing Street
London SW1

A new view of the universe

1. Between them the nuclear physicists* and the astronomers have provided us in this century with an entirely new view of the physical universe, a revolution in the way man looks at the world which has no parallel in history.
2. Apart from its intellectual and cultural significance the practical consequences of this revolution for the way we live could not have been more profound. The development of the idea of the nuclear atom, with electrons in well ordered and definable orbits, has provided the basis for virtually the whole of modern technology both in the physical and biological fields. It has provided us with a new source of energy and with weapons of hitherto unimaginable destructive force, with profound consequences for the whole of mankind.
3. Nor is there the slightest reason to believe that we have passed some turning point and that we now stand on some sort of plateau in our knowledge and the way we apply it. Arguments of this kind were invented at the end of the nineteenth century for the situation in science as it then was and proved, of course, entirely specious. There is no reason for believing that we have become any better at foreseeing the unforeseeable.
4. The speed of the development of new science and its applications has been breathtaking. In the late 1920s and early 1930s Rutherford was severely criticised by his fellow scientists for leading the Cavendish Laboratory into nuclear physics which 'was disconnected from the mainstream of physics and had no practical consequences'.** It was just 13 years between the discovery of the neutron in 1932 and the use of the first nuclear weapon at Hiroshima.

Nuclear Physics in the UK since World War II

5. After the second world war the instruments required to do nuclear physics, though expensive, were on a scale which enabled them to be housed in universities. It gradually became apparent that nuclear accelerators with the capacity to do physics at an international level, were beyond this scale and so in the 1950s and 1960s accelerators accessible to university users on a national basis were built at the Rutherford Laboratory at Harwell and at Daresbury. In the early 1970s it

* Shorthand for nuclear physicists and elementary particle physicists, just as 'nuclear physics' will be used throughout as shorthand for nuclear physics and elementary particle physics.

** I was told this by the late Sir James Chadwick, Rutherford's principal lieutenant, the discoverer of the neutron, and the man as responsible as anyone for the UK development of nuclear energy and weapons.

again became apparent that elementary particle physics at the highest international level required something more and it was decided to concentrate our efforts almost entirely at CERN, which had been set up in the mid-1950s. Although painful that was certainly, particularly in the light of major developments at CERN since then, a correct decision.

The present position at CERN

6. By a series of bold and imaginative decisions CERN is now as well equipped to do the physics of the late twentieth and early twenty-first century as any laboratory in the world. UK physicists and engineers have played a critical part in bringing CERN to its present world eminence.
7. Over the years CERN has become much more than simply a European laboratory. It is significant that when the new accelerator LEP begins work in 1988 one of the first four experimental groups, altogether about 150 physicists, will be made up of Europeans, Russians, Americans and Chinese, led by an American, Sam Ting, born in mainland China.

The UK and its withdrawal from CERN

8. Having seen none of the arguments which have led the AERC and the SERC to set up their joint enquiry into this possibility I can only speculate about the reason for their decision to do so. But let me assume that the arguments run along the lines that it is too expensive and the money could be better used to support other kinds of scientists.
9. Unquestionably it is expensive to do elementary particle physics, though not that much more expensive than doing biology, for example, as one might immediately suppose. So one is driven to ask questions, if one follows this line, which have not and cannot have an answer; such as, will we do more and better science if we stop doing elementary particle physics.
10. All one can say is that elementary particle physics is fundamental to our building up a view of the physical universe, and that there is absolutely no reason to suppose that the next 50 years will be less surprising in this respect than the last 50 years.

11. The one certain consequence that would follow from our withdrawal from what is commonly acknowledged to be one of the world's finest laboratories would be to cast doubt upon our reliability as partners in any international scientific or technological enterprise at a time when we need the rest of the world at least as much as it needs us. To my mind it would be a simple assertion of the UK's unwillingness to maintain, let alone extend, its position as a world leader in science.

A.W. Merrison
14.5.84