

1155 East 57th Street
Chicago 37, Illinois
July 14, 1950

Mr. Warren C. Johnson
Chairman, Department of Chemistry
5739 Ellis Avenue
Chicago 37, Illinois

Dear Johnson:

I am writing to you in your capacity as a member of the Council. Dr. Urey, at the last Council meeting, outlined the basic philosophy upon which, in his opinion, a satisfactory plan for retirement benefits ought to rest. I have attempted to show in the enclosed memorandum how such a plan could be implemented by describing one possible set of provisions and by estimating the magnitude of the sums which would be involved.

The purpose of the present letter is merely to give you notice of the existence of this plan and to put it into your hands so that you might form an opinion concerning its merits.

Sincerely,

Leo Szilard

wv

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MEMORANDUM

from Leo Szilard to Warren C. Johnson
on the future of the Institute of Radiobiology and Biophysics

December 12, 1952

The problem to which I am addressing myself is the following general question: Should there be maintained within the framework of the Research Institutes at the University of Chicago (established in 1945), laboratories devoted to basic research in biology? In order to see this question in its proper perspective, it is necessary to make a few remarks on the present state of affairs in the natural sciences.

In the first half of the century, physics was undoubtedly the king of the natural sciences, and it attracted among the students of science the very best. It would seem that this happy state of affairs is over, and these days able students often hesitate to become physicists.

The two main fields of physics today in which a student is offered opportunity to work, are solid state physics and high energy physics.

Solid state physics has never been everybody's meat. While it was permissible to hope that if we are in possession of the right basic equations we might fully understand the solid state - it never seemed likely that by studying the solid state we might be guided to find the right basic equations. Those who were attracted by the deepest mysteries, therefore, did rarely go in for work on the solid state.

In the high energy field, work centers around large accelerators and must be elaborately planned; many students do not find this attractive. They might also feel that while we shall discover new phenomena in the high energy

field as long as we keep pushing to higher and higher energies, there is no certainty that the phenomena which manifest themselves there have much to do with the phenomena naturally occurring on the earth in the lower energy regions. It is of course possible, and perhaps even probable, that the days of great discoveries in low energy physics are not over, and that some discovery comparable to that of the electromagnetic waves (the existence of which we did not suspect until Maxwell's work) is just around the corner. But however that may be, the fact remains that today there are able students of physics who prefer to work in the field of biology.

They ought to be warned that biology has not reached the stage which physics has reached, where enough knowledge has accumulated to permit the scientist to sit in the bath tub, review in his mind well established facts, and emerge with a significant insight or a new theory. In biology, this type of activity is stopped short by the realization that experiments of one kind or another must be done before further thinking becomes profitable.

In physics, enough is known to make it possible to appraise the significance of any new fact unearthed by experiments. In physics, few experiments result in a discovery, but it is easy to assign to the result of the experiment its proper place in an already well established structure. In biology, on the other hand, it is easy to make a discovery, but difficult to appraise its significance.

Any physicist who wants to become a biologist should be cautioned about this state of affairs, and only few of those who have established a reputation in their field may be expected to make the change if they understand what they are up against. Those who do want to make the change, however, will have to face the problem of finding a suitable place to work. The odds

are that they will not be able to continue within the framework of any physics Department or Chemistry Department.

The students of science who are first attracted by the physical sciences and who subsequently want to do research in the field of biology may want to get a doctor's degree in "biophysics". No matter how much physics they know, if their work is with biological material, they could not fairly describe themselves as physicists. For them to say "I am a physicist, but I work with rabbits" would be exceedingly awkward. They want to be able to give a simple answer to the simple question "What are you?"; they want to call themselves biophysicists.

The University of Chicago is offering a doctor's degree in Biophysics. In this it is not pioneering, but just following other universities. In order to maintain such a degree, it is not necessary to establish a Department of Biophysics that would take care of formal instruction. No lectures on Biophysics need be given; Biophysics cannot be taught as such for "there ain't no such animal". A graduate student in Biophysics should be free to work on his thesis in any department of the University which is set up for biological work and it ought to be an important program of the Institutes to offer graduate students in Biophysics an opportunity to work there on their theses.

The Institute of Radiobiology is in principle accepting graduate students. But the attempt to place the responsibility for graduate students in the hands of a Committee on Biophysics has somewhere gone wrong. For it is a fact that while the setting up of a program in Biophysics was initially greeted with great enthusiasm by the students (and there were many interested in such a program), at present the students who are farthest advanced

discourage, on the basis of their own experience, the younger students and advise them to get out. Unless this situation is remedied soon there will be no candidates for the doctor's degree in Biophysics. It might be that in order to remedy this situation it will be necessary to set up something intermediate between a fly-by-night Committee of Biophysics and a full-fledged Department of Biophysics, and perhaps take other steps in addition.

To my mind, the primary function of a Biological Institute within the framework of the Research Institutes of the University of Chicago ought to be to provide a place of work for those trained in the exact sciences who want to work in the field of biology. Limiting the Research Institutes to Solid State Physics, High Energy Physics, as well as Nuclear Chemistry, and excluding Biology, would seem to me to be an anachronism reflecting a lack of understanding of the general state of the Natural Sciences that exists at present.

One might of course ask whether research institutes, whose members have research rather than teaching as their main responsibility should exist at all as part of the University of Chicago. I personally believe that the conditions under which a research institute can flourish are rather delicate and are rarely understood by those who are charged with administering them. For this reason, if Mr. Hutchins had consulted me in 1945 on whether the University of Chicago ought to establish research institutes, I would have advised against it.

The precedents for research institutes, such as the Kaiser Wilhelm Institutes in Germany or the Rockefeller Institute in New York, are only moderately encouraging. These institutes have no connections with any university, their members do no teaching, nor do they give their attention

to the practical application of science. I believe that by and large, it is not good for a scientist to be in a position where he has to justify his existence by putting out a never-ending stream of new insights or discoveries. Few men are happy if placed in a position where it becomes a moral necessity for them - as Mr. Einstein put it - "to lay golden eggs".

Research institutes not connected with any university lack the tradition of the old established universities, and as a consequence, new appointments and promotions are not under the democratic control of a faculty, but rather under the control of the director appointed by some board of trustees. Such an organization offers only a very poor guarantee for an organic growth of the research institute, sufficient overlapping of interest of its members, and the kind of teamwork that originates spontaneously.

These are difficulties which could be overcome, and to some extent have been overcome in the case of the Research Institutes which are part of the University of Chicago. There is no difficulty here to give members who want to engage in formal teaching, teaching opportunities, and this problem has in fact been most satisfactorily solved in the Institute of Nuclear Studies. It should also be possible to give those who would soothe their consciences by indulging in some programmed research aimed at practical applications of science rather than of participating in a teaching program, an opportunity to do so.

A word of warning might here be in order. It might seem that if such programmed research were part of the Institutes' activity, the Institutes would be in danger of deteriorating. And indeed, they would deteriorate if the staff members were at heart engineers (physical, chemical or biological). But if the Institutes are staffed with men whose guiding passion is basic

research rather than programmed research, no such danger will exist.

To sum up:

I believe that now that Research Institutes have been created, they should be maintained if it is financially possible to do so, and I further believe that if they are maintained, they should include laboratories where men trained in the physical sciences who want to work in the field of biology can find a congenial home.

Since I am addressing myself here only to the question of whether or not biology should remain as part of the activity of the Research Institutes, I am not going into the equally important question of what needs to be done in order to make such an operation successful. Clearly, a number of requirements will have to be met which are not met at present. It is therefore possible that in spite of the foregoing arguments, the Institute of Radiobiology ought to be dissolved. And certainly it ought to be dissolved rather than be permitted to deteriorate, whether for failure to recognize what the successful operation of such an Institute requires, or inability to obtain the rather modest funds which are needed to meet these requirements.

LS/llt

THE UNIVERSITY OF CHICAGO

CHICAGO 37 • ILLINOIS

THE DIVISION OF THE PHYSICAL SCIENCES

Office of the Dean

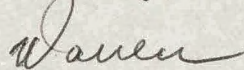
August 7, 1956

Dr. Leo Szilard
Enrico Fermi Institute for Nuclear Studies
Faculty Exchange

Dear Leo:

I have made arrangements for us to go over your files (Manhattan Project) in my office (Eckhart 111), August 29. Mr. Marshall of the Office of Classification has agreed to come to Chicago for this purpose on that date. I shall obtain the files from Dr. Young of the Argonne. Suppose we meet in Eckhart 111 about 10:00 A.M., August 29.

Sincerely,



Warren C. Johnson

The Quadrangle Club
The University of Chicago
Chicago 37, Illinois

August 11, 1956

Dr. Warren C. Johnson
Dean, The Division of the
Physical Sciences
The University of Chicago
Chicago 37, Illinois

Dear Dr. Johnson:

Many thanks for your very kind letter of August 7th.
I shall be at your office at 10 a.m. August 29th, as you suggest, unless I hear from you otherwise.

I am leaving for a few days for Los Alamos today, and will probably be in Denver thereafter until August 27th. In case there is any change, could you let me know there at 6101 East 11th Avenue, Denver 20, Colorado -- telephone: Fremont 7-9683.

My regular mailing address is the Quadrangle Club.

Sincerely,

Leo Szilard

THE UNIVERSITY OF CHICAGO
CHICAGO 37 · ILLINOIS
THE DIVISION OF THE PHYSICAL SCIENCES

Office of the Dean

September 17, 1956

Mr. William Consolazio
National Science Foundation
Washington 25, D.C.

Dear Mr. Consolazio:

I am writing to you concerning the application for a Grant of Research Support that is being submitted to the National Science Foundation by the California Institute of Technology on behalf of Dr. Leo Szilard. The application is co-sponsored by the University of Chicago, the University of Colorado Medical School, the New York University College of Medicine, and the Rockefeller Institute for Medical Research.

Dr. Szilard is Professor of Biophysics at the Enrico Fermi Institute for Nuclear Studies of the University of Chicago. Prior to being transferred to this institute, last July 1, he was a member of the Institute of Radiobiology and Biophysics at this University, which has been discontinued as an administrative unit. This University could make available to Dr. Szilard adequate laboratory facilities, and Dr. Szilard should have no difficulty in obtaining financial support for his work either from the University or from outside grants. However, he feels that it would be inadvisable for him in his present setting to attempt to assemble a group of research men, such as he would need to carry out an adequate program in biological research, since there would be little assurance that these men could later obtain regular staff appointments in the event they were successful in carrying out their programs. For this reason Dr. Szilard would now prefer to work in close collaboration with men who have already established positions at different universities

Mr. William Consolazio
National Science Foundation
Washington 25, D.C.

September 17, 1956

rather than to build up a group of his own at the University of Chicago. I appreciate Dr. Szilard's point of view and so does the Administration of the University, and we shall be pleased to do anything that may help to make the arrangement proposed by the California Institute of Technology function smoothly and become productive.

Dr. Szilard is at present very much interested in work that is going on at the University of Chicago on two aspects of protein synthesis - adaptive enzyme formation and antibody formation. We hope that he will retain his interest in this work under the new arrangement and that he might also become interested in other work that is currently in progress here or is planned for the future.

During the past ten years Dr. Szilard has been a member of the staff of the University of Chicago; not only has he made a number of important contributions, but in addition he has provided unusual imagination and stimulus for a number of younger men who have been associated with him. We would hope that, as the present proposal suggests, he would continue to spend part of his time with us so that his creative contributions would continue to have influence on his colleagues.

Sincerely yours,

Warren C. Johnson

Warren C. Johnson, Dean
Division of the Physical Sciences

CC Dr. George W. Beadle
Chairman, Division of Biology
California Institute of Technology
Pasadena, California

bcc Dr. Leo Szilard ✓
Dean R. W. Harrison

THE UNIVERSITY OF CHICAGO
CHICAGO 37 • ILLINOIS
THE DIVISION OF THE PHYSICAL SCIENCES

Office of the Dean

October 5, 1956

Dr. Warren C. Johnson
c/o Mr. C. L. Marshall
Division of Classification
U.S. Atomic Energy Commission
1901 Constitution Avenue
Washington 25, D.C.

Dear Warren:

Enclosed is a copy of the letter which I wrote to Mr. Marshall and enclosed also are the documents to which it relates. I am having them sent to you on the ~~best~~⁷⁷ chance that Mr. Marshall may be able to settle this matter with you on the spot.

Sincerely,



Leo Szilard

LS:FA
Enclosures per receipt

When separated from enclosures, handle
this document as UNCLASSIFIED.

December 7, 1956.

Dr. Warren C. Johnson,
Dean
Physical Sciences Division
Eckhart Hall
University of Chicago
Chicago 37, Ill.

Dear Warren,

I have not yet heard from the National Science Foundation but I assume that the grant application which was submitted by Cal-Tech is held for the Board meeting in March. In the meantime I have received the attached letter from the Rockefeller Institute. Should there be any doubt in your mind whether I ought to accept, could you send me a telegram addressed to me at Room 2134, Hotel St. Moritz, New York?

Unless there is an objection that you can see I propose to accept.

With kindest personal regards,

Sincerely,

Leo Szilard

cc: S.K.Allison

Personal
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December 16, 1956.

Dr. Warren C. Johnson,
Dean of the Physical Sciences Division
Eckhardt Hall
University of Chicago,
Chicago 37, Ill.

Dear Warren,

Enclosed is copy of a letter which I sent to Dr. Bronk
in response to his invitation to become an Affiliate
of the Rockefeller Institute - for your information
and files.

With kind personal regards,

Sincerely,

Leo Szilard

encl.

File

December 31, 1956.

Dr. Warren C. Johnson, Dean
Physical Sciences Division
Eckhardt Hall
The University of Chicago
Chicago 37, Ill.

Dear Warren,

Enclosed is a check for \$950.00 dated December 29, 1956, made out to the University of Chicago by Cass Canfield, Chairman of the Executive Committee of the Board of Directors, Harper & Brothers, publishers, representing a donation earmarked for expenses of my work that arise while I am away from Chicago, such as secretarial services, hotel bills and transportation.

The University has opened an account to which I charge such expenses and this account was attached in the past to the Social Sciences Division, to which I was attached.- I believe this account still exists but I presume it would have to be transferred now from the Social Sciences Division to the Physical Sciences Division. I wonder whether you could arrange for the check to be credited to this account.

Mr. Canfield is about to go out of town but I shall ask him to drop you a note to confirm that the above version is the correct interpretation of the intention of the donation.

I have been working with Dr. William Doering of Yale University on a major memorandum relating to certain aspects on the organization of scientific work and have run up quite a secretarial bill and other expenses which I am going to charge to my expense account at the University of Chicago as soon as this account is

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again in the black.

With kind personal regards,

Sincerely,

A handwritten signature in cursive script, appearing to read "L. Szilard".

Leo Szilard

encl.

GENERAL ADVISORY COMMITTEE
TO THE
U. S. ATOMIC ENERGY COMMISSION
WASHINGTON 25, D. C.

January 7, 1957

Dear Sir:

The Atomic Energy Act of 1954 (Public Law 703 - 83rd Congress) provides the following in Section 157b(3) "..... The Commission may also, upon the recommendation of the General Advisory Committee, and with the approval of the President, grant an award for any especially meritorious contribution to the development, use, or control of atomic energy".

The first award under this Act was made on November 16, 1954, to Enrico Fermi. In December of 1955 the General Advisory Committee recommended to the Atomic Energy Commission that an Enrico Fermi Award be established on a permanent basis.

The Commission determined that the Award should be made not more often than annually, and an Award in 1956 was made to Dr. John von Neumann. The General Advisory Committee now has the duty of recommending a candidate for the Enrico Fermi Award for 1957 to the Commission and the President.

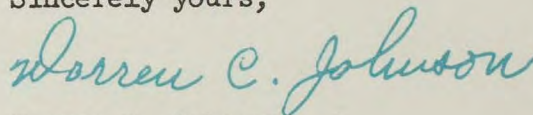
In fulfilling our obligation under this Act, we invite you as an individual to nominate a candidate who, in your best judgement, has made an especially meritorious scientific or technical contribution to the development, use, or control of atomic energy. The Committee wishes no worthy candidate to be overlooked.

Nominations should be received by the Chairman, General Advisory Committee, Atomic Energy Commission, Washington 25, D. C., not later than March 1, 1957. In making a nomination, please minimize such biographical data as can readily be found in standard reference works and place principal emphasis on a concise statement of the scientific achievement upon which the nomination is based.

Candidates nominated last year will be considered again this year. If there is new evidence in support of your candidate, please supply it to the Committee.

Your cooperation in contributing to this important Award will be very much appreciated by the Committee.

Sincerely yours,



Warren C. Johnson
Chairman

Dr. Leo Szilard
University of Chicago
Chicago 37, Illinois

February 1, 1957

Dr. Warren C. Johnson
Dean, Division of the Physical Sciences
University of Chicago
Eckhart Hall
Chicago 37, Illinois

Dear Warren,

Attached is a letter which I had sent to Mr. Marshall on October 25th. At that time I sent also a copy to your office.

A few days ago I merely wrote him (see copy attached) to remind him of my letter of which he had not acknowledged the receipt.

I am sending you all this so that you might refresh your memory prior to your trip to Washington.

Sincerely,

Leo Szilard

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Encl.

March 9, 1957.

Dr. Warren C. Johnson
Dean of the Physical Sciences Division
Eckhart Hall
University of Chicago
Chicago 37, Ill.

Dear Warren,

Now you see it - now you don't! Please read the enclosed letter dated February 20th which I recently received from Mr. Marshall.

Since you said that you planned to discuss this matter with the General Manager of the A.E.C. I am attaching to this letter a copy of my letter to Mr. Marshall dated October 25, 1956. This letter contains all the relevant information and I hope that - as the outcome of your discussions - positive action will be taken along the lines suggested in this letter.

I believe I told you that the Bulletin of the Atomic Scientists is preparing a special issue on the history of the decision to use the atomic bomb against Japan. I said I would contribute an article to this number which will be limited to the realm of my personal experiences. Alice Smith is acting as the editor of this special issue.

At a recent meeting with Alice Smith in which Walter Blum of the Law School participated, I showed them my correspondence with A.E.C. We decided to await the outcome of your discussions in Washington before going any further.

In the meantime I have also shown this correspondence with the A.E.C. to Mr. Cass Canfield, Chairman of the Executive Committee of Harper & Brothers, who thought that Jack Fisher might be interested, in his capacity as editor of Harpers Magazine., if the Bulletin is unable to carry through their plans.

Dr. Warren C. Johnson

- 2 -

March 9, 1957.

I also told the gist of this correspondence to Robert Hutchins, with whom I happened to have lunch today. Hutchins thought that the issues involved come within the province of the Fund for the Republic. I take this to mean that if the Bulletin runs into difficulties with the issue which they plan and additional funds are needed, a request by them to the Fund for the Republic would receive favorable consideration.

I shall now wait until I have had an opportunity to discuss with you these matters upon your return from Washington.

With kindest personal regards,

Sincerely,

Leo Szilard

encl.

cc: Alice Smith, The Bulletin of the Atomic Scientists ✓
Walter Blum, The Law School, The University of Chicago

Jim Forte

July 30, 1957

Dr. Warren C. Johnson
Dean, Physical Sciences Division
The University of Chicago
Chicago 37, Illinois

Dear Warren,

I am writing you in reply to your circular letter of July 24th relating to the directorship of the Institute. A joint reply expressing the view of a number of the members of the faculty is in the process of being prepared, and I share the view that it will express.

It is clear that it would take a miracle for McMillan to accept the directorship of this Institute, but a miracle has been defined by Fermi as an event which has a probability of less than 10% of occurring, which was just Fermi's way of saying that there is a general inclination to underestimate the probability of improbable events.

Because the previous recommendation to offer the position to McMillan was not based on the assumption that there is an appreciable likelihood of his acceptance, and because the administration did not put forward any new arguments, it was not possible for the faculty to revise their recommendation. If there are any new arguments that can be made, I am certain that they will be carefully considered.

I understand fully why you, personally, are reluctant to raise the issue with McMillan but I believe it is not necessary at all for you to raise this issue. Some of the younger people in the Institute, and among them Roger Hildebrand, believe that they can marshal strong arguments as to why McMillan ought to consider the directorship of this Institute. If I understand correctly, the administration would be willing to appoint McMillan but they are reluctant to make an offer which they are almost certain will be rejected. If Roger Hildebrand and such others as wish to associate themselves with this mission were officially advised of this fact, they could go and see McMillan, put forward their arguments, and tell McMillan definitely that the University will offer

him this position and will negotiate with him in the customary fashion if they are advised that McMillan would consider accepting the position.

Sincerely yours,

Leo Sillard

**cc: Dr. Gregor Wentzel
Dr. Roger Hildebrand**

THE UNIVERSITY OF CHICAGO
CHICAGO 37 • ILLINOIS
THE DIVISION OF THE PHYSICAL SCIENCES

Personal
1958

Office of the Dean

October 16, 1957

Dr. Leo Szilard
Enrico Fermi Institute for Nuclear Studies
Faculty Exchange

Dear Dr. Szilard:

At its meeting on October 12 the Board of the Louis Block Fund for Basic Research decided not to support your request for a travel grant in the amount of \$4500. I regret that we were not able to honor your request; however, the Board felt it was not the type of request that the Block Fund should support.

It would appear to me that the next logical step would be to seek funds elsewhere. I would be glad to discuss this matter with you at your convenience, with the hope that some satisfactory solution may be found.

Sincerely,

Warren C. Johnson

Warren C. Johnson, Dean
Division of the Physical Sciences

Personal

~~File~~

Berlin,
24 October 1957

Dr. Warren C. Johnson
Division of the Physical Sciences
The University of Chicago
Chicago 37, Illinois

Dear Dr. Johnson,

Many thanks for your kind letter of October 16 advising me of the failure of the Block Fund to approve the grant that I requested. I appreciate your offer to discuss with me the possibility of seeking funds elsewhere upon my return to Chicago and I shall contact you about this matter upon my return.

There is one aspect of this matter however which I should like to raise in the meantime. Just before I left Chicago I arranged with Dr. Turkowitch and Dr. Dalitz - on the assumption that I shall have funds available for paying secretarial services at Chicago - that we shall use those funds to provide for additional secretarial help for the theoretical group in the Institute so that I may continue to share Mrs. Norene Mann's services with Dr. Dalitz without holding up thereby any of the work that the younger members of this group might want to get out fast. The thought was, that out of the funds that I may be made available to me through the Block Fund, we may have, if need be, an additional secretary, for at least part of the time. Accordingly Turkowitch assigned to Mrs. Mann a room large enough to accomodate another secretary and a desk for my use.

Inasmuch as I don't expect to be engaged in experiments in Chicago I need correspondingly more, and higher grade, secretarial help for my work, if I am to utilize the time I spend in Chicago to the best advantage. I am therefore anxious to make sure that the arrangement about secretarial work which I discussed with Turkowitch and Dalitz can go through and I am therefore writing to you to find out if the Institute of the Division has funds (or whether you are able to make available other funds) upon which we can draw on, if need be, to provide for the additional secretarial help for the theoretical group which Dr. Dalitz, Dr. Turkowitch and I have envisaged.

I am leaving Berlin on the 25th for Heidelberg and the rest of my trip is as yet not scheduled but letters addressed to me at the Institutes are regularly forwarded to me.

With kind regards

Sincerely yours

Copies

(Leo Szilard)

The Director of the
Enrico Fermi Institute
Dr. Dalitz
Dr. Turkowitch

CONFIDENTIAL

MEMORANDUM

July 2, 1958

From: Leo Szilard
To: Warren C. Johnson
Dean of the Physical Sciences Division
The University of Chicago
Re: Study Relating to the World Security Problems
Raised by the Bomb

An international conference of scientists -- usually referred to as the Second Pugwash Conference -- was held in April of this year at Lac Beauport, Quebec, Canada. This conference was convened by Bertrand Russell and sponsored by Cyrus Eaton. It lasted twelve days and offered the participants an opportunity to clarify their own thinking on security problems raised by the bomb.

While the conference was useful in this respect, and also afforded an opportunity for Russian and American scientists to hold private conversations with each other, it would not seem advisable to attempt to carry forward a study of the security problems raised by the bomb through further conferences of the same character.

At Lac Beauport, Col. Richard S. Leghorn (President of ITEK Corporation, Boston), Professor Jerome Wiesner (Head of the Research Laboratory for Electronics, Massachusetts Institute of Technology, Cambridge, Mass.) and I raised, with Alexander Topchiev, General Secretary of the

Academy of Sciences of the Soviet Union, the issue of just what kind of conferences would be most suitable for carrying further the study of these problems. Subsequently, we made Topchiev concrete proposals on how we might cooperate with the Academy of Sciences of the Soviet Union in regard to clarifying the issues involved in the security problem posed by the bomb. Our proposals were embodied in a memorandum and a signed copy of the memorandum was sent to Topchiev, at his Moscow address, after the Lac Beauport meetings.

The relevant passages of this memorandum run as follows:

"We propose that there shall be held a meeting in Moscow in which ten to fifteen American scientists, of the kind to be described later, would participate, and about an equal number of Russian scientists of approximately the same sort. This meeting might last two weeks and it should take place at the earliest time that will suit those who are to participate and, if possible, not later than July of this year.

"About one third of the American group might be scientists who are familiar with the technology of modern weapons and who, by virtue of their relationship to the United States government, are in a position to communicate their own thinking to the government, but who are not,

themselves, officials of the United States government.

About three or four of the Americans may be mathematicians or theoretical physicists or theoretical chemists.

"The topic of the proposed discussions at Moscow might be circumscribed as follows:

"'There exists, in the present state of the atomic arms race, a serious danger than an atomic war might break out which neither America nor the Soviet Union wants. What are the circumstances which might lead to the outbreak of such a war, and how could these circumstances be modified in order to diminish, and later on to eliminate completely, this danger?'

"At the meeting in Moscow we would propose to discuss, as frankly as we have discussed in Quebec, controversial issues, including the difficulties which stand in the way for America to accept certain proposals which have been made by the government of the Soviet Union and for the Soviet Union to accept certain proposals that have been put forward by the American government. Sometimes these difficulties come from apprehensions of one government, of which the other government is not fully aware. The proposed discussion at Moscow should enable both the American participants and the Russian participants to think about ways that may enable us to get around such difficulties.

"After the conclusion of the conference, the participants may be able to explain to their own governments their, perhaps greatly improved, understanding of the difficulties which stand in the way of an agreement between the two governments and which relate to the question of controlled arms reduction, as well as certain other problems which are intimately related to this question. Our reasons for believing that the informal talks between American and Russian scientists, which we propose, might be fruitful are essentially as follows:

"Our talks at Quebec have convinced us that among Russian, as well as among American, scientists there are many who are not only men of good will, but who are also able to explore dispassionately controversial issues. Such men should be able to clarify, in their own minds, what the difficulties are that are impeding the progress towards reaching an understanding between America and Russia even in areas where these two nations have a strong common interest.

"The American participants in the proposed meeting would want to prepare, in advance of the meeting, memoranda which may be helpful in focusing the discussion on what they believe to be the relevant topics. Some of these American documents will be concerned with problems which they believe to represent valid apprehensions of the

Soviet Union.

"We suggest that, similarly, our colleagues in the Soviet Union, who are to participate in the proposed meeting, may prepare documents on topics which are concerned with those apprehensions of the American government which they may recognize as valid.

"In addition, both the American and Russian participants might prepare documents which relate to topics that represent apprehensions of both America and the Soviet Union, such as the danger of an accidental outbreak of an atomic war, and the risks involved in the possession of atomic weapons by nations other than America and the Soviet Union and Britain.

"We believe that the invitations to the proposed Moscow meeting should not come from us, but rather that certain Americans be invited individually by the Soviet Academy of Sciences. However, we are prepared to say who, among American scientists, could be particularly useful - in our opinion - at the proposed meeting. We are also prepared to offer our good offices in exploring who, among those whom we regard as desirable participants of the meeting, is likely to be able to attend the meeting. We propose to keep in touch with each other on the subject of the selection of American participants, and one of us

may keep in touch with Academician Topchiev in order to keep him informed on who, among the proposed American participants, may be available at the date set for the meeting."

We have now received the enclosed reply from Topchiev, dated June 18th, advising us that the Academy of Sciences of the Soviet Union has accepted our proposal and suggesting July 28th as the tentative date for the meeting to be held in Moscow.

Should it prove impossible for us to hold the meeting at the date suggested by Topchiev, then according to our present thinking, we might propose to Topchiev that Leghorn, Wiesner and I meet with our Russian counterparts, designated by the Soviet Academy of Sciences, at an early date in Moscow to hold a preparatory conference, lasting perhaps for a week. This preparatory conference could do a considerable amount of intellectual preparation for the forthcoming meeting. At such a preparatory conference we would have an opportunity to explore just what aspects of the problem involved would be the most suitable topics for a discussion at the projected meeting.

I should add that we are not looking at the proposed meeting of Russian and American scientists as a one-shot operation, but rather as a first step in carrying out a

continuous study of the security problem. Therefore, it appears to us more important to open up this new channel of communication, and to keep it open, than to accomplish very much at the first meeting.

L.Sz.

THE UNIVERSITY OF CHICAGO
CHICAGO 37 • ILLINOIS
OFFICE OF THE CHANCELLOR

April 6, 1960

acknowledged May 15/60

Dr. Leo Szilard
Memorial Hospital, Room 812
444 East 68th Street
New York 21, New York

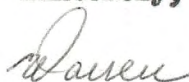
Dear Leo:

It was a pleasure to learn through the newspapers a couple weeks ago that you have been awarded the Einstein Medal. I am very happy that you are this year's recipient of the Award, which you so well deserve and which has previously been given to a number of outstanding men. On two occasions the GAC acted informally, at Mr. Strauss' request, as a reviewing committee for the Award. Then, since a number of recipients were available, it was Mr. Strauss' intention to use the previous awardees as an Award Committee, which he has done this year.

Although I have not kept directly in touch with you the past few months since you have been in the hospital, I have received frequent reports through Eugene Wigner as well as others. Please accept my congratulations and best wishes on this occasion. As soon as my travels take me to New York I shall get in touch with you.

With best regards,

Sincerely,



Warren C. Johnson

P.S. After dictating the above I learned from this morning's paper that you have been awarded the 1959 Atoms for Peace Award. I am extremely happy about this. Again, congratulations and best wishes.

Warren

Dr. Warran C. Johnson
Physical Sciences Division
Eckhard Hall
University of Chicago
Chicago 37, Illinois

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Dear Warren:

I have received three letters from Germany, two from the Ministry of Education and one from the Free University of Berlin.

The Ministry of Education advises me that upon my suggestion they have reached an agreement with Professor Kopfermann. ~~XXXXXXXXXX~~ Kopfermann has agreed to assume responsibility for building the Laboratory for Nuclear Physics of which I am being ~~offered~~ offered the directorship. Kopfermann has not yet made up his mind whether or not he will take over one of the Divisions of this institute if he should retire ~~from~~ from the University of Heidelberg in 1960.

In these circumstances, there is no immediate pressure on me to make a decision concerning the Berlin offer.

The University of Berlin advises me that my salary would amount to RM 37,060 per year as long as I am on active duty and that after retirement I would receive an income as long as I live in the amount of RM 27,060. ~~XXXXXXXXXX~~ Accordingly, my retirement income would amount to about \$6,427.00 a year at the current exchange rate and considerably more in actual purchasing power.

If I accepted the position offered to me as of the fall of 1960 I could retire with my full retirement income after serving for 18 months.

There is one point which is uncertain. It is not agreed whether I ~~can~~ could return to America and have my retirement income transferred in dollars to me or whether I would have to live up my retirement income in Germany. Apart from this point of uncertainty, the offer is financially very favorable and the retirement conditions are in sharp contrast to the retirement conditions to which I must look forward if I retire at Chicago upon reaching the compulsory retirement age of 65. My retirement income

Page 2

due ~~me~~ from my services to the University consist in an annuity which I may expect from Teachers Annuity and Insurance and it will amount to slightly more than \$100.00 a month. ~~In addition~~ In addition, I would have the benefit of Social Security but only if my earned income remains below about \$100.00 a month. I shall have some retirement income from Germany though considerably less than the amount quoted above in case I refuse the Berlin offer and this retirement income would under present law be transferrable to me in America if I should permanently reside here.

Sincerely yours,

LEO SZILARD

LS:dw

cc: H. L. Anderson

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Dr. Warren C. Johnson
Eckhard Hall
University of Chicago
Chicago 37, Illinois

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Dear Warren:

This letter I am writing to you in your capacity as Chairman of the General Advisory Committee rather than as Dean of the Physical Sciences Division.

As you may know, I have attended a meeting called by Bertrand Russell and held at Quebec under the sponsorship of Cyrus Eaton, a Trustee of the University of Chicago. The meeting was organized by a steering committee set up at the Pugwash meeting last year. In December of last year I attended as a consultant the meeting of the Committee in London and they have accepted my suggestion concerning the character of the Quebec meeting. Accordingly, the Quebec meeting was a long meeting, lasting for about twelve days and it was primarily devoted to thinking rather than drafting of a proclamation. The official sessions consumed only a fraction of the day and the rest of the day was free to enable private discussions among the participants.

The basic position that I took at that meeting was as follows: It is conceivable that Russia and America might agree within the foreseeable future on the cessation of bomb tests and perhaps also on limiting the number and the total power of destruction of the bombs that they retain in stockpiles. But if one believes that the solution of the problem as posed by the bomb lies in far-reaching disarmament then no agreement that stops short of eliminating the stockpiles of bombs as well as jet bombers and long range rockets can be regarded as an adequate measure from the point of view of safeguarding peace, because I personally believe that this crucial step cannot be taken in the foreseeable future.

I believe that our main problem is at present not disarmament but rather the following:

It is likely that for an extended period of time there will be a stalemate between the strategic atomic striking forces of Russia and America. Our problem is to understand what measures must be taken in order to render this stalemate stable so there will be no danger that an atomic war may break out that neither Russia nor America want. As long as Russia and America retain powerful hydrogen bombs in their stockpiles it is essential that the powerful hydrogen bombs of the dirty variety be replaced by equally powerful bombs of the clean variety.

Since
~~XXXXXXXXXX~~ I have no reason to believe that either Russia or America know today how to construct such clean bombs ~~which~~ which are compact enough and light enough to be carried by solid fuel long-range rockets-- upon which the strategic stalemate is likely to be based--I am in favor of continuing bomb tests for the purpose of developing such bombs.

Towards the end of the meeting after Col. Richard Leghorn and Dr. Jerome had left I found myself in the position where I became the main opponent of the Russians during the joint effort to draft a statement for publication. Because the Russians were not in a position to include any sentence in the draft that was not consistent with publicly declared Russian policy I was forced to oppose the inclusion of any sentence that was not consistent with officially declared American policy. In these circumstances, I was very much gratified to learn through my private conversations with individual Russians that in spite of the position that I have taken the Russians realized that I wanted peace and that I was sincere and meant what I said. At the end of the meeting I found myself in the position where Academician Toechiev was willing to give serious consideration to particular proposals which I made concerning the forms in which we might continue the conversations that were begun at Quebec. It is conceivable that something/might come out of this and I

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shall tell you more about it if I have a chance to see you in Chicago towards the end of next week. I am starting a two-week visit to M.I.T. on April 27 and shall then be tired up for awhile in Boston and, subsequently, in Washington.

I was particularly pleased by an admission made by one of the Russians in private conversation that my forecast might be more realistic than the official Russian position and it remains to be seen to what extent it represents the prevailing private opinion among Russian scientists who concern themselves with Russian-American relations.

Because the Russians at the Quebec meeting will be included in the official delegation to the Geneva conference in September and because I wish to continue my conversations with them on that occasion I have decided to attend the Geneva meeting.

I might perhaps arrange to go as a representative of either the Bulletin of Atomic Scientists or the Saturday Review of Literature, or perhaps Harper's. It is not difficult to predict that a number of people in Geneva such as some of the French and some of the Russian delegation are going to ask me why I am not included in the American delegation. As you know I am never embarrassed by questions of this sort since I simply resort to the expedient of stating the truth. Should you or your colleagues in the General Advisory Committee prefer that I attend the meeting as a member of the American delegation and should it be necessary for this purpose that I give a paper,--which if avoidable I would prefer to avoid--I could present a paper on either of two subjects; I could either give a talk on "Technical Problems Relevant to the Stability of Peace in the Atomic Stalemate" or I could deliver a paper on the "Formation of Inducible Enzymes."

I should perhaps add that I am at present writing an article

Page 4

entitled "The Road to Survival; General Disarmament or Pax Russo-Americana?"
which I intend to publish simultaneously in America and Russia. I hope
to send you a copy in the near future.

With best ~~xxx~~ wishes,

LEO SZILARD

LS:dw

cc: E. P. Wigner
Edward Teller

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CONFIDENTIAL

MEMORANDUM

July 2, 1953

From: Leo Szilard
To: Warren C. Johnson
Dean of the Physical Sciences Division
The University of Chicago
Re: Study Relating to the World Security Problems
Raised by the Bomb

An international conference of scientists -- usually referred to as the Second Pugwash Conference -- was held in April of this year at Lac Beauport, Quebec, Canada. This conference was convened by Bertrand Russell and sponsored by Cyrus Eaton. It lasted twelve days and offered the participants an opportunity to clarify their own thinking on security problems raised by the bomb.

While the conference was useful in this respect, and also afforded an opportunity for Russian and American scientists to hold private conversations with each other, it would not seem advisable to attempt to carry forward a study of the security problems raised by the bomb through further conferences of the same character.

At Lac Beauport, Col. Richard S. Leghorn (President of ITEK Corporation, Boston), Professor Jerome Wiesner (Head of the Research Laboratory for Electronics, Massachusetts Institute of Technology, Cambridge, Mass.) and I raised, with Alexander Topchiev, General Secretary of the

Academy of Sciences of the Soviet Union, the issue of just what kind of conferences would be most suitable for carrying further the study of these problems. Subsequently, we made Topchiev concrete proposals on how we might cooperate with the Academy of Sciences of the Soviet Union in regard to clarifying the issues involved in the security problem posed by the bomb. Our proposals were embodied in a memorandum and a signed copy of the memorandum was sent to Topchiev, at his Moscow address, after the Lac Beauport meetings.

The relevant passages of this memorandum run as follows:

"We propose that there shall be held a meeting in Moscow in which ten to fifteen American scientists, of the kind to be described later, would participate, and about an equal number of Russian scientists of approximately the same sort. This meeting might last two weeks and it should take place at the earliest time that will suit those who are to participate and, if possible, not later than July of this year.

"About one third of the American group might be scientists who are familiar with the technology of modern weapons and who, by virtue of their relationship to the United States government, are in a position to communicate their own thinking to the government, but who are not,

themselves, officials of the United States government. About three or four of the Americans may be mathematicians or theoretical physicists or theoretical chemists.

"The topic of the proposed discussions at Moscow might be circumscribed as follows:

"'There exists, in the present state of the atomic arms race, a serious danger than an atomic war might break out which neither America nor the Soviet Union wants. What are the circumstances which might lead to the outbreak of such a war, and how could these circumstances be modified in order to diminish, and later on to eliminate completely, this danger?'

"At the meeting in Moscow we would propose to discuss, as frankly as we have discussed in Quebec, controversial issues, including the difficulties which stand in the way for America to accept certain proposals which have been made by the government of the Soviet Union and for the Soviet Union to accept certain proposals that have been put forward by the American government. Sometimes these difficulties come from apprehensions of one government, of which the other government is not fully aware. The proposed discussion at Moscow should enable both the American participants and the Russian participants to think about ways that may enable us to get around such difficulties.

"After the conclusion of the conference, the participants may be able to explain to their own governments their, perhaps greatly improved, understanding of the difficulties which stand in the way of an agreement between the two governments and which relate to the question of controlled arms reduction, as well as certain other problems which are intimately related to this question. Our reasons for believing that the informal talks between American and Russian scientists, which we propose, might be fruitful are essentially as follows:

"Our talks at Quebec have convinced us that among Russian, as well as among American, scientists there are many who are not only men of good will, but who are also able to explore dispassionately controversial issues. Such men should be able to clarify, in their own minds, what the difficulties are that are impeding the progress towards reaching an understanding between America and Russia even in areas where these two nations have a strong common interest.

"The American participants in the proposed meeting would want to prepare, in advance of the meeting, memoranda which may be helpful in focusing the discussion on what they believe to be the relevant topics. Some of these American documents will be concerned with problems which they believe to represent valid apprehensions of the

Soviet Union.

"We suggest that, similarly, our colleagues in the Soviet Union, who are to participate in the proposed meeting, may prepare documents on topics which are concerned with those apprehensions of the American government which they may recognize as valid.

"In addition, both the American and Russian participants might prepare documents which relate to topics that represent apprehensions of both America and the Soviet Union, such as the danger of an accidental outbreak of an atomic war, and the risks involved in the possession of atomic weapons by nations other than America and the Soviet Union and Britain.

"We believe that the invitations to the proposed Moscow meeting should not come from us, but rather that certain Americans be invited individually by the Soviet Academy of Sciences. However, we are prepared to say who, among American scientists, could be particularly useful - in our opinion - at the proposed meeting. We are also prepared to offer our good offices in exploring who, among those whom we regard as desirable participants of the meeting, is likely to be able to attend the meeting. We propose to keep in touch with each other on the subject of the selection of American participants, and one of us

may keep in touch with Academician Topchiev in order to keep him informed on who, among the proposed American participants, may be available at the date set for the meeting."

We have now received the enclosed reply from Topchiev, dated June 18th, advising us that the Academy of Sciences of the Soviet Union has accepted our proposal and suggesting July 28th as the tentative date for the meeting to be held in Moscow.

Should it prove impossible for us to hold the meeting at the date suggested by Topchiev, then according to our present thinking, we might propose to Topchiev that Leghorn, Wiesner and I meet with our Russian counterparts, designated by the Soviet Academy of Sciences, at an early date in Moscow to hold a preparatory conference, lasting perhaps for a week. This preparatory conference could do a considerable amount of intellectual preparation for the forthcoming meeting. At such a preparatory conference we would have an opportunity to explore just what aspects of the problem involved would be the most suitable topics for a discussion at the projected meeting.

I should add that we are not looking at the proposed meeting of Russian and American scientists as a one-shot operation, but rather as a first step in carrying out a

continuous study of the security problem. Therefore, it appears to us more important to open up this new channel of communication, and to keep it open, than to accomplish very much at the first meeting.

L.Sz.

July 11, 1958

Dr. Warren C. Johnson
Dean, Physical Sciences Division
Eckhart Hall
The University of Chicago
Chicago 37, Illinois

Dear Warren:

Attached you will find a communication which I received from the National Institutes of Health.

This is a particularly generous offer because they would let me be away six months a year -- on leave of absence without pay -- preferably in stretches of a few weeks each, and I could spend the other half of the time at the Rockefeller Institute in New York. I have raised the question with Bronk of whether I could similarly hold down a full-time job at the Rockefeller Institute and be half-time on leave of absence without pay.

From the point of view of laboratory space, the Rockefeller Institute would be much better, in the near future, than the NIH, but in about five years' time, the space situation at the NIH should be very favorable and that is just about the time when I would have reached retirement age at the Rockefeller Institute. At the Rockefeller Institute, I could presumably remain on the payroll beyond the age of 65 on a year-to-year basis for another three years. At the NIH, however, one has --

regardless of age -- a fifteen-year stretch before one has to retire.

If Bronk were to agree, I would probably start out with building up a laboratory at the Rockefeller Institute, which should be going strong within a year or, at most, two, and might then begin to shrink, as far as my space requirements go, after five years, just at the time when it will be easy to get laboratory space at NIH.

The appointment at the Rockefeller Institute would require Board approval, and the Board will not meet until sometime in October.

With kind regards.

Sincerely,

Leo Szilard
c/o Robert B. Livingston
National Institutes of Health
Bethesda 14, Maryland

l.szilard;alm