

PROFESSOR BLACKETT VICTORIA UNIVERSITY MANCHESTER

~~OF~~ ACTION PROPOSED
~~REFERRING CABLE WEISSKOPF STOP CABLES FROM JOLIOU OPPOSE~~
WEISSKOPF'S CABLE
WAS ~~DELAYING PUBLICATIONS STOP THEREFORE PROPOSED ACTION WAS~~
~~DROPPED~~
~~STOPPED~~ HERE YESTERDAY AND ~~SOME~~ PAPERS WILL APPEAR ~~IN NEXT~~
~~ISSUE~~ PHYSICAL REVIEW STOP LETTER FOLLOWS SZILARD

Apr. 14

Not sent

Hotel King's Crown
420 West 116th Street
New York City

April 11th, 1939

Dear Blackett:

Your cable to Weisskopf has been sent on to me from Princeton for our information at Columbia. There will be another discussion of the whole matter this afternoon with Pegram who is in charge of the Physics Department, and I shall send you a cable to-morrow to let you know what is being done here.

I am sending this letter with the Columbus, which is sailing today, and am therefore necessarily limited to a few remarks. I hope these remarks will be sufficient for the present. The Aquitania is sailing on Saturday, and by then I can prepare a more detailed account if it should prove necessary to do so.

~~The following~~

The number of neutrons emitted per fission seems to be larger than one, but I personally am not certain of this point. Others are more firmly convinced of this at present than I am. There is a concensus of opinion that the reaction, if it goes via thermal neutrons, will not be sufficiently violent to cause concern.

If no paraffin or water is used the neutrons are probably slowed down by inelastic collisions to about 100 000 volts. It is then at present anybody's guess whether capture of these neutrons will or will not be sufficiently small to make the

reaction possible. The fission cross section which we are measuring for neutrons of about 100 000 volts is small, so that the amount of material required is quite large. It is not too large however for practical applications, if carried by boat rather than by plane.

The following is strictly for your personal information only: It is this reaction via these non-thermal neutrons which is causing concern. At first sight one might think that in the presence of neutrons (and neutrons may always be present, for instance due to cosmic rays) the reaction could not lead to very high pressures because as soon as the pressure increases the density decreases, and the reaction is stopped due to this decrease in density. This is a fallacy; it requires only simple tricks to get around this difficulty and to arrange matters so that extremely high pressures can be reached. I can explain this more fully some other time. All this, of course, presupposes that capture does not overcompensate fission in the region of 100 000 volt neutrons.

This is all for today. With best wishes,

yours sincerely,

A handwritten signature in dark ink, appearing to read 'Leo Szilard', written in a cursive style.

(Leo Szilard)

*W. I. det
phys. and*

Hotel King's Crown
420 West 116th Street
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This is all for today. With best wishes,

yours sincerely,

(Leo Szilard)

Hotel King's Crown
420 West 116th Street
New York City

April 14th, 1939

Dear Blackett:

Referring to your cable which I received from Weisskopf I have to inform you of the following: A cable correspondence with Joliot showed that Joliot is not inclined to delay his future papers and apparently is of the opinion that it is too late for the proposed action which might have been a reasonable solution if it had been applied at an earlier date. Influenced by Joliot's stand and also by papers which have been printed in the C. R., it has been decided here to publish the papers which have been sent to Physical Review some time ago and which were so far held up. A cable will be sent to you today or to-morrow to inform you that no action along the lines suggested by Weisskopf will at present be pursued in this country. I personally regret this decision for reasons which I have to explain to you some other time, this being a hurried note only. It is conceivable that there will be a change of attitude, and if that happens undoubtedly you will be informed as soon as possible.

With best wishes,

yours sincerely,

(Leo Szilard)

December 6, 1963

Professor P.M.S. Blackett
Physics Department
Imperial College
London, England

Dear Blackett:

It was a pleasure talking to you about six weeks ago.
I also enjoyed very much talking to Gwynne Jones, whom
you had suggested that I see.

I have now written down my thoughts on the subject
of our discussions in London and I am enclosing an unedited
rough draft of the manuscript in which these thoughts are
embodied. Any comments which you might care to make if your
time permits, would be appreciated and would be held in
confidence.

Yours sincerely,

Leo Szilard

P.S. Enclosed is also a photocopy of the article printed in
the NEW REPUBLIC in October, 1949. I have marked the passage
on the first page, which I read to you, on the margin.

LS

IMPERIAL COLLEGE OF SCIENCE AND TECHNOLOGY
(UNIVERSITY OF LONDON)

OFFICE: PRINCE CONSORT ROAD

SOUTH KENSINGTON,
LONDON - - S.W.7

Your Ref.

Telephone: KENSINGTON 5111

Our Ref.

16th January, 1964.

Dear Szilard,

Many thanks for your letter and the two
articles which I find most useful.

I have seen quite a lot of Gwynne Jones
and he told me how interesting he found his
talk with you.

Yours sincerely,

Peter Blackett

P. M. S. Blackett

Dr. L. Szilard,
The Enrico Fermi Institute for Nuclear Studies,
Chicago 37.
U.S.A.

IMPERIAL COLLEGE OF SCIENCE AND TECHNOLOGY
(UNIVERSITY OF LONDON)

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TELEPHONE: KENSINGTON 5111
LONDON S.W.7
SOUTH KENSINGTON

BY AIR MAIL

PAR AVION
AIR LETTER
AEROGRAMME



Dr. L. Szilard,
The Enrico Fermi Institute for
Nuclear Studies,
Chicago 37, Illn.
U.S.A.

Second fold here

Sender's name and address :-

P. M. S. Blackett
Imperial College,
London, S.W.7.

IF ANYTHING IS EN-
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ORDINARY MAIL.

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