

May 30, 1940

MEMORANDUM for Professor Urey

1. Admiral Bowen suggested at a meeting held under the chairmanship of Dr. Briggs at the Bureau of Standards on April 27, 1940, that the scientists working on uranium should form sort of voluntary association and impose upon themselves such limitations concerning the publication of results as appears to be necessary.

While at the time, this suggestion was made it seemed to be difficult to get the cooperation of the majority of scientists the invasion of Holland and Belgium has brought about a change of attitude so that now we may hope to succeed if we act on the suggestion of Admiral Bowen.

It is proposed that a committee "for the coordination of nuclear research" be formed under your chairmanship and that this committee formulate from time to time the policy which is to be adopted with regard to publication. If this committee were composed of yourself, Pegram, Wigner, Beams, Tuve, Teller, Fermi, and myself, it would be easy to meet once a month and to deal with all problems which may arise. For this reason no names have been included from the Middle-west or the West coast. Since, however, the Physical Sciences Division of the National Research Council has ~~xxxx~~ appointed a committee for the purpose of looking into the question of uranium ~~and~~ ~~xxxxxxxxxxxxxxxx~~ which consists of Beams, Breit, and Pegram, you might feel that you want to ask Breit to join the committee so that all members of the group representing the National Research Council should be included in your committee.

Your committee could have a sub-committee for unseparated uranium and a sub-committee for the separation of uranium isotopes. Fermi and I would be glad to act as secretaries to the sub-committee for unseparated uranium and I suppose you and Beams might be willing to act as secretaries for the sub-committee for the separation of uranium isotopes.

The scope of the committee could be enlarged immediately after its formation by including the non-governmental members of the Special Advisory



Committee which has been meeting under the chairmanship of Dr. Briggs. These non-governmental members are Professor Pegram, Dr. Alexander Sachs, and Professor Albert Einstein. They, together with yourself, could then form the link between your committee and the government and could act as a nucleus for a board of **trustees**. Such a board of trustees will be required if funds are to be obtained or solicited from either governmental or private sources.

In order to be able to maintain the necessary secrecy and at the same time to preserve the possibility of free discussion among those scientists who wish to cooperate with each other, it is proposed that your committee after its formation, should draw up a list of names and that there should be free discussion among those who are included in this register. At the same time, an uncontrolled diffusion of information would be prevented by pledging all those ~~included~~ to be included in this register to refrain from discussing the subject of uranium with anyone else. New names could be added to the list from time to time in order to include all those who are trustworthy and who may wish actively to collaborate. Separate lists of names may be drawn up for the various branches of uranium research in accordance with the fact that the need for secrecy is greater for some branches than for others.

Requirement For Funds:

Fermi and I would desire to carry out a large scale experiment which would involve the use of about 100 tons of graphite and 10 to 20 tons of metallic uranium. Before actually placing orders for such an experiment which will involve considerable expenditure we propose to go through a preparatory stage involving an expenditure of \$50,000. The successful completion of this preparatory stage would make it possible to carry out the large scale experiment in a comparatively short time



and with an increased assurance of success.

We are looking forward to obtaining from the Government the sum of \$50,000. which is required for this preparatory stage. We feel, however, that a few weeks or months may pass before we will be actually in the position of making financial commitments on the basis of the expected action by the Government. Unless we are able to make such commitments within the next two weeks up to the amount of \$15,000. we shall not be able to efficiently prepare the work which otherwise could be speedily carried out during the summer and during the next academic term. This means that we may lose four to six months of valuable time. If this amount could be obtained without delay from a private source, for instance, from the Carnegie Institute through Dr. Bush, it would represent a very great help at this juncture. It could be either refunded if and when Government facilities become available or it could be handed over to your committee earmarked for work on unseparated uranium and used for such expenditure as will not be provided for by the Government.

Of the required \$15,000. about \$12,000. might be taken up for assuring the collaborators whose help we need adequate salaries for a period of a year. We propose to keep the salaries somewhat higher than usual in order to compensate our collaborators for the damage which ~~to~~ their careers will suffer by their being prevented from publishing any papers.

While undoubtedly a fund of \$25,000. would be preferable inasmuch as it would include an item of \$7000. for buying materials such as uranium oxide and uranium metal in quantities required within the next six months and another item of \$6,000. for building apparatus, we feel that if we could be sure right away that we can go ahead and make commitments on the basis of a budget of \$15,000. this smaller sum would



be sufficient to bridge the gap provided that we receive a pledge by the Government concerning the budget of \$50,000. by the end of September.



Columbia University  
in the City of New York

DEPARTMENT OF CHEMISTRY

June 7, 1940

Dr. Leo Szilard  
Pupin Laboratories

Dear Dr. Szilard:

At the suggestion of Admiral Bowen, and with the approval and suggestions of Dr. Briggs, I have been organizing a committee to be called the "Advisory Committee on Nuclear Research." This is to be an advisory committee to the President's Committee on Uranium, which consists of Drs. Briggs, Pegram, Saks and Einstein. The committee as suggested at present has been chosen from among easterners in order to decrease the expense of meetings and to permit more frequent conferences. It is proposed that the committee shall consist of the following:

H. C. Urey, Chairman  
M. A. Tuve  
G. Breit  
G. B. Pegram  
E. Fermi  
L. Szilard  
E. P. Wigner  
E. Teller

In the second place, another advisory committee on the separation of uranium isotopes has been proposed, to consist of the following men:

H. C. Urey, Chairman  
J. W. Beams  
R. Gunn  
E. Fermi  
G. B. Kistlikowsky

My colleagues here have been responsible for working me into the position of chairman of both committees. I do not know that I am the best man, but at least I am near to the center of work in this field and have the virtue of



June 7, 1940

being an American citizen, which is probably advisable in this case.

We should like to have you serve on the first committee, for we believe that your advice on problems dealing with uranium fission would be valuable. It is proposed that the first committee shall have its first meeting next Thursday, the 13th, in Washington, at the Bureau of Standards at 9 A. M., and I hope very much that you will be there and be prepared to discuss these problems.

We should like to keep the existence of these committees a relatively little publicized matter for one of our objectives is to prevent the dissemination of too much discussion of points which might have military value and if the committees are not known to exist there will be less inquiry about them.

Hoping to see you in Washington.

Sincerely yours,

*Harold C. Urey*

Harold C. Urey



Washington, D. C.  
April 28, 1955

MEMORANDUM

To: H. C. Urey

From: Leo Szilard

In the crisis which has recently arisen over the islands of Quemoy and Matsu, it became evident that the United States was seriously contemplating the use of atomic weapons if she should become involved in the fighting that might break out over those islands. It became known through the remarks made by Admiral Carney, which found their way into the daily press, that the use of atomic bombs might not be limited to the tactical area, and that so called "strategic bombing" was seriously contemplated.

In these circumstances, we can no longer avoid facing squarely the issue of whether it is right and wise for the United States to resort to atomic warfare in a local conflict as long as no atomic weapons are used against us and as long as there is still hope that the conflict might be kept from turning into a world war.

The military value of the tactical use of atomic bombs is very great. There are undoubtedly areas which could be successfully defended only if we resorted to this kind of warfare. But it would seem <sup>that</sup> ~~as if~~ there is another overriding <sup>(consideration):</sup> ~~issue~~.

Shall we, by resorting to atomic warfare in a local conflict, break down the last psychological barrier which -- in the next ten years -- might be our sole remaining protection against wholly unimaginable devastation of the countries affected.<sup>2</sup>

We may be able to preserve this barrier only if we do two things:



(1) Maintain sufficient strength in conventional weapons to be able to resist an attack by conventional weapons in certain areas vital to us without resorting to the use of atomic explosives. This does not mean that we must be able to hold any one of these areas by means of conventional weapons against an all out attack by conventional weapons, but only that we must be able to resist with conventional weapons sufficient <sup>ly vigorously</sup> strength to discourage an attack;

(2) Return to the standards generally accepted by the civilized world up to the Second World War and refrain from waging warfare against the civilian population and the destruction of cities by any kind of bombs.

~~If in the next few years to come we~~ <sup>If we do this we</sup> ~~succeed~~ <sup>might</sup> in maintaining the abhorrence of atomic war as a barrier against the kind of destruction which we now know to be possible. ~~we shall be lucky.~~ But we cannot rely on this barrier for long, and one of the most urgent tasks of the next few years must be to reexamine the possibility of negotiating with Russia and the other nations involved, an overall agreement that will settle all outstanding political issues, provide for the right kind of disarmament, and create a setting in which the great powers will have a strong incentive to keep the arrangements agreed upon in force. There must be an untiring effort to explore this possibility.

I wonder whether the Democratic members of Congress might not be willing to support a resolution that would express the sense of Congress to the effect that:



(1) The United States must not ~~in case of war~~ wage war against the civilian population except ~~with consent of Congress;~~ <sup>in retaliation for a similar ~~to~~ attacks</sup>

(2) The United States must not start an atomic war and must not use atomic explosives without the consent of Congress except if the United States or our Armed Forces are attacked with atomic explosives;

~~(3)~~ If such a resolution were introduced, I believe it will be important for the Democratic members of Congress to <sup>stress</sup> strengthen their willingness to vote an additional appropriation if this is necessary to maintain adequate <sup>strength in</sup> conventional arms. The United States must not be put in a position <sup>where</sup> that it has to choose in any local conflict between starting an atomic war or retreating without resistance. The strength in conventional arms which we may maintain must be determined by our economic limitations and not by the considerations of keeping the budget balanced.



Washington, D. C.  
April 28, 1955

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From: Leo Szilard

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(2) Return to the standards generally accepted by the civilized world up to the Second World War and refrain from waging warfare against the civilian population and the destruction of cities by any kind of bombs.

*If we do this we might*  
~~if in the next few years to come we~~ succeed in maintaining the abhorrence of atomic war as a barrier against the kind of destruction which we now know to be possible, we shall be lucky. But we cannot rely on this barrier for long, and one of the most urgent tasks of the next few years must be to reexamine the possibility of negotiating with Russia and the other nations involved, an overall agreement that will settle all outstanding political issues, provide for the right kind of disarmament, and create a setting in which the great powers will have a strong incentive to keep the arrangements agreed upon in force. There must be an untiring effort to explore this possibility.

I wonder whether the Democratic members of Congress might not be willing to support a resolution that would express the sense of Congress to the effect that:



The Quadrangle Club  
The University of Chicago  
1155 East 57th Street  
Chicago 37, Illinois

May 7, 1956

Dr. Harold C. Urey  
Institute of Nuclear Studies  
University of Chicago  
Chicago 37, Illinois

Dear Urey:

You helped a great deal in arranging for my transfer to the Institute of Nuclear Studies and as a result my situation is much improved. Now another opportunity seems to present itself in which I think I need your help.

The Biology Division of Cal Tech (Resdle), the Department of Biophysics of the Medical School of the University of Colorado (Puck), and the Department of Pharmacology of the Medical School of NYU, have been discussing with each other and with me the possibility of asking the National Science Foundation to set up a Roving Research Professorship which would leave me free to pursue my scientific interests anywhere I desired and it would not be limited to these three institutions.

Apparently the officers of the National Science Foundation are interested in creating such a novel institution. The National Science Foundation would however not set up such a "fellowship" for more than five years.

The situation is complicated by the following calamity. If I stay at the University of Chicago and retire at the age of 65, about seven years from now, I would have a retirement income from Teachers Annuity of \$113 per month. It is this low because my regular academic employment started in 1946.

Dr. Bernard D. Davis, head of the Department of Pharmacology at the NYU Medical School, and some of my other friends in New York, believe that it might be possible to raise from foundations and private individuals funds to supplement what the National Science Foundation might be able to do, and create some sort of a "fellowship for life." They wish to enlist your help in this matter and you will receive a letter from Dr. Davis in the near future. He discussed with me what he proposes to do, and it sounds all right.

With kind regards.

Sincerely,

Leo Szilard



THE UNIVERSITY OF CHICAGO

CHICAGO 37 • ILLINOIS

THE ENRICO FERMI INSTITUTE  
FOR NUCLEAR STUDIES

July 2, 1956

The German Consul General  
8 South Michigan Avenue  
Chicago, Illinois

Dear Sir:

I am writing to you with reference to Dr. Leo Szilard who is applying to you relative to "Wiedergutmachung" to which this letter is attached. I have been very well acquainted with Dr. Szilard for the past 16 or 17 years. We first became acquainted at Columbia University before World War II, we were associated during the war and have been professors at the University of Chicago since the war and have had many common interests.

Dr. Szilard has impressed me throughout these years as an exceedingly intelligent and brilliant man. That he is such is recognized generally by all who know him. He proposes the most original scientific ideas and conclusions and is able to present these ideas most clearly in lectures.

During the development of the atomic energy program, Dr. Szilard made some of the most fundamental suggestions and was most active in advancing this work.

I am not acquainted with the academic standards of Germany from first-hand knowledge since I have never resided in Germany, but I have known many professors from German universities as well as many of other countries and of the United States. It seems certain to me that if his academic career in Germany had not been terminated in 1933 by the National Socialists that he would have been appointed a professor in some one of the most prominent universities of Germany.

We in the United States have been honored to have him as one of our most original and brilliant colleagues.

Very truly yours,

Harold C. Urey  
Martin A. Ryerson Distinguished  
Service Professor of Chemistry



THE UNIVERSITY OF CHICAGO  
CHICAGO 37 • ILLINOIS  
THE ENRICO FERMI INSTITUTE  
FOR NUCLEAR STUDIES

November 25, 1957

Dr. Morten Grodzins, Chairman  
The University of Chicago  
Department of Political Science  
1126 East 59th Street  
Chicago 37, Illinois

Dear Grodzins:

Thank you very much for your letter of October 25 which got buried on my desk. I have not been actively doing anything about the sort of thing that went on at Pugwash. I am just not certain that it accomplishes anything or at least that it works in a direction in which I feel interested. Leo is very much interested in this and I have an idea that it may do some good but as I am situated at the present time it is very difficult for me to take time on this matter in addition to all the other things I do.

Very sincerely,

*Harold*

Harold C. Urey

HCU:apw