

Strand Palace Hotel,  
Strand,  
London, W.C.2.

June 7th, 1934.

The Lord Rutherford of Nelson,  
The Cavendish Laboratory,  
CAMBRIDGE.

My Lord,

I was unable to find Professor Fowler both on Monday and Tuesday, and wrote yesterday to ask him whether I could see him on Friday. I was also going to ask Professor Laue and Professor Schrödinger to write to you in order to let you have whatever information about me they felt justified in giving. To be able to work in the Cavendish Laboratory for a year means so very much to me that I feel extremely anxious that a decision about the possibility of my entering there should not be based entirely on the few conversations I have recently had in Cambridge, but rather be postponed until I have seen Professor Fowler and until the necessary information reaches you from the other professors I have mentioned. For this reason I wish to make an unusual request. I have just heard that a letter from Cambridge has arrived at my Halliwick Road address, and I would ask you, should that letter be from yourself containing your decision, to allow me to return it to you unopened.

I should be extremely grateful to you if you would kindly let me know whether you would care to have the opinions of Professor Laue and Professor Schrödinger, and perhaps also of Professor Otto Stern, and also whether I may leave your letter unopened and return it to you.

With the request that you pardon this somewhat irregular method of procedure

I beg to remain, my Lord,

Your Lordship's obedient servant

x

Cavendish Laboratory,  
Cambridge.

17th December, 1935.

Dear Dr Szilard,

I thank you for sending me an advance copy of your article on slow neutrons. I think the results you have obtained are of much interest, and I had formed the impression from what I had heard about the work of Moon and Tillman that we were far from understanding the mechanism of absorption of very slow neutrons. I hope you will have good success in throwing further light on these matters.

Yours sincerely,

Rutherford

c/o Clarendon Laboratory,  
Parks Road,  
OXFORD.

14th April, 1936.

Sir,

You might remember that I mentioned to you some two years ago patents concerning practical applications of nuclear Physics, for which I have applied. Rightly or wrongly, I thought at that time that if physicists take out such patents in the capacity of self-appointed trustees, they may keep open the door for a disinterested attempt on the part of scientists to exert some measure of control over this field.

None of the practical applications are as yet sufficiently important or dangerous for scientists to concern themselves about them. May I however state that the patent for the production of radio-active elements by means of neutrons has now been accepted, and that this patent (which must not be considered in any way - except in form - as my personal property) is at any time at the disposal of those physicists who are pioneers of this field, in case they wish to concern themselves with the proper administration of such patents.

The matter is hardly of sufficient importance at present to justify my approaching you about it. Even at present, though, such patents might be used for raising funds for research purposes, and since it would be hardly right for me to act along this line as a self-appointed trustee, I was thinking of asking perhaps Chadwick, Cockcroft or Fermi if two of them would be willing jointly to decide any issue which might arise in connection with this matter, and to decide about the use of any funds which might arise from it.

If, for any reason, this course of action appears to you to be wrong, I should very much appreciate your letting me know any objections. If no satisfactory solution can be found, the trivial remedy of withdrawing these patents remains open at any time.

Yours very truly,

c/o Clarendon Laboratory,  
Parks Road,  
Oxford.

Rutherford

21st May, 1936.

Sir,

You might perhaps remember that I mentioned to you some two years ago patents for which I had applied in March 1934. One such patent has now been granted on the principle of production of artificial radio-active elements by neutrons and the question arises to what use such patents ought to be put.

I cannot consider patents relating to nuclear physics as my property in any sense whatever. It would seem that if such patents are important, they ought to be administered in a disinterested way by some disinterested persons. It is, however, hardly for me to take any decisions about the patents which I have taken out in the capacity of a sort of self-appointed trustee, and apart from yourself, one could perhaps think of Chadwick, Cockroft, Joliot and Fermi as being the proper persons to say whether these patents should be withdrawn or maintained and in what way and by whom they should be administered, if they are maintained.

About two years ago I attempted to point out to Oliphant in greater detail why I thought that the existence of such patents might be useful. I am referring to this in the enclosed copy of a letter addressed to Dr. Cockroft, which I am sending you in case you should care to have more detailed information.

If I were convinced that industrial applications of great importance were imminent, I should not hesitate to ask you to give your attention to the matter at this juncture. This not being so, I shall merely ask Cockroft to inform you about all this if he thinks it necessary or, alternatively, I shall of course be at your disposal at any time you should think the matter sufficiently important to give some of your attention to it. I hope to be able to get Cockroft's advice next week and to discuss with him and Dee some unpublished observations which may or may not have a direct bearing on these matters.

Yours very truly,

(Leo Szilard)

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X  
c/o Clarendon Laboratory,  
Parks Road,  
Oxford.

27th May, 1936.

Dear Lord Rutherford,

Enclosed you will find a draft for a letter to "Nature", which I am sending to you in the hope that it might interest you. Although it was written some time ago, I still hesitate to send it in for publication and I should like to mention here the reasons for this hesitation:

I have so far not been able to exclude the possibility that a heavy isotope of the neutron of mass number 4 exists and is involved in the anomalous Fermi effect of indium. It can easily be shown that such a particle would have a mass larger than 4.014. In the circumstances - if a heavy neutron isotope really exists - we would for the first time have to envisage the theoretical possibility of nuclear chain reactions. The prospect of bringing about nuclear transmutations on a large scale by means of such chain reactions is somewhat disconcerting. It is very unlikely that the misuse of chain reactions could be prevented if they could be brought about and became widely known in the next few years. I am quite aware that the view which I am taking on the subject may be very exaggerated. Nevertheless, the feeling that I must not publish anything which might spread information of this kind - however limited - indiscriminately, has so far prevented me from publishing anything on this subject. Since I am not quite clear about the proper course to take, I thought of discussing the matter with Dr. Cockroft, to whom I am going to write to-day.

If I were convinced that the matter is really important, I should perhaps not hesitate to ask for your advice at this juncture. Being at the moment unable to estimate the real importance of the matter, I shall ask Dr. Cockroft, if I see him, to inform you about our conversation if he thinks all this to be sufficiently important. I shall of course be glad to come to Cambridge at any time, in case you are disposed to express an opinion or desire to have further information on this subject. All this applies equally to a second matter which I equally hope to discuss with Dr. Cockroft:

You might perhaps remember that I mentioned to you in passing some two years ago patents for which I had applied in March 1934. One such patent has now been granted on the principle of producing artificial radio-active elements by neutrons and the question arises, to what use, if any, such patents ought to be put.

I cannot consider patents relating to nuclear physics as my property in any sense whatever. It would seem that if such patents are important, they ought to be administered in a disinterested way by disinterested persons. It is, however, hardly for me to take any irreversible steps about these patents which I have taken out in the capacity of a sort of self-appointed trustee. Apart from yourself, one could perhaps think of Chadwick, Cockroft, Joliot and Fermi as being the persons the most entitled to say whether these patents should be withdrawn or maintained and in what way and by whom they should be administered, if they are maintained.

Soon after Fermi's first discovery I discussed with Dr. Oliphant my reasons for thinking that the existence of such patents might be useful. I am referring to this in greater detail in the enclosed copy of a letter addressed to Dr. Cockroft, which I am sending you in case you should care to have more detailed information.

Yours very truly,

(Leo Szilard)