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PRESIDENT

NEWCOMB CARLTON
CHAIRMAN OF THE BOARD

J. C. WILLEVER
FIRST VICE-PRESIDENT

Send the following message, subject to the terms on back hereof, which are hereby agreed to

19

To LEWIS L. STRAUSS

Street and No. 52 WILLIAM STREET

Place New York City

REGRET ~~SORRY~~ HAVING BEEN UNABLE TO REACH YOU ALL WEEK STOP ASSUME UNFORTUNATE ~~[illegible]~~ PALESTINE SITUATION TAKES MUCH OF YOUR ATTENTION STOP ~~AS I AM~~ AS IT IS NECESSARY TO GO AHEAD WITH LARGE SCALE EXPERIMENT I ~~IF SEEMS~~ HAV ~~SEEM THAT I DEVOTE SOME TIME TO~~ TO MAKE EFFORT TO RAISE FUNDS AT ONCE STOP ~~[illegible]~~ IS IT AGREEABLE TO YOU THAT I TALK

Sender's address for reference

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FIRST VICE-PRESIDENT

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Send the following message, subject to the terms on back hereof, which are hereby agreed to

19

To

Street and No.

Place

TODAY TO ~~[illegible]~~ SOME MEMBERS OF INSTITUT OF ADVANCED STUDIES AND CONTACT THROUGH THEM FLEXNER AND GANO DUNN? STOP DO YOU WANT ME TO MENTION YOUR NAME AND ~~[illegible]~~ AMOUNT OF YOUR PERSONAL CONTRIBUTION IF ANY TOWARDS WANTED $TWENTY THOUSAND FOR LARGE SCALE EXPERIMENT AND $TWO AND HALF THOUSAND FOR SMALL SCALE EXPERIMENTS? ~~[illegible]~~

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R. B. WHITE, PRESIDENT
NEWCOMB CARLTON, CHAIRMAN OF THE BOARD
J. C. WILLEVER, FIRST VICE-PRESIDENT

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TIME FILED

Send the following message, subject to the terms on back hereof, which are hereby agreed to

19

To LEWIS L. STRAUSS

Street and No. 52 WILLIAM STREET

Place NEW YORK CITY

REGRET HAVING BEEN UNABLE TO REACH YOU ALL WEEK STOP ASSUME UNFORTUNATE PALESTINE SITUATION TAKES MUCH OF YOUR ATTENTION STOP AS IT IS NECESSARY TO GO AHEAD WITH LARGE SCALE EXPERIMENT AT ONCE AND SINCE FUNDS ARE NEEDED ~~[illegible]~~ ARE YOU AGREEABLE TO MY TAKINGS STEPS TODAY TO CONTACT ABRAHAM FLEXNER AND GANO DUNN THROUGH SOME MEMBERS OF

Sender's address for reference

WESTERN UNION GIFT ORDERS ARE APPROPRIATE GIFTS FOR ALL OCCASIONS.

Sender's telephone number

To

Street and No.

Place WITH VIEW OF RAISING

INSTITUT OF ADVANCED STUDIES ?

~~HAVE YOU OTHER NEED~~ ~~[illegible]~~

~~YOU [illegible]~~ ~~SHALL BE GLAD TO~~

~~TALK TO OTHERS IF YOU~~ ~~[illegible]~~ ~~HAVE~~

~~ANY NAMES TO SUGGEST~~ STOP DO YOU

WANT ME TO MENTION YOUR NAME

TO ~~[illegible]~~ ~~ANY OF THEM~~

SOME OR ALL OF THEM ? = SZILARD

BOOK 1960

COPY

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

January 25th, 1939

Mr. Lewis L. Strauss
c/o Kuhn, Loeb & Co.
52 William Street
New York City

Dear Mr. Strauss:

I feel that I ought to let you know of a very sensational new development in nuclear physics. In a paper in the "Naturwissenschaften" Hahn reports that he finds when bombarding uranium with neutrons the uranium breaking up into two halves giving elements of about half the atomic weight of uranium. This is entirely unexpected and exciting news for the average physicist. The Department of Physics at Princeton, where I spent the last few days, was like a stirred-up ant heap.

Apart from the purely scientific interest there may be another aspect of this discovery, which so far does not seem to have caught the attention of those to whom I spoke. First of all it is obvious that the energy released in this new reaction must be very much higher than in all previously known cases. It may be 200 million volt instead of the usual 3-10 million volt. This in itself might make it possible to produce power by means of nuclear energy, but I do not think that this possibility is very exciting, for if the energy output is only two or three times the energy input, the cost of investment would probably be too high to make the process worth while. Unfortunately, most of the energy is released in the form of heat and not in the form of radioactivity.

I see, however, in connection with this new discovery potential possibilities in another direction. These might lead to a large-scale production of energy and radioactive elements, unfortunately also perhaps to atomic bombs. This new discovery revives all the hopes and fears in this respect which I had in 1934 and 1935, and which I have as good as abandoned in the course of the last two years. At present I am running a high temperature and am therefore confined to my four walls, but perhaps I can tell you more about these new developments some other time. Meanwhile you may look out for a paper in "Nature" by Frisch and Meitner which will soon appear and which might give you some information about this new discovery.

With best wishes,

Yours sincerely,

/s/ Leo Szilard

COPY

Brasch

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

January 30th, 1939

Mr. Lewis L. Strauss
Kuhn, Loeb & Co.
52 William Street
New York City

Dear Mr. Strauss:

It appears that Dr. Brasch wants to use me as a combination of a post-office and a translation bureau. On the enclosed page you will find a passage, somewhat freely translated, from a letter of Brasch's which I just received. I am sending it on to you so that you may take such action as you think fit.

Brasch also seems to be anxious that I should discuss with you the estimate of cost when you receive such an estimate from Pasadena. It does not seem necessary for me to say that I am naturally at your disposal if you wish to talk to me about this estimate of cost.

Yours sincerely,

(Leo Szilard)

Passage translated from Dr. Brasch's letter of January 27, 1939:

"Here is another important matter which I ask you to take up with Mr. Strauss. I cannot write to him directly because he would find it difficult to understand my deficient English.

I have hardly any cash left and I'll have to pay for my board on February 1st. Most of what Mr. Strauss gave me has been spent for fares and travelling expenses. It would be very desirable that some cash be sent by wire right away. Also I should be very grateful if I could have $ 200,00. in order to buy a second hand car. It is very difficult to live here without a car; it takes me half an hour to get to the first houses of Pasadena, and if I post this letter I have to walk an hour to the post-office...."

Alle Fossil

Adam 1938

Dear Mr. Strauss:

I understand that you may form or collaborate in the formation of a tax exempt non-profit corporation for the purpose of studying methods to produce artificial radio-active elements and possibly also for the purpose of producing and marketing such elements for medical or other purposes. I have applied for a patent in 1935 in this country which concerns the production of artificial radio-active elements. This patent may be granted in the near future. I have an agreement with Mr. Isbert Adam of Danzig, concerning certain patents, and this patent falls under that agreement. I shall, however, be free to give after October 15, 1939, non-exclusive licenses for all the claims of my patent with exception of those claims which refer to the chemical separation of isotopes. Also, in certain circumstances, I might, at a later date, be released fromtthat agreement with Mr. Adam, and in this case I might be free to give non-exclusive and exclusive licenses for all claims.

In order to facilitate the carrying out of your intention to promote research in the field of induced radio-activity by creating a tax exempt non-profit corporation, I wish to state that, if and ~~when~~ insofar as I shall be free to grant licenses under my patent, I shall grant non-exclusive licenses to the above mentioned tax exempt corporation and shall leave it to the free judgement of that corporation whether or not they wish to pay royalties and what the amount of these royalties shall be, if any. I cannot say that I will grant exclusive Licenses to the said corporation,

but I wish to state that I shall not grant exclusive license to other corporations, and if I grant non-exclusive licenses to other corporations for which I obtain any financial consideration, I shall divide my share of these financial considerations among those tax exempt non-profit corporations which may at the time concern themselves with the production of artificial radio-active elements.

Yours very truly,

Odour 1938

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Adams

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FIRST VICE-PRESIDENT

CHECK

ACCOUNTING INFORMATION

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To Louis L. Strain

March 14 1939

Street and No. 255 768 Bo

Place

Having talked to Fermi Wyman and Rutherford I feel that cooperation of both R. and L. might be ~~under~~ Weedell stop Fermi free for lunch with Rutherford both monday and tuesday stop understand Lorenz may leave for Boston on monday for one to two weeks & they find very R.

Sender's address for reference

Sender's telephone number

THE QUADRANGLE CLUB
THE UNIVERSITY OF CHICAGO
Chicago 37, Illinois

March 19, 1956

Mr. Lewis L. Strauss
Chairman
U. S. Atomic Energy Commission
1901 Constitution Avenue
Washington 25, D. C.

Dear Mr. Strauss:

I am writing to amplify the telegram that I sent you yesterday.

Since last September I have been thinking of setting up some experiments that relate to cancer of the prostate and at that time I discussed my thoughts with Dr. Lewis Thomas, head of the Department of Pathology, New York University Medical School. As of that date, there were no similar experiments under way and I was thinking of setting up some such experiments in Dr. Thomas' department. Dr. Thomas was quite willing to make the necessary facilities available, but the main problem was finding suitable men who are familiar with the required techniques.

A week ago when I learned of the condition of a certain patient, I decided to try to set up such experiments in one or two places where I can follow the progress of the experiments myself so that I may be satisfied in my own mind that nothing has been left undone. The main problem still is to find the right man to carry out the experiment.

I was able to locate a man who is supposed to be very good in this field and who has been highly recommended to me by several people, including Dr. Robert Wissler of the Department of Pathology, University of Chicago. The name of this young man is Frank W. Fitch, and he is serving at present in the Air Force Medical Corps. Dr. Leon O. Jacobson, Director of the Argonne Cancer

Research Hospital, told me that he would make facilities availat Co to Dr, Fitch in his laboratory, and I talked to Dr. Fitch and found that he would be eager to do these experiments.

If there is any merit in doing these experiments at all, there is some urgency, and I believe we might lose three months in scouting around to find a suitable man. Such men are rare; in general they are busy with their own work and one cannot ask them to drop everything they are doing in order to shift to experiments on prostate. Hence my eagerness to secure the services of Dr. Fitch, whom I do not know personally.

Perhaps I should give you some background to this problem, which is as follows:

To destroy the cancer cell which originates from the normal tissue, without destroying the normal tissue also, is a tough problem. There are, however, a few special cases where the cancer originates in a non-vital organ and there it would therefore be permissible to destroy the cancer cell together with the normal organ from which it originates.

Dr. Jules Freund of the New York City Public Health Institute has shown quite a number of years ago that if testes of the guinea pig is injected into the guinea pig, together with mycobacteria and mineral oil, which serve as adjuvants, after one single injection there are histological changes in the testes and complete destruction of the sperm producing tissue.

Curiously enough, no attempt was made to use this principle for the destruction of cancer cells originating from non-vital organs. Last September I discussed the possibility of using this principle in case of cancer of the prostate, cancer of the breast, and cancer of the thyroid with Jules Freund and Lewis Thomas and learned on that occasion that at last year's Gordon

Conference there was a report showing that thyroid tissue responds similarly to testes if thyroid is injected with adjuvants in man. This is being clinically tried now in the case of cancer of the thyroid with metastases.

I do not know what advances have been made since September. At that time no work had been published on prostate. Animal experiments should show very quickly if there is destruction of prostate tissue upon injection of prostate, together with adjuvants.

With all good wishes

Very sincerely yours,

Leo Szilard

March 9th, 1938

Mr. Lewis L. Strauss
New York City

Dear Mr. Strauss,

At this juncture it seems appropriate for us to tell you how much we appreciate your cooperation and how very much we like the spirit in which you have conducted the negotiations.

We understand that the aide memoire which you sent to one of us fixes your lot of common shares at 5 1/2%. We do not feel quite happy about this point, as in our personal opinion your lot ought not to be less than 10%, i.e. the amount which you tentatively mentioned in one of the earlier conversations, Though we assume that this point will automatically adjust itself in the course of the further negotiations, and that perhaps your friends on the other side will also want you to have part of their lot of common shares, we wish to set out by this letter the following:

Should, after all has been said and done, by the time when we sign the envisaged aggreement, your lot of common shares be less than 10%, then we - speaking for the three "inventors" - shall regard it as a privilege to transfer from our lot of common shares as many common shares to you as is necessary to bring your lot up to 10%.

Yours sincerely

Arno Brasch (Arno Brasch)
Leo Szilard (Leo Szilard)

3 bs 17 x

May 21, 1938

Dear Mr. Strauss,

I saw Mr. Morton Adams, of Pennie, Davies, Marvin & Company, and yesterday we went together to Haseltine, Lake & Company, whose London office has been handling my American application. There we obtained all documents including the enclosed copy of a letter from the U.S. patent office, which I had not seen previously as it had been sent to the London office , and has not yet reached me through the regular channels.

This letter is not favourable. I understand from Mr. Adams that, if the rejection of the claims is not withdrawn by the examiner, we would have to appeal. I have the impression that there is no prior art quoted by the patent office which needs being taken seriously, and that the claims may have been rejected on formal grounds. This would make it no less awkward if we had to appeal, for I understand, we would then have to defend the claims in their present form against objections of a formal nature.

I assume that Mr. Adams will have gained an impression on this particular subject by the middle of next week,

3 65 17

and perhaps you could talk to him before we proceed any further.

With best wishes

Yours very sincerely,

(Leo Szilard)

P.S. I am sorry to have no better news, but I hope that this will not discourage you unduly. I personally prefer to suspend forming an opinion, until Mr. Adams has studied the case.

XXXXXXXXX

May 27, 1938

Mr. Lewis L. Strauss,
Brandy Rock Farm
Post Office Brandy, Va.

Dear Mr. Strauss,

You will find enclosed a copy of Readers Digest, containing the article "Never Eat Pink Pork", which, I hope, you will enjoy all the more, as the dangers it describes do not affect you.

My brother has looked up the latest publications, 1937/38, by M.C.Hall of the U.S. Public Health Service, and it appears conceivable that ½-1% of all deaths might be due to trichinae, without this cause ever being suspected. The Health Service seems rather alarmed about the situation.

We have no data about the magnitude of X-Ray dose which would have to be applied to the pork in the slaughter-house in order to kill the trichinae, but the X-Ray output

increases so rapidly with increasing voltage, that 2 to 3 million volt outfits might apply the required dose in sufficiently short time. Experiments ought to be made to determine the required dose before proceding any further.

Experiments in connection with the tobacco worm problem , carried out in co-operation with a Havanna tobacco exporter, have so far not shown any effect on the taste of the cigars by the irradiation , and this application looks promising.

As far as wheat and other crops are concerned, where parasites cause a damage of about $ 200,000.000 per year, my brother who is studying the rather extensive literature has so far found no case in which the application of the X-Ray method, under the conditions prevailing in most parts of this country, would appear to be a commercial proposition.

As to the patent search into the novelty of the X-Ray method, mentioned in our last conversation, I feel that the chances of getting a basic patent are too slight, to justify anything but a preliminary search, and that at my expense rather than yours. I shall instruct Mr. Adams accordingly , and let you know how the matter develops.

Trusting you have a very pleasant weekend in Virginia, Jan

Yours very sincerely,

August 16,1938

Mr. Lewis L.Strauss,
Brandy Rock Farm,
Post Office Brandy, Va.

Dear Mr. Strauss,

Mr. Morton Adams and I are embarking on our second trip to Washington to-day.We have an appointment there for to-morrow morning and expect to be through with business by Wednesday night. I

If you should happen to be disengaged on Thursday, it certainly would be very tempting to visit your place on Thursday, If I hear from you by Thursday morning , I could then take a train to Brandy, and perhaps arrange to be back in Washington by Thursday night.

In Washington I will be staying at the Shoreham Hotel.

With best wishes,

Yours very sincerely,

(Leo Szilard)

BRANDY ROCK FARM
BRANDY
VIRGINIA

My dear Dr. Szilard,

It was very nice to see you here last week, and I hope you really did like our farm well enough to come to see us again.

I was very much pleased with the model chair cover, and I do believe it has great possibilities. I think you were

kindness itself to give the matter a second thought.

With kindest regards from us all,

Most sincerely yours,

Alice H. Strauss.

August 29.

xxxxxxxxx

August 25,1938

Dear Mrs. Strauss,

In spite of a good night's rest at your beautiful house I woke in the morning without knowing how to make pads for garden furniture waterproof. On my return I told my brother about the problem which we discussed. He thought that zipping the pads may be less troublesome perhaps than carrying th into the house, and so he had a model made to illustrate this principle. The model is being sent to you by mail. It is only a toy, and the edges with the zipper are not waterproof. They could easily be made waterproof though. If you think that all this is an attempt in the right direction , a pad having the proper thickness could easily be built , in order to see whether it works properly and to make sure, that one cannot feel any effect of the back being covered by rubber.

I enjoyed very much the visit to your farm, and wish to thank you for your kind hospitality. I hope you will both get a good rest there before you return to town.

With best wishes and kind regards to Mr.Strauss and your son,

Yours very sincerely,

(Leo Szilard)

LEWIS L. STRAUSS
52 WILLIAM STREET
NEW YORK

September 12, 1938.

Dear Dr. Szilard:

Your letter of September 6th would have been earlier acknowledged except for my preoccupation with affairs that have developed as a result of the unexpected death of my father-in-law last week.

I have read your letter and the memorandum with the greatest interest and look forward for further word from you as the subject develops, having great confidence that you are on the right track.

Faithfully yours,

Lewis Strauss

Dr. Leo Szilard,
Kings Crown Hotel,
420 West 116th St.,
New York, N. Y.

Pulitzer Award possibilities

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

January 25th, 1939.

Mr. Lewis L. Strauss
c/o Kuhn, Loeb & Co.
52 William Street
New York City

Dear Mr. Strauss:

I feel that I ought to let you know of a very sensational new development in nuclear physics. In a paper in the "Naturwissenschaften" Hahn reports that he finds when bombarding uranium with neutrons the uranium breaking up into two halves giving elements of about half the atomic weight of uranium. This is entirely unexpected and exciting news for the average physicist. The Department of Physics at Princeton, where I spent the last few days, was like a stirred-up ant heap.

Apart from the purely scientific interest there may be another aspect of this discovery, which so far does not seem to have caught the attention of these to whom I spoke. First of all it is obvious that the energy released in this new reaction must be very much higher than in all previously known cases. It may be 200 million volt instead of the usual 3-10 million volt. This in itself might make it possible to produce power by means of nuclear energy, but I do not think that this possibility is very exciting, for if the energy output is only two or three times the energy input, the cost of investment

would probably be too high to make the process worth while. Unfortunately, most of the energy is released in the form of heat and not in the form of radioactivity.

I see, however, in connection with this new discovery potential possibilities in another direction. These might lead to a large-scale production of energy and radioactive elements, unfortunately also perhaps to atomic bombs. This new discovery revives all the hopes and fears in this respect which I had in 1934 and 1935, and which I have as good as abandoned in the course of the last two years. At present I am running a high temperature and am therefore confined to my four walls, but perhaps I can tell you more about these new developments some other time. Meanwhile you may look out for a paper in "Nature" by Frisch and Meitner which will soon appear and which might give you some information about this new discovery.

With best wishes,

yours sincerely

(Leo Szilard)

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

February 13th, 1939

Mr. Lewis L. Strauss
Brandy Rock Farm
Brandy, Va.

Dear Mr. Strauss:

I hope you and Mrs. Strauss enjoyed staying at Palm Beach and that you are now having a nice time at your farm.

After I left your train in Washington I spent a day with Dr. Teller there and another day with Dr. Wigner at Princeton and told both of them of our tentative plan to make use of the form of an "association" and let such an association take action if it seems desirable that something should be done along the lines which we discussed. Dr. Teller, who is Professor for Theoretical Chemistry at George Washington University, will be at our disposal if it becomes necessary to keep some person close to the Administration informed of the developments, and he also can get the cooperation of his colleagues in Washington if this will be required. Dr. Wigner thought that some of the experiments which we discussed could be done at Princeton. As he is an old friend of mine and has much influence in the department there is very much in favor of following his suggestion, but I feel that it will be necessary to see what the position is from the point of view of equipment, and whether some younger members of the department could

cooperate without abandoning work in which they are at present engaged.

On my return to New York I went to see Fermi to tell him of all these conversations and also to discuss some of the small scale experiments which might be made in the near future.

Since my return almost every day some new information about uranium became available, and whenever I decided to do something one day it appeared foolish in the light of the new information on the next day. I found that the Radium Chemical Co. had in stock 200 mgm of radium mixed with beryllium, which is a nice constant source of fast neutrons. The rent for six months amounts to $ 500,00. As Fermi thought that he would like to use such a neutron source for his experiment I felt that I ought to get it for him. It did not seem fair to ask you to take any decisions from a distance, and so I thought it might be best that I should advance $ 500,00 for expenses of this type and to see later whether you could sanction the expenditures afterwards. A few days later it turned out that this neutron source was too bulky to be suitable for Fermi's experiment, and Fermi said that for the present he is quite satisfied with the radon sources which he is getting anyway once a week at Columbia. In these circumstances I arranged with the Radium Chemical Co. that they will let me have one gram of radium on loan instead. This radium used in conjunction with the beryllium block sent from Oxford represents an intense source of photo-neutrons which can be used for a

number of experiments. The rent is $ 125,00 per month, and we have to rent it for a minimum period of three months.

The outlook has changed in some important respects since I last saw you. It is now known that fast neutrons split both uranium and thorium, but slow neutrons do not split thorium, and they probably do not split the bulk of uranium either. If enough neutrons are emitted when fast neutrons split thorium or uranium it will still be necessary to see whether or not the emitted neutrons are slowed down to a velocity at which they are ineffective before they had a chance to split enough nuclei to make the maintenance of a chain reaction possible.

On the other hand, slow neutrons seem to split a uranium isotope which is present in an abundance of about 1% in uranium. If this isotope could be used for maintaining chain reactions, it would have to be separated from the bulk of uranium. This, no doubt, would be done if necessary, but it might take five or ten years before it can be done on a technical scale. Should small scale experiments show that the thorium and the bulk of uranium would not work, but the rare isotope of uranium would, we would have the task immediately to attack the question of concentrating the rare isotope of uranium.

As you see, the number of possibilities has increased since you left town. Some of the experiments which were devised, in particular the experiment which Fermi first planned, appear now to be much more difficult than before. Other experiments, such as those with photo-neutrons, are not affected,

but of course they have somewhat the character of preliminary experiments.

I am enclosing a clipping which might interest you, as it shows the state of mind of some physicists on February 4th. The man who inspired this article did his best to hide what he thought, but his dementi is somewhat clumsy, and he almost gives himself away in the last paragraph.

Anyway, things have calmed down to some extent in the last few days, and the newspapers at least might soon forget about uranium.

With best wishes,

Yours very sincerely

(Leo Szilard)

Patent papers
Strauss

Copy

Kings Crown Hotel
420 West 116th Street
New York City.

February 13, 1939

Mr. Lewis L. Strauss,
Brandy Rock Farm,
Brandy ~~Rock~~, Va.

Dear Mr. Strauss :

I hope

with the effects of the grippe fading out and the redults of some further experiments about the splitting of uranium becoming available, things have calmed down a little bit since I left aou in Washington. The chances for a too violent development have somewhat diminished.

After I left your train in Washington I spent a day with Dr. Teller there, and another day with Dr. Wigner at Princeton. I tol both of them of our tentative plans and that we thought the form of an association might be used if any action has to be taken. On my return to New York I had another talk with Fermi about the experiment he had in mind, and the experiments which I proposed to make. Since then almost every day new facts have become available about the explosion of uranium, and whatever I decided to do one day was likely to look foolish in the light of the information available the next da

When I talked to Fermi on my return, it seemed desirable that he should have a steady source of neutrons , and when I found that th Radium Chemical Co. had 200 mg of radium mixed with beryllium (a mixture prepared by Professor O. Stern in Pittsburgh) in stock, I decided to lend our hypothetical association S 500 right away, in order to enable it to borrow this radium source for six months. Later it turned out that the source was too bulky to be useful to Fermi who, for the present, seems to be satisfied with the radon

D

source he can get a t Columbia. And so I used the money to borrow one gram of radium for three months with the possibility of extending the arrangement on monthly terms (the charges S 125 permmonth. This for three months together with some equipment for storing and carrying the radium will not exceed S 500.)

The situation at present seems to be as follows : slowwneutron seem to split not the main constituent of uranium (Ur 238) itself but a constituent which is contained in uranium in the abundance of only 1% (Ur 235). If there is a sufficient neutron emission in the process of splitting slow neutrons will probably not be able to maintain reaction chains in uranium, unless Ur 235 is separated from the bulk of uranium. To do this in the laboratory may prove difficult, and on a technical scale it may take five to ten years, if it is possible at all. No doubt, if we could establish that a sufficient number of neutrons is emitted in the splitting, we would have to attack this question of separating the two isotopes, and would then probably have a good chance to be the first to achieve it , even if it takes us ten years to do so. Any way we could feel safe for some time to come.

Fast neutrons split both , thorium and the bulk of uranium, and it is quite possible that fast neutrons can form a chain reaction in uranium. But there is a chance, that if such chain reactions works the amount of uranium necessary for an explosion will be so large, th the "bombs" will be too heavy to carry.

As it is, the experiments which would show the possibilities of chain reactions will be more difficult and lengthy in these circumstances than it seemed a week ago.

In these circumstances a total abscence of neutron emission which would settle the question once for all, may fairly soon be demonstrated , but if a neutron emission is present it will not be easy to show in a small scale experiment that it is sufficient to make chain reaction possible.

Using one gram of radium and the beryllium block which has bee sent from Oxford it should be possible to make a few useful experimen and I shall look round in the course of this week to find out which laboratory wouldbe suitable from the point of view of equipment and readiness to co-operate.

I hope you and Mrs. Strauss had a nice time at Palm Beach, and will have some more sunshine at your farm.

With best wishes,

Yours very sincerely,

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CLASS OF SERVICE DESIRED			
DOMESTIC		CABLE	
TELEGRAM		FULL RATE	
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NIGHT LETTER		SHIP RADIOGRAM	

Patrons should check class of service desired; otherwise message will be transmitted as a full-rate communication.

WESTERN UNION

R. B. WHITE
PRESIDENT

NEWCOMB CARLTON
CHAIRMAN OF THE BOARD

J. C. WILLEVER
FIRST VICE-PRESIDENT

CHECK
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TIME FILED

Send the following message, subject to the terms on back hereof, which are hereby agreed to

19. Febr 1939

To Strauss

Street and No.

Place

Private communication just received ~~that~~ shows that neutrons are emitted of maximum is spread by very fast neutrons stop easy detection is due to time lag of 10 sec. in emission stop does not mean that our problem is solved in positive sense stop number ~~of~~ and velocity of emitted neutrons not known

Sender's address for reference

WESTERN UNION GIFT ORDERS ARE APPROPRIATE GIFTS FOR ALL OCCASIONS.

Sender's telephone number

2

1207-A

CLASS OF SERVICE DESIRED			
DOMESTIC		CABLE	
TELEGRAM		FULL RATE	
DAY LETTER		DEFERRED	
NIGHT MESSAGE		NIGHT LETTER	
NIGHT LETTER		SHIP RADIOGRAM	

Patrons should check class of service desired; otherwise message will be transmitted as a full-rate communication.

WESTERN UNION

R. B. WHITE
PRESIDENT

NEWCOMB CARLTON
CHAIRMAN OF THE BOARD

J. C. WILLEVER
FIRST VICE-PRESIDENT

CHECK
ACCT'G INFMN.
TIME FILED

Send the following message, subject to the terms on back hereof, which are hereby agreed to

_____ 19____

To _____

Street and No. _____

Place _____

shop. Yet result has
bearing on our problem shop
if we wished to prevent
publication would have to
act fast through administ-
ration and even so success
doubtful Shop Dr. Wigner in
town Tuesday and Dr. Tiller Wednes-
day Szilard

Sender's address for reference

WESTERN UNION GIFT ORDERS ARE APPROPRIATE GIFTS FOR ALL OCCASIONS.

Sender's telephone number

Deliver at 830 AM

3

1207-A

CLASS OF SERVICE DESIRED			
DOMESTIC		CABLE	
TELEGRAM		FULL RATE	
DAY LETTER		DEFERRED	
NIGHT MESSAGE		NIGHT LETTER	
NIGHT LETTER		SHIP RADIOGRAM	

Patrons should check class of service desired; otherwise message will be transmitted as a full-rate communication.

WESTERN UNION

R. B. WHITE
PRESIDENT

NEWCOMB CARLTON
CHAIRMAN OF THE BOARD

J. C. WILLEVER
FIRST VICE-PRESIDENT

CHECK
ACCT'G INFMN.
TIME FILED

Send the following message, subject to the terms on back hereof, which are hereby agreed to

19

To Lewis L. Strauss

Patent priority

Street and No. 25E 76 STR

Place New York City

PERFORMED TODAY PROPOSED EXPERIMENT WITH BERYLLIUM BLOCK WITH STRIKING RESULTS STOP VERY LARGE NEUTRON EMISSION ~~FROM THE~~ ~~WAS~~ FOUND STOP ESTIMATE PROBABILITY OF REACTION NOW ABOVE 50 PERCENT STOP RICHARDS SAYS YOU MIGHT WRITE LOOMIS CARE OF THORNE LOOMIS & CO N.Y.C. AND ~~suggest to~~ LOOMIS ~~MIGHT~~ ~~to talk to R. over~~ TELEPHONE ~~NUMBER~~ FROM BOSTON IN ORDER TO AVOID delay

Sender's address for reference if Loomis is in

WESTERN UNION GIFT ORDERS SOLVE THE PERPLEXING QUESTION OF WHAT TO GIVE.

Sender's telephone number Fr Lowe

Patent Library

4

1207-A

CLASS OF SERVICE DESIRED			
DOMESTIC		CABLE	
TELEGRAM		FULL RATE	
DAY LETTER		DEFERRED	
NIGHT MESSAGE		NIGHT LETTER	
NIGHT LETTER		SHIP RADIOGRAM	

Patrons should check class of service desired; otherwise message will be transmitted as a full-rate communication.

WESTERN UNION

R. B. WHITE
PRESIDENT

NEWCOMB CARLTON
CHAIRMAN OF THE BOARD

J. C. WILLEVER
FIRST VICE-PRESIDENT

CHECK
ACCT'G INFMN.
TIME FILED

Send the following message, subject to the terms on back hereof, which are hereby agreed to

June 14th 1939

To LEWIS L. STRAUSS

Street and No. 52 WILLIAM STREET

~~Yesterday~~ Place N.Y.C.

Fermi and I have completed ~~to day~~ ~~semi large scale experiment~~ with positive result, ~~that~~ ~~Next step now is large scale experiments~~ demonstration ~~we~~ is now next step ~~if convenient~~ immediately

Would like to see you soon if convenient ~~morning~~ ~~or evening~~ at meal for time or after dinner.

Enrico

Sender's address for reference

WESTERN UNION MESSENGERS ARE AVAILABLE FOR THE DELIVERY OF NOTES AND PACKAGES.

Sender's telephone number

LEWIS L. STRAUSS February 19, 1939

PRIVATE COMMUNICATION JUST RECEIVED SHOWS THAT NEUTRONS ARE EMITTED IF URANIUM IS SPLIT BY VERY FAST NEUTRONS STOP EASY DETECTION IS DUE TO TIME LAG OF 10 SECONDS IN EMISSION STOP DOES NOT MEAN THAT OUR PROBLEM IS SOLVED IN POSITIVE SENSE STOP NUMBER AND VELOCITY OF EMITTED NEUTRONS NOT KNOWN STOP YET RESULT HAS BEARING ON OUR PROBLEM STOP IF WE WISH TO PREVENT PUBLICATION WOULD HAVE TO ACT FAST THROUGH ADMINISTRATION AND EVEN SO SUCCESS DOUBTFUL STOP DR. WIGNER IN TOWN TUESDAY AND DR. TELLER WEDNESDAY

SZILARD

LEWIS L. STRAUSS
25 EAST 76TH STREET
NEW YORK CITY

PERFORMED TODAY PROPOSED EXPERIMENT WITH BERYLLIUM BLOCK WITH STRIKING RESULT STOP VERY LARGE NEUTRON EMISSION FOUND STOP ESTIMATE PROBABILITY OF REACTION NOW ABOVE 50 PERCENT STOP RICHARDS SAYS YOU MIGHT WRITE LOOMIS CARE OF THORNE LOOMIS AND CO. NEW YORK CITY AND SUGGEST TO LOOMIS TO TALK TO RICHARDS OVER TELEPHONE IF LOOMIS IS IN BOSTON IN ORDER TO AVOID DELAY

SZILARD

LEWIS L. STRAUSS
52 WILLIAMS STREET
NEW YORK CITY, NEW YORK

JUNE 14, 1939

YESTERDAY FERMI AND I HAVE COMPLETED SEMILARGE SCALE EXPERIMENT WITH POSITIVE RESULT STOP LARGE SCALE DEMONSTRATION IS NOW NEXT IMMEDIATE STEP WOULD LIKE TO SEE YOU SOON IF CONVENIENT AT BREAKFAST TIME OR AFTER DINNER

Sent wrong date by an 23rd.

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

February 22nd, 1939

mistake of date correct 23rd

Mr. Lewis L. Strauss
52 William Street
New York City

Dear Mr. Strauss:

This is just a short bulletin to complete the information contained in my wire from Sunday night.

There is a ~~very~~ fairly good chance now that, if we can concentrate the uranium isotope 235 from uranium, a chain reaction could be set up in the concentrate. I am therefore beginning to give attention to processes which could be used for concentrating this isotope, and this does not seem to be difficult to achieve with modern methods.

That the native uranium is not suitable for chain reactions is now believed for theoretical reasons by a number of physicists. Fermi, for instance, is convinced that the native uranium is no good. Wigner on the other hand, while admitting the validity of the theoretical arguments, feels that the foundations of this theory are too insecure to trust these conclusions. My own feeling is somewhere between Wigner's and Fermi's.

I am enclosing a clipping from yesterday's World Telegram. You will notice the great change of tone in comparison

E

with the clippings I sent you to Brandy Rock Farm. There will probably be a fresh outburst soon when the facts contained in my telegram become known.

It seems we will have to act very quickly if we want to act at all.

By the way, Dr. Wigner from Princeton will be here on Friday and Saturday for a meeting of the Physical Society, and it would be very nice if you could meet him. I assume that you are rather busy just now, and I fear that both Wigner and I will be pretty busy during the meeting, but perhaps something can be arranged nevertheless.

The situation has changed in many important respects since our talk in the train, and our plans would have to be changed accordingly, so perhaps we ought to talk about these things soon if your time permits.

With best wishes,

Yours very sincerely,

Prof. Prior

Publication portraits

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

February 28th, 1939

Mr. Lewis L. Strauss
52 William Street
New York City

Dear Mr. Strauss:

I did not telephone you yesterday because I felt that you might want "to sleep it over" before formulating any plans for obtaining the necessary funds. I should, however, very much like to hear from you to-morrow, personally or over the telephone, about the present trend of your ideas.

One reason for this urgency is that I am going to see W. T. Richards to-morrow, Wednesday, night. He had offered on Sunday to co-operate in obtaining the necessary funds at short notice if his help were required. He is a brother-in-law of Conant's and has many connections in Boston. By the way, he is a personal friend of Loomis', and you met him at Tuxedo Park. It was understood, however, at our last conversation that Loomis would have to be approached through you, if he is to be approached at all. It seems advisable that I should inform Richards to-morrow of our present plans with respect of obtaining the funds.

Please excuse this undignified haste.

Yours very sincerely,

(Leo Szilard)

P.S. I am signing an agreement of lease to-morrow for one gram of rdium, and so you can reach me between 2 and 3 p.m. over the telephone at the office of the Radium Chemical Co., Vanderbilt 3-5177, where I shall be with Mr. Kearney. In the morning I shall probably be at my hotel, University 4-2700, up to 11.30 a.m.

Public Motor

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

April 11th, 1939

Mr. Lewis L. Strauss
25 East 76th Street
New York City

Dear Mr. Strauss:-

These are just a few lines to keep you informed of how things have developed since I last saw you. Fermi and I were sorry that we could not see you in Virginia when we were in Washington.

The following is for your private information only. Cooperation was established in Washington with the Carnegie Institute for Terrestrial Magnetism, and also contacts were made through the official channels via the Physics Department of Columbia University with the Navy. These contacts are perhaps too loose, but for the present this is of no importance.

Since my return from Washington I cut down all extra-laboratory activities and tried to get more information about the number of neutrons emitted, which is the most important point at present. Though this number seems to be above one, I am still not certain about it. Fermi bases his plans on the blief that the number is larger than one.

Accordingly we are preparing an experiment on a semi-large scale, using 500 pounds of uranium oxide. I am glad to

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

April 11th, 1939

Dear Blackett:

Your cable to Weiskopf

say that we could borrow this amount, otherwise I might have approached you for financial assistance.

So far publication of the papers,which were sent to the Physical Review on March 16th, is being delayed at our request, and efforts are made to get similar action in England and France. In the mean time a paper by Joliot appeared in Nature, which relates to our subject, but so far it did not attract much attention. Now we are trying to get Joliot to co-operate, but I do not know whether we will succeed.

Some time ago Loomis asked Fermi out to Tuxedo Park, and I understand from Richards that Loomis talked to you over the telephone after Fermi's visit. Since then Loomis one inquired over the telephone, asking Fermi about the present state of the experiments.

I hope to see you some time when you are not very busy, and in any case I shall let you know of the further developments.

With best wishes,

yours sincerely,

(Leo Szilard)

LEWIS L. STRAUSS
52 WILLIAM STREET
NEW YORK

Publ. priorities

April
Fourteenth
1 9 3 9

Dear Dr. Szilard,

I was very much obliged indeed to receive your letter of April eleventh as I had begun to feel rather out of touch with what was going on.

I presume you know that Dr. Brasch has returned here for a visit and that you have been in touch with one another. If you have some time next week I hope I shall see you.

Nils Bohr came in to see me a few days ago. It was the first time I had ever met him and I was tremendously impressed with his simplicity and obvious greatness. Have you considered discussing your ideas with him?

Faithfully yours,

Lewis Strauss

Dr. Leo Szilard,
Hotel King's Crown,
420 West 116th Street,
New York, N. Y.

MG

Publ
Prior

April 14th, 1939

Dear Mr. Strauss:-

After an exchange of cables with Joliot in Paris and Blackett in England the Physics Department at Columbia University decided to publish our papers which were sent to Physical Review some time ago. This decision which runs contrary to my personal wishes was largely based on Joliot's unwillingness to delay his papers in connection with his view that the situation has already got out of hand.

I am enclosing a manuscript of the paper which will appear in the next issue of Physics Review.

With best wishes,

yours sincerely,

(Leo Szilard)

LEWIS L. STRAUSS
52 WILLIAM STREET
NEW YORK

Publ. Priority

April
Seventeenth
1 9 3 9

Dear Dr. Szilard,

It was good of you to send me the very interesting manuscript of your paper which I have read with the greatest interest. I share your regret that it was not possible to defer publication of these developments at this more or less critical juncture.

Hoping to see you within the very near future, I am, as ever,

Faithfully yours,

Lewis Strauss

Dr. Leo Szilard,
King's Crown Hotel,
420 West 116th Street
New York, N. Y.

MG

LEWIS L. STRAUSS
52 WILLIAM STREET
NEW YORK

Publication provided

June
Sixteenth
1 9 3 9

Dear Dr. Szilard,

Mr. Strauss has asked me to acknowledge your telegram and to say that he will be glad to see you at any time on Monday. He has moved to the country for the summer.

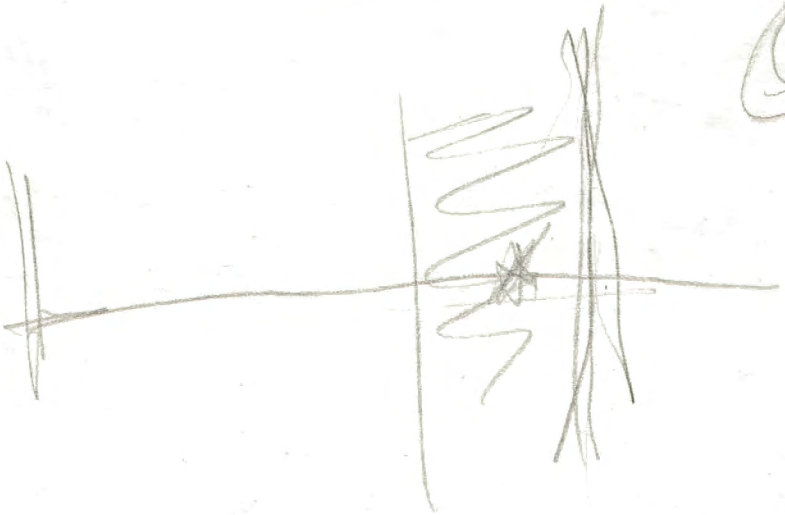
Sincerely yours,

William H. Mulgueen

Assistant to Mr. Strauss.

Dr. Leo Szilard,
King's Crown Hotel,
420 West 116th Street,
New York, N. Y.

MG



$\frac{1}{3}$

25%

5%

July 3rd, 1939

Mr. Lewis L. Strauss
52 William Street
New York City

Dear Mr. Strauss:

These are just a few lines to refresh your memory in case you find time to contact the Société Générale or the Union Minière.

As you know Fermi and I made a number of experiments on uranium, some of these independently of each other, others jointly. All these experiments were carried out at the Physics Department of Columbia University with uradium rented from the American agents of the Union Minière. In order to meet these and other expenses which would have strained the budget of the Department, other physicists and I formed an association called "Association for Scientific Collaboration" and collected some funds among ourselves. I am writing to you in my capacity as one of the trustees of the Association rather than on behalf of the Physics Department, as I have not yet discussed the matter with the Head of the Department and have no authority to speak in the name of the Department.

A joint paper by Anderson, Fermi and myself, which has

been recently completed and is not yet published, states that a nuclear chain reaction could be maintained under certain conditions in uranium, but expresses serious doubt whether such a chain reaction can be maintained in uranium oxide, or in uranium oxide mixed with water. It is my personal opinion that a chain reaction leading to the formation of practically unlimited amounts of radioactive material is an immediate possibility, though it requires careful control of the conditions under which the experiment is performed.

There is also a 50 to 50 chance that the matter may be of great importance from the point of view of national defense.

In the circumstances it seems to me that this work should be supported financially in a more efficient way than hitherto, and I wondered whether the Union Minière, as the company who would have the chief financial benefit of any use to which uranium is put, would be willing to support this work.

This support could take various forms: First of all, we would appreciate assurance that we can obtain at short notice 30 tons of uranium oxide on loan, of which we would probably need 5 tons in the next six weeks. Secondly it would be of great help if we need not pay rent for radium up to 2.5 gm, as long as we use it in the form in which the company has it in stock rather than in some other form. Thirdly, we would appreciate it if we could obtain refund of the rent which we paid between February and to date for radium loaned out of the stocks of the Radium Chemical Co., the American agent of the Radium

Belge.

I am mentioning these details though I feel that a general agreement for co-operation along some broad lines would do much towards obtaining results quickly.

I personally have no doubt that the Union Minière would prefer to loan the uranium to Columbia University rather than to a comparatively young "association"; such formal difficulties that might exist could be overcome by general good will.

I would much appreciate if you could let me know by cable from England whether you were able to see any of the directors of the Union Minière by the end of July, because if you see for instance that you will not find time to deal with this matter I would like to attempt to contact the Union Minière at once through Professor Biot who is at present in Belgium.

Forgive me please for troubling you with all this on the last day, but I assume that you might find time to read this letter on the boat.

Wishing you and Mrs. Strauss a pleasant stay in Europe,

I am, yours sincerely,

(Leo Szilard)

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

August 30th, 1939

Mr. Lewis L. Strauss
52 William Street
New York City

Dear Mr. Strauss:

I understand that you are interested in the development of a surge generator with the view of using it for producing artificial radioactive elements. I also understand that you and Mr. Adam have come to an arrangement about satisfying the claims of Pennie, Davis, Marvin & Edmonds in connection with the USA Patent Number

At present Mr. Adam is in the position to give manufacturing rights under this patent, and I am not in the position of doing so. It is possible however that at a later date by paying Mr. Adam a certain sum I shall obtain full liberty of action concerning this patent. If this happens I shall let you have a non-exclusive license, royalty free, but limited to the production of radioactive elements by means of high voltage generated by a surge generator.

Yours very truly,

(Leo Szilard)

TELEPHONE
UNIVERSITY 4-2700

MEMORANDUM

I have found a way to maintain a chain reaction and ways to use it producing a power, for instance, for the purpose of driving naval vessels. The crew of of the vessel can be protected against irradiations emanating from the atomic engine by means of water tanks of rather moderate size. About ten tons of uranium might be used for such an engine.

Whether it is a rather rare isotope or the abundant isotope of uranium which is possible for the reaction is not known. If it is the rare isotope then ten ton of uranium would supply as much power as about fifty thousand tons of coal before the atomic engine gets . If it is the abundant isotope which splits then ten tons of uranium will supply as much power as five million tons of coal and even then would use up only about one fifth of the uranium so that the rest could be reconditioned.

The question could be decided after investigating a small sample of isotopes.

Not sent

Public. notar

Not sent

UNDER
KNOTT MANAGEMENT

TELEPHONE
UNIVERSITY 4-2700

King's Crown Hotel

420 WEST 116TH STREET
NEW YORK

OPPOSITE COLUMBIA UNIVERSITY

January 30, 1940

Lewis L. Strauss
52 William Street
New York City

Dear Mr. Strauss:

This is to remind you that about a week ago we thought it might be a good plan for me to talk to Godowski and others. If you wish to arrange something for me I could keep appointments this week at twenty-four hours notice. If your secretary telephones the King's Crown Hotel the clerk will tell him if I am in town or at Princeton, and in the latter case, I can be reached there at the Nassau Tavern.

I have looked more closely into the question of driving naval vessels with an atomic engine and I am enclosing a memorandum on the subject which we might use as a starting point for further deliberations.

Is it possible for you to see me some time during the second half of this week or early next week?

Yours very sincerely,

Leo Szilard

February 26, 1940

Mr. Lewis L. Strauss
52 Williams Street
New York City

Dear Mr. Strauss:

Please excuse my not showing up this afternoon when Dr. Kamnitzer was scheduled to visit you. Miss Gilvary informed me in due time but her information was contained in a post-script which I did not see until late this afternoon when I was going to file her letter. This oversight had a technical cause and I am enclosing Miss Gilvary's letter so that you may see for yourself.

Yours sincerely,

(Leo Szilard)

September 6, 1938

Mr. Lewis L. Strauss
52 William Street
New York City

Dear Mr. Strauss:

Enclosed you will find an Aide Memoire which my brother and I wrote at the request of the National Live Stock and Meat Board. I am sending it to you for your information.

My brother saw Mr. Seblig in Chicago who put him in touch, as you suggested, with Swift & Co. It appears that the trichinosis situation is even more serious than we suspected, and this is frankly admitted by the meat packers. They are only anxious that the publich should not become alarmed before a solution has been found for the problem. Swift & Co. made some experiments with x-rays,using commercial x-raystubes. They became discouraged when they found that they needed about an hour's irradiation and did not realize that the time required would become much shorter if higher voltages were used. So they gave up. Their chief chemist to whom my brother talked appeared to be very interested and arranged for him to meet representatives of other institutions which take an active interest in this problem. As the result of these

September 5th, 1938

conversations it has been arranged that we prepare an Aide Memoire which will be sent by the Gen. Manager of the National Live Stock and Meat Board to some members of a recently formed special committee. This committee, in which the meat packers and the federal authorities are both represented, will probably be convened for a date in the second half of September to meet in Chicago. Its function is to make recommendations for improving the situation with respect of trichinous infection. I understand that we might be asked to attend this meeting, and in this case I would accompany my brother to Chicago and try to make some definite arrangements. In any case I shall keep you informed about the further development.

With best wishes,

yours sincerely,

(Leo Szilard)

SUMMARY

conversations it has been arranged that we prepare an Aide Memoire which will be sent by the Gen. Manager of the National Live Stock and Meat Board to some members of a recently formed special committee. This committee, in which the meat packers and the federal authorities are both represented, will probably be convened for a date in the near, half or fortnight in Chicago. The function is to make recommendations for improving the situation with respect of trichinous infection. I understand that we might be asked to attend this meeting, and in this case I would accompany my brother to Chicago and try to make some definite arrangements. In any case I shall keep you informed about the further development.

With best wishes,

Yours sincerely,

(Leo Wallace)

UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON

8 March 1949

Dear Leo:

This is to acknowledge your letter of February 16th and its enclosure. I would be glad to see you and refresh my recollection and yours of the events which occurred ten or more years ago. Due to the pressure upon me here, I have not attempted to study your memorandum on the facts. I would rather leave a discussion of the events to our meeting. If you are planning to come to Washington, please let me know, as I would hope that you could have lunch or dinner with me.

With respect to your question, I do not claim any rights to any patent which Mr. Adams obtained for you and, as far as I am concerned, you are, as you put it, in unencumbered possession of the patent. Mr. Adams did certain legal work for the Strauss Foundation, for which he was paid. He billed me in addition for work which he had done for you, for which he has not been paid.

Hoping to see you soon, and with best regards, I am

Faithfully yours,

Lewis L. Strauss

Dr. Leo Szilard
1155 East 57th Street
Chicago 37, Illinois

UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON

6 March 1949

Dear Leo:

This is to acknowledge your letter of February 18th and its enclosure. I would be glad to see you and refresh my recollection and yours of the events which occurred ten or more years ago. Due to the pressure upon me here, I have not attempted to study your memorandum on the facts. I would rather leave a discussion of the events to our meeting. If you are planning to come to Washington, please let me know, as I would hope that you could have lunch or dinner with me.

With respect to your question, I do not claim any rights to any patent which Mr. Adams obtained for you and, as far as I am concerned, you are, as you put it, the unencumbered possession of the patent. Mr. Adams did certain legal work for the Stinnes Foundation, for which he was paid. He billed me in addition for work which he had done for you, for which he has not been paid.

Hoping to see you soon, and with best regards, I am

Faithfully yours,

Lewis L. Strauss

Dr. Leo Szilard
1155 East 57th Street
Chicago 37, Illinois

Pla 3 5360

B-13

1155 E. 57th Street
Chicago 37, Illinois
February 16, 1949

PERSONAL

Mr. Lewis L. Strauss
United States Atomic Energy Commission
Washington, D.C.

Dear Mr. Strauss:

I received a letter from Mr. Morton Adams, dated February 11th, in which he suggests that I settle with you the issues arising out of a bill for services rendered in 1938 which he sent you. It is, of course, always a great pleasure to see you, but I am not sure whether there is a basis for discussion, and in the absence of such a basis, I am afraid that I would merely waste your time, which I am reluctant to do.

In his letter, Mr. Adams also states his impression that some of the relevant facts in this matter are not within his knowledge, since he was not present at the conversations which Dr. Theodore Vogelstein, Mr. Brasch and I held with you during most of 1938. Since it is advisable that he should be informed of the facts, I have written them down from memory on the enclosed memorandum dated February 16th. If my recollection as presented in this memorandum is at variance with yours at any relevant point, I would very much appreciate it if you would let me know, and state what your recollection is. I had promised Morton Adams to let him know your obdervations on my memorandum, if I received them.

Incidentally, some remarks which your lawyer, Mr. Pepper, made to me over the telephone make it advisable for me to ask the following question~~s~~:

Do you believe that you have any claim to any rights relating to the patent which Morton Adams helped to obtain in 1938, and concerning which he sent you a bill for his services? If so, I would very much appreciate it if you would let me know, since I have to know whether or not you believe that, as far as you are concerned, I am in unencumbered possession of the patent.

If at any time you come to the conclusion that the issues under discussion can be settled by a conversation, please let me know, and we may then arrange a meeting.

Very sincerely yours,

Leo Szilard

Enclosure

d r a f t

October 7, 1955

Lewis S. Strauss

Chairman, United States Atomic Energy Commission
Washington D.C.

Dear Mr.Strauss:

I learn from the enclosed clipping that appeared in the New York Times that a patent has been issued in the name of Fermi and myself for the first chain re-acting system. This fact gives me an opportunity to raise with you, in your capacity as chairman of the Commission, the following question:

In 1943, while working on the uranium project at the University of Chicago, I was told that unless I signed over to the Government all my inventions in the uranium field that I made prior to accepting employment on the project, for a compensation of $25,000.00, I would have to leave the project. The process design of the Hanford Plant was not yet completed and there were certain difficulties (one of which I was later able to overcome jointly with Young), and most of us believed that we were in a neck-and-neck race with the Germans. To leave the project at that moment would have put me in the position of a soldier deserting his post in wartime. I offered to enter into an undertaking whereby I would not press any claims against the Government on any of the inventions which I made in the field, but this offer was rejected. The sum of $25,000.00 at that time (in 1943) represented about twice as much as such a sum would represent today, since the purchasing power of the dollar has fallen to about half. Even so, I did not feel that this sum represented a fair compensation for my inventions. Therefore I refused to accept this sum but in order to be able to continue my work on the project I signed over all my inventions to the Government, accepting a sum of slightly above $15,000.00, which had no relation to the value of my inventions but was computed on the basis of actual expenses which I had in connection with developing these inventions, canceling a contract that would have prevented me from signing the inventions over to the Government, and a compensation of $330.00 per month for a period of time while I worked at Columbia University on these inventions but received no compensation.

The enclosed memorandum gives a more detailed account in just what manner I was forced to assign my inventions to the Government, and therefore I will not go into any further details in the body of this letter. You might come to the conclusion that the circumstances under which this was done represents a rather dark spot in the history of the uranium project in the U.S., particularly since you happen to have some direct knowledge to what extent I was instrumental in persuading the Government to take an interest and assume control over the development of the chain re-action. Soon after I came to the conclusion (in July 1939) that setting up a chain re-action in a uranium graphite system must be regarded as an imminent possibility, I contacted you, as well as Professor Einstein. You were kind enough to introduce me to the United Carbide & Carbon Corporation, who were the chief producers of graphite, and upon your return from your trip to Europe I told you of our decision to take the matter to the White House. After giving this matter your consideration you had some doubt whether you would be the right person to approach President Roosevelt in this matter because of the general attitude of the New Deal towards Wall Street, and you thought I would do better to ask Dr. Alexander Sachs, with whom I had been discussing this matter also, to undertake this job. You may have seen the text of Professor Einstein's letter to President Roosevelt, but you may not have seen the memorandum which I wrote that was attached to Professor Einstein's letter and which contained the information upon which Einstein's letter was based. I am enclosing a copy of these documents also.

At this point you might ask, with some impatience, what all this is about, and whether or not I imagine I have a legal claim against the Government. It is not my intention to raise any legal issues by virtue of this letter. What, then, you may ask, is this all about?

There was a custom in ancient Normandy which was called the "clameur de haro" (the cry of haro); any person who had a claim or grievance could seek the presence of the Duke, and dropping on his knees and lifting his hand, cry out "haro, haro, I have had wrong done me". If and when this happened the Duke was by custom bound to hear the petitioner's plea at oncd and to do, or arrange to do, him justice on the spot or as soon as was possible.

So this letter, then, is a "cry of haro".

The Atomic Energy Commission was, of course, not in existence when the events of which I speak occurred. In spite of this, it is conceivable to me that the Atomic Energy Commission might want to look into this matter and then take such action as seems to it appropriate. Most of the facts which are relevant and which I mention in the enclosed memorandum are known to E.P. Wigner (with whom I worked at that time very closely in the project), ro to A.H.Compton, who was at that time director of the project. The remaining facts can be substantiated on the basis of documents written or received by me during 1943 or 1944. These documents, since they were all stamped "Secret", I left in the custody of the Argonne National Laboratory and they are held there, alonb with other personal documents, in a special safe. Should the Atomic Energy Commission wish to look into this matter at all, then I would very much appreciate if you were to designate an official of the Commission, who would go with me to the Argonne National Laboratory, de-classify these documents on the spot, and certify for the benefit of the Commission the fact that these documents were contained in that safe. You might also want the same official, or some other official, to look into the matter of the role which I played in inventing the chain re-acting system and in bringing this invention to the Government. I have kept practically every scrap of paper that relates to the history of the uranium project from the discovery of fission onward and have these documents assembled in preparation for starting to write the history of the uranium project in the U.S. Therefore I would, without much trouble, make available to someone designed by the Atomic Energy Commission the documents which are pertinent to the issue that I am raising by virtue of this letter.

Very sincerely yours

N.

Memorandum attached to letter of October , 1955
addressed to Louis S. Strauss, Chairman
United States Atomic Energy Commission

(1) Early in 1943, when it became apparent that the Government wanted us to take out patents on inventions in the field of the work on uranium, I asked Dr. A. H. Compton, director of the Metallurgical Laboratory at the University of Chicago, to take me off the payroll so that I could be free to devote part of my time to write down in the form of patent applications inventions which I made prior to joining the project. I proposed to continue to work on the project during this time also, but it seemed cleaner not to accept any pay as long as I spent any office time on writing down my inventions which the Government might want to acquire.

When I got through with this work and again devoted my full attention to the problems of the project, I asked to be put back on the pay roll but was told by Dr. Compton that he was under orders from General Groves not to put me on the pay roll until General Groves tells him to do so. Thus I worked without receiving any pay until the end of the year when I assigned my inventions to the Government and was paid my salary retroactively for the year.

(2) Capt. Lavender informed me that he would recommend that I be offered $25,000 for my inventions by the government, and that if I did not accept this offer he will ask that I be removed from the project. He said that no one who may have a claim against the Government should be left in the position of having access to information that would strengthen his claim.

Subsequently, A. H. Compton informed me that he had received orders from General Groves to cut me off from secret information until such time as I reached an agreement concerning my inventions with the Government, and that he, A. H. Compton, had therefore no alternative but to ask me to discontinue my work until I reached a settlement with the Government.

I immediately informed Compton that should I be faced with the choice of deserting the project or of renouncing all claims that I might have against the Government, I should choose to remounce all claims.

Thereupon Dr. Compton informed me that in view of the assurance I gave, I could continue my work.

(3) I wrote a letter to Dr. Vannevar Bush protesting that I should be forced to assign to the Government at the price set by the Government my inventions, I expressed my willingness to enter into an undertaking whereby I would renounce all claims against the Government. Dr. Bush in his reply did not accept my offer. Subsequently it became clear that the Government wanted my inventions as a protection against claims that others might have against the Government.

(4) The final step in this series was a conference with General Groves, in December 1943. In this conference I asked General Groves whether he would be willing to say that I ~~shall~~ could remain at work whether or not I agreed to assign all my inventions to the Government. General Groves replied that he was not willing to say that. Thereupon I asked General Groves whether he would be willing to say that unless I assigned my inventions to the Government I could not remain at my work. General Groves replied that he would not say this either, because if he did it would be duress.

Thereupon I stated that it was my understanding that I would have to leave the project if I did not assign my inventions to the Government. That in these circumstances I had no choice but to assign my inventions to the Government. I stated that I believed, as most of us did at the time, that the Germans may be ahead of us in this work and that I couldn't desert my post in these circumstances. (It so happens that the joint invention made by Gale Young and myself overcome one of the difficulties that stood in the way of a successful design for the Hanford plant.)

I told General Groves that I would not accept the $ 5,000 that was offered to me on the basis of Captain Lavender's evaluation of my inventions. I was prepared to accept, however, my out-of-pocket expenses, expenses incurred in connection with the cancellation of a private agreement (into which I had entered in 1936) which stood in the way of my assigning my inventions to the Government, and living expenses of $330 a month for a period stretching from March 1939 to November 1940 during which I worked on these inventions without being employed at Columbia University, and without receiving any salary.

Within 24 hours after a conference with General Groves, I wrote a memorandum in which I put down the pertinent points of the conversation with General Groves.

(5) Throughout most, if not all of the year 1943 I received no pay because Dr. Compton was under orders not to put me on the payroll

(5) During the conference with General Groves and subsequently at the signing of the contract, I was without benefit of counsel. A patent attorney had been cleared and I had consulted with him on previous occasions but he was unavailable at the time of this conference and the execution of the agreement.

I had protested to Dr. Compton about this and asked that the conference be postponed but Dr. Compton told me that he was under pressure to have the matter settled on the date ~~fixedxx~~ proposed by Captain Lavendar and that Captain Lavendar did not ~~accept~~ see the need of having my counsel present.

The ~~xxxxxxx~~ last page of the contract had a rubber stamp on it, the exact text of which I do not recall, and recall only the meaning, which was that I was not forced to sign the contract, but signed it of my own free will.

Memorandum to
~~The United States Atomic Energy Commission~~
Attached to letter of October 7, 1955 addressed
to the Chairman of the Commission.

Johnny Szilard
Warren Johnson
Mac W. Winner, W Pyne

Lewis S. Strauss, Chairman
U.S.A.E. Commission

(1) Early in 1943, when it became apparent that the Government wanted us to take out patents on inventions in the field of the work on uranium, I told Dr. A.H. Compton, director of the Metallurgical Laboratory at the University of Chicago, to take me off the payroll so that I could be free to devote part of my time to write down in the form of patent applications inventions which I made prior to joining the project. I proposed to continue to work on the project during this time also, but it seemed cleaner not to accept any pay ~~until I had laid down in the form of patent applications~~ as long as I spent any office time on writing down those ~~of~~ my inventions which the Government might want to acquire.

(2) Capt. Leyender, who handled patent matters both for the OSRD and the Manhattan District, ~~came to me at some point and~~ informed me that he would recommend that I be offered $25,000. for all my inventions but ~~what~~ if should I feel that I did not want to accept this offer, he would be forced to recommend that I should be removed from the project. ~~because he~~ felt that anyone who ~~has~~ was there a claim against the Government should not be in a position to have access to information that would make it easier for him to press his claim.

(3) When I told A.H.Compton that I finished writing down what I needed to write down and asked him to put me back on the payroll, he informed me that ~~at~~ he had orders from Gen. Groves not to put me on the payroll until he (Gen.Groves) specifically ordered that this be done.

(4) On a subsequent date A.H.Compton informed me that he had received orders from Gen.Groves to cut me off from secret information until such time as I reached an agreement concerning my inventions with the Government, and therefore that he, A.H/Compton, had no ~~authority~~ alternative but to ask me to stay away from the laboratory until an agreement with the Government was reached. I immediately informed Compton that should I be faced with the choice of leaving my work or of renouncing all claims (against the Govt.) ~~arising out~~ that was outside out of my inventions, I would renounce all claims, ~~and~~ thereupon Dr.Compton informed me that in view of this assurance ~~given to~~ I gave him I could continue with my work.

(5) I wrote a letter to Dr. Vannevar Bush protesting that I should be forced to assign to the Government at the price set by the Government, but expressing my willingness to enter into an undertaking renouncing all claims against the Government. Dr. Bush in his reply did not ~~accept this and evaded the issue by passing the buck.~~ say that this will

(6) The final step in this series was a conference with Gen. Groves, Capt.Levender, Col. Metcalf and myself. In this conference I asked Gen. Groves whether he would be willing to say that I ~~should~~ could remain at work whether or not I agreed to assign all my inventions to the Government. Gen.Groves replied that he was not willing to say that. Thereupon I asked Gen.Groves whether he would be willing to say that unless I assigned my inventions to the Government I could not remain at my work. Gen.Groves replied that he would not say, ~~that because it~~ this either this would be duress. Thereupon I declared that in view of these two statements and in view of the fact that I believed, as did most of us, that the Germans may be ahead of us in this work, I did not feel that I could leave this work and therefore I would assign all my inventions to the Government, but that I was not willing to accept the $25,000. which Capt.Levender recommended as a fair price for my inventions, but that I was willing, however, to accept my expenses and $330. for each month I worked without compensation at Columbia University beginning March 1939.

(7) I was then given a contract to sign that had stamped at the bottom a text (that I have never seen on any contract either before or thereafter) expressing the thought that I was not forced to sign that contract but signed it of my own free will, and by virtue of this contract I assigned all my inventions in the field to the Government for a consideration of slightly above $15,000.

Within twentyfour hours after the conference with Gen.Groves I wrote a memorandum in which I put down the pertinent points of the conversation ~~with~~ with Gen.Groves. This memorandum I left, together with all other correspondence relating to my inventions, in the custody of the Argonne National Laboratory when I left the uranium project in 1946.

8.)

The above statements represent my best recollections, and my recollections are pretty vivid. Nonetheless, they can be checked from knowledge in two ways: E.P.Wigner and A.H.Compton will know most if not all of the relevant facts, and documents which I left in the custody of the A gonne National Laboratory when I left the project in 1946 could be used to check my recollections and correct them if necessary. All correspondence relating to this matter was stamped "secret"and I left all of it in the custody of the Argonne National Laboratory in a special safe which contains all my personal papers that were stamped"secret".

A + 2cc

1155 East 57th Street
Chicago 37, Illinois
November 11, 1955

Mr. Lewis L. Strauss, Chairman
United States Atomic Energy Commission
Washington, D. C.

Dear Mr. Strauss:

I take the liberty of writing to you in order to bring to the attention of the Commission certain facts concerning ~~some of~~ one of my inventions to which the Commission now holds the patent. These facts, I believe, ~~may~~ might lead you to conclude that perhaps I was somewhat less than generously rewarded for the contribution that I made to the development of atomic energy in the United States.

Let me make it clear at the outset that I am not writing in order to air any grievance. My thought is rather to acquaint you with the facts ~~so~~ in the hope that the Commission ~~will~~ should be in a position ~~to~~ to decide whether initiate ~~or further some~~ action ~~that it~~ may ~~regard as~~ be appropriate under the circumstances.

It was not possible for me to raise this ~~matter~~ issue with the Commission ~~prior to~~ before the ~~recent~~ announcement that a patent has been ~~issued~~ granted covering the chain reacting graphite-uranium system invented by Enrico Fermi and me. But now that this patent has been ~~issued~~ published, ~~I hope you will arrive at the conclusion that it would be appropriate to have the facts of my situation reviewed by the Commission.~~ I am in a position to make the following:

To the extent that the patent rests on my inventions, it rests exclusively on the inventions which I made before I was employed on any Government project. In 1943 I assigned these inventions to the Government but this was done ~~expressly~~ against my wishes under pressure from Government officials. At the time of the assignment, I was paid a sum of less than $16,000., ~~and this amount~~ which represented expenses connected with the invention for which I submitted an itemized statement. Thus I was paid nothing for the value of the invention which I assigned to the Government.

~~The circumstances which created~~ Those were the this situation ~~are as follows:~~

— as I later learned —

In 1943 while working on the uranium project at the University of Chicago, I was offered a sum of $25,000. for my invention by the Manhattan District. While this sum was not altogether negligible, since in purchasing power it represented as much as the sum of $50,000. would represent today, I regarded the offer as wholly inadequate and I did not wish to accept it. I was thereupon told by Government officials that if I did not assign my inventions to the Government I would have to quit working on the project because, if I were to have an unsettled claim against the Government, I might derive an advantage by having access to relevant information. When I was asked by the Director of the laboratory to stay away from the project until I had assigned my inventions to the Government, I responded by offering to enter into an agreement whereby I would gratuitously renounce forever any claim against the Government but otherwise I would retain the rights to my inventions. ~~This~~ my offer was rejected by the Government officials involved, ~~and it was explained to me that my offer~~ because it would not protect the Government against claims by some third party who might have independently made similar inventions. I was left no alternative but either to assign my inventions to the Government or to leave the project.

At the time when this happened, it was generally believed that we were in a neck to neck race with the Germans. The design for the Hanford reactor was not yet completed and we did not know how to solve certain difficulties. It appeared, therefore, that it was necessary for me to continue my work and, as it turned out, I was in fact able to solve (jointly with Gale Young) one of the serious difficulties of design. To leave the project at that moment would have put me in the position of a soldier deserting his post in wartime.

I might mention in passing that ~~compelling~~ requiring me to leave the project if I did not assign my inventions to the Government was not the only means by which pressure was exerted, but I believe that there is no need for me to go more fully into this matter on this occasion.

Responding to pressure, I assigned all of my inventions to the Government but I ~~did not~~ refused to accept the $25,000. that was offered to me. As I mentioned before, I was paid a sum of less than $16,000., ~~that was~~ computed ~~strictly~~ on the basis of returning my expenses.

It so happens that you yourself have some direct personal knowledge of the contribution that I made to the development of atomic energy in the United States. From the discovery of fission on, until the late fall of 1939, I had the privilege of keeping in close touch with you and I advised you of every major advance in this field. Early in July 1939 I arrived at the conclusion that it should be possible to set up a chain reaction in a graphite-uranium system. I turned to you for help and subsequently you were kind enough to introduce me to Vice President S. W. Barrett of the Union Carbon and Carbide Corporation, the chief producer of graphite in America. I also consulted you on how best to convey a letter written by Einstein to President Roosevelt. You may have seen the text of the letter on that occasion, but you might not have seen the text of my memorandum that was attached to it and contained the information on which Einstein's letter was based. Enclosed you will find a copy of this document.

Among others who have some direct personal knowledge of my contribution are E. P. Wigner, Edward Teller, and John Von Neumann.

You will also find enclosed copies of three letters that I wrote to Enrico Fermi in July 1939 and a copy of a memorandum that I submitted in October 1939 to Dr. Briggs, Chairman of the Committee that President Roosevelt appointed in response to Einstein's letter. In February 1940 I sent a manuscript to the Physical Review, which described the principles governing a chain reacting graphite-uranium system. For reasons of secrecy this manuscript was not printed but copies are available to the Commission.

If additional information ~~were~~ to be needed, I ~~should~~ shall be very glad to meet with someone designated by the Commission and go through the relevant correspondence and memoranda covering the period from January 1939 to November 1940.

A. H Compton, who was Director of the uranium project at the University of Chicago, and E. P. Wigner, with whom I was closely collaborating in that project, have direct personal knowledge of some of the pressures that were exerted on me in order to induce me to assign

my inventions to the Government. If it were desired, I could submit a detailed statement on this particular aspect of the matter, and could also review documents which would substantiate such a statement with someone designated by the Commission.

I shall be grateful to the Commission for any attention that it may be able to give to the obvious issue raised by this letter. I shall greatly appreciate your advising me whether the Commission wishes to regard this as a matter that is of concern to it.

Very sincerely yours,

Leo Szilard

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USG

OK

1155 East 57th Street
Chicago 37, Illinois
November 16, 1955

Mr. Lewis L. Strauss, Chairman
United States Atomic Energy Commission
Washington, D. C.

Dear Mr. Strauss:

I take the liberty of writing to you in order to bring to the attention of the Commission certain facts concerning one of my inventions to which the Commission now holds the patent. These facts, I believe, might lead you to conclude that perhaps I was somewhat less than generously rewarded for the contribution that I made to the development of atomic energy in the United States.

Let me make it clear at the outset that I am not writing in order to air any grievance. My thought is rather to acquaint you with the facts in the hope that the Commission may decide to take or initiate such action as may be appropriate under the circumstances.

It was not possible to raise this issue with the Commission before the announcement that a patent has been granted covering the chain reacting graphite-uranium system invented by Enrico Fermi and me. But now that this patent has been published, I am in a position to state the following:

To the extent that this patent rests on my inventions, it rests exclusively on the inventions which I made before I was employed on any Government project. In 1943 I assigned these inventions to the Government but this was done against my clearly expressed wishes under pressure from Government officials. At the time of the assignment, I was paid a sum of less than $16,000. which represented expenses connected with the invention for which I submitted an itemized statement. Thus I was paid nothing for the value of the invention which I assigned to the Government.

This situation was created by the following circumstances:

In 1943 while working on the uranium project at the University of Chicago, I was offered a sum of $25,000. for my invention by the Manhattan District. While this sum was not altogether negligible, since in purchasing power it represented as much as the sum of $50,000.

would represent today, I regarded the offer as wholly inadequate and I did not wish to accept it. I was thereupon told by Government officials that if I did not assign my inventions to the Government I would have to quit working on the project because, if I were to have an unsettled claim against the Government, I might derive an advantage by having access to relevant information. When I was asked by the Director of the laboratory to stay away from the project until I had assigned my inventions to the Government, I responded by offering to enter into an agreement whereby I would gratuitously renounce forever any claim against the Government but otherwise I would retain the rights to my inventions. My offer was rejected by the Government officials involved because - as I later learned - it would not protect the Government against claims by some third party who might have independently made similar inventions. I was left no alternative but either to assign my inventions to the Government or to leave the project.

At the time when this happened, it was generally believed that we were in a neck to neck race with the Germans. The design for the Hanford reactor was not yet completed and we did not know how to solve certain difficulties. It appeared, therefore, that it was necessary for me to continue my work and, as it turned out, I was in fact able to solve (jointly with Gale Young) one of the serious difficulties of design. To leave the project at that moment would have put me in the position of a soldier deserting his post in wartime.

I might mention in passing that requiring me to leave the project if I did not assign my inventions to the Government was not the only means by which pressure was exerted, but I believe that there is no need for me to go more fully into this matter on this occasion.

Responding to pressure, I assigned all of my inventions to the Government but I refused to accept the $25,000. that was offered to me. As I mentioned before, I was paid a sum of less than $16,000., computed on the basis of returning my expenses.

It so happens that you yourself have some direct personal knowledge of the contribution that I made to the development of atomic energy in the United States. From the discovery of fission on, until the late fall of 1939, I had the privilege of keeping in close touch

with you and I advised you of every major advance in this field. Early in July 1939 I arrived at the conclusion that it should be possible to set up a chain reaction in a graphite-uranium system. I turned to you for help and subsequently you were kind enough to introduce me to Vice President S. W. Barrett of the Union Carbon and Carbide Corporation, the chief producer of graphite in America. I also consulted you on how best to convey a letter written by Einstein to President Roosevelt. You may have seen the text of the letter on that occasion, but you might not have seen the text of my memorandum that was attached to it and contained the information on which Einstein's letter was based. Enclosed you will find a copy of this document.

Among others who have some direct personal knowledge of my contribution are E. P. Wigner, Edward Teller, and John Von Neumann.

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It so happens that I have now assembled much of the material relating to the genesis of the development of atomic energy in the United States preparatory to writing a book on the subject, and I should be very glad to meet with someone designated by the Commission and go through some of this material if the Commission feels it needs to have additional information concerning my contribution.

A. H. Compton, who was director of the uranium project at the University of Chicago, and E. P. Wigner, with whom I was closely collaborating in that project, have direct personal knowledge of some of the pressures that were exerted on me in order to induce me to assign my inventions to the Government. If it is desired, I can submit a detailed statement covering this particular aspect of the matter.

I know, of course, that there are many important matters which claim the attention of the Commission at the present time, and therefore I regret to have to add to the burden of the Commission by writing this letter. I can think of good reasons, however, why the Commission might wish to take action on the basis of the facts here presented.

I would greatly appreciate your advising me whether the Commission wishes to regard the issue raised by this letter as a matter that is of concern to it.

Very sincerely yours,

Leo Szilard

Leo Szilard

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Encl.

Mr. Louis L. Strauss -4- November 16, 1955

I know, of course, that there are many important matters which claim the attention of the Commission at the present time, and therefore I regret to have to add to the burden of the Commission by writing this letter. I can think of good reasons, however, why the Commission might wish to take action on the basis of the facts here presented.

I would greatly appreciate your advising me whether the Commission wishes to regard the issue raised by this letter as a matter [illegible]

Very sincerely yours,

Leo Szilard

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Encl.

Mrs. Hall
808

UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON

OFFICE OF THE CHAIRMAN

18 November 1955

Dear Doctor Szilard:

This is to acknowledge your letter of November 16th which I have read with a great deal of interest. The transaction with which it deals took place before the formation of the Atomic Energy Commission and I have no familiarity with it. Accordingly, I have referred your letter to the General Manager of the Commission for study and appropriate action. You will hear from him in due course I am sure.

I hope this finds you well.

Sincerely yours,

Lewis L. Strauss

Lewis L. Strauss

Dr. Leo Szilard
1155 East 57th Street
Chicago 37, Illinois

COPY

United States
Atomic Energy Commission
Washington

Office of the Chairman

18 November 1955

Dear Doctor Szilard:

This is to acknowledge your letter of November 16th which I have read with a great deal of interest. The transaction with which it deals took place before the formation of the Atomic Energy Commission and I have no familiarity with it. Accordingly, I have referred your letter to the General Manager of the Commission for study and appropriate action. You will hear from him in due course I am sure.

I hope this finds you well.

Sincerely yours,

(signed)

Lewis L. Strauss

Dr. Leo Szilard
1155 East 57th Street
Chicago 37, Illinois

Mr. Lewis L. Strauss, Chairman
United States Atomic Energy Commission
Washington, D. C.

1155 E. 57th Street
Chicago 37, Illinois

February 1, 1956

Dear Mr. Strauss:

~~Since~~ You were kind enough to refer my letter of November 16, 1955 to the General Manager. Since then I received a letter from him which I interpret to mean that in his ~~determination~~ view I have no legal claim against the Government.

I am not a legal expert, I have not consulted ~~a~~ any legal expert, and I ~~do~~ did not assert that I have a legal claim against the Government. But when it comes to a question of a moral claim, then all of us may qualify as experts.

I assume that the members of the Commission did not have in the past any occasion to establish a policy that would be applicable to a moral claim arising from the ~~signing~~ assigning by an inventor of patent rights to the Government against his wishes under pressure.

~~Even if the~~ Were members of the Commission ~~were~~ willing to formulate such a policy and ~~were willing~~ to apply it to my case, there still would remain the question whether it is within the power of the Commission to pay a gratuity in fulfillment of a ~~moral obligation in the absence of a legal claim in a case of this type. I am inclined to assume that if the Commission had such a right you would wish to discuss the case I presented to you.~~

moral obligations in the absence of ~~the~~ a determination that there is a legal claim in a case of this type. You may know the answer to this question but you may not be free to tell it to me. ~~If this is in the power of the Commission, then~~ it would be my hope that you will bring my case and the policy question it raises to the other members of the Commission.

I realize of course that you may not be free to tell me what is and what is ~~not~~ within the power of the Commission.

There is a charming book by Max Radin, "The Law and You." He relates in it that there was a custom in ancient Normandy which was called the "clameur de haro". Any person who had a claim or grievance could seek the presence of the Duke, and dropping on his knees and lifting his hand, cry out "Haro, haro, I have had wrong done me." If and when this happened, the Duke was by custom bound to heed the

petitioner's plee, and do, or arrange to do, him justice on the spot, or as soon as possible.

~~But, alas, this is not ancient Normany and if I do not hear from you beyond a formal acknowledgment of this letter, I fear I might be at a loss to know what to do next.~~

~~With best wishes,~~

~~Sincerely yours,~~

~~(Leo Szilard)~~

and I fear I shall not know where to ~~turn next~~ if you take my "claim or grievance" if you are not free to tell me what the ~~rights~~ Commission's policies and powers are in a ~~cases of this type~~ like the one I have presented to you. —

~~a type that I have presented~~

But, alas, this is not ancient Normandy, and I fear I shall not know where to take my "claim or grievance" if you are not free to tell me what the Commission's policies and power are in cases like the one I ~~am~~ have presented ~~here~~ to you, in my letter of Nov 9, 1955.

With best wishes,

Sincerely yours,

(Leo Szilard)

LEWIS L. STRAUSS

Mercury Building
1925 K Street, N. W.
Washington 6, D. C.

6 April 1960

Dear Leo:

It delighted me to read in the TIMES this morning that you had been chosen to receive the Atoms-for-Peace Award. No one could be more deserving of it.

Cordially,

Lewis

Dr. Leo Szilard
Memorial Hospital
New York, New York

LEWIS L. STRAUSS

Mercury Building
1925 K Street, N. W.
Washington 6, D. C.

10 May 1960

Dear Leo:

In the course of going through my files for the book which I am writing, I found over this week-end a number of other letters from you which were very interesting. They dealt with your speculation (which proved accurate) that there was a gain in the neutron yield on fission, and with the arrangements which you made with me for the radium that was required for your work with Fermi in 1939. I will have copies made of them and send them to you if you wish.

Faithfully yours,

Lewis

Dr. Leo Szilard
Memorial Hospital
New York, N. Y.

~~Book~~ ~~file~~ 5

file: memoirs

Hotel Dupont Plaza
Washington 6, D.C.

15 March 1962

Dear Lewis:

As you have told me, you have incorporated in the book which you have written, a letter which I wrote you on January 25, 1939, concerning the first news of fission, excerpts from various messages during the months immediately following, and parts of a manuscript dated 4-18-61 which I sent to you on May 8, 1961.

This will evidence my consent for the publication of these passages in your book or in reprints or syndication of it.

Sincerely,

Sz.

LEO SZILARD

Admiral Lewis L. Strauss
Mercury Building
1925 K Street, N.W.
Washington 6, D.C.

February 22

"There is a fairly good chance now that if we can concentrate the uranium isotope 235 from uranium a chain reaction could be set up in the concentrate. I am therefore beginning to give attention to the process which could be used for concentrating the isotope ... Fermi is convinced that the native uranium is no good [for that purpose]."

March 6 (Telegram)

Performed today proposed experiment with beryllium block with striking result. Very large neutron emission found. Estimate chances for reaction now above 50%.

April 11

So far publication of the papers, which were sent to the PHYSICAL REVIEW on March 16th, is being delayed at our request and efforts are made to get similar action in England and France. In the meantime a paper by Joliot appeared in NATURE which relates to our subject but so far, it did not attract much attention. Now we are trying to get Joliot to cooperate but I do not know whether we will succeed.

April 14

After an exchange of cables with Joliot in Paris and Blackett in England, the Physics Department of Columbia University decided to publish our papers which were sent to the PHYSICAL REVIEW sometime ago. This decision which runs contrary to my personal wishes was largely based on Joliot's unwillingness to delay his papers in connection with his view that the situation has already gotten out of hand."

June 15 (Telegram)

Yesterday Fermi and I have completed semi-large scale experiment with positive results.

February 22

"There is a fairly good chance now that if we can concentrate the uranium isotope 235 from uranium a chain reaction could be set up in the concentrate. I am therefore beginning to give attention to the process which could be used for concentrating the isotope ... Fermi is convinced that the native uranium is no good [for that purpose]."

March 6 (Telegram)

Performed today proposed experiment with beryllium block with striking result. Very large neutron emission found. Estimate chances for reaction now above 50%.

April 11

So far publication of the papers, which were sent to the PHYSICAL REVIEW on March 16th, is being delayed at our request and efforts are made to get similar action in England and France. In the meantime a paper by Joliot appeared in NATURE which relates to our subject but so far, it did not attract much attention. Now we are trying to get Joliot to cooperate but I do not know whether we will succeed.

April 14

After an exchange of cables with Joliot in Paris and Blackett in England, the Physics Department of Columbia University decided to publish our papers which were sent to the PHYSICAL REVIEW sometime ago. This decision which runs contrary to my personal wishes was largely based on Joliot's unwillingness to delay his papers in connection with his view that the situation has already gotten out of hand."

June 15 (Telegram)

Yesterday Fermi and I have completed semi-large scale experiment with positive results.

From Szilard

Draft

Dear Mr. Strauss:

I understand that you may form or collaborate in the formation of a tax exempt non-profit corporation for the purpose of studying methods to produce artificial radio-active elements and possibly also for the purpose of producing and marketing such elements for medical or other purposes. I have applied for a patent in 1935 in this country which concerns the production of artificial radio-active elements. This patent may be granted in the near future. I have an agreement with Mr. Isbert Adam of Danzig, concerning certain patents, and this patent falls under that agreement. I shall, however, be free to give after October 15, 1939, non-exclusive licenses for all the claims of my patent with exception of those claims which refer to the chemical separation of isotopes. Also, in certain circumstances, I might, at a later date, be released from that agreement with Mr. Adam, and in this case I might be free to give non-exclusive and exclusive licenses for all claims.

In order to facilitate the carrying out of your intention to promote research in the field of induced radio-activity by creating a tax exempt non-profit corporation, I wish to state that, if and ~~when~~ insofar as I shall be free to grant licenses under my patent, I shall grant non-exclusive licenses to the above mentioned tax exempt corporation and shall leave it to the free judgement of that corporation whether or not they wish to pay royalties and what the amount of these royalties shall be, if any. I cannot say that I will grant exclusive licenses to the said corporation,

but I wish to state that I shall not grant exclusive license to other corporations, and if I grant non-exclusive licenses to other corporations for which I obtain any financial consideration, I shall divide my share of these financial considerations among those tax exempt non-profit corporations which may at the time concern themselves with the production of artificial radio-active elements.

Yours very truly,

Shaw