450 29 th St. of Scisco. GIVE San Francisco 14, Cali AIR MAIL-POSTAL CARD John Buchstaff Dept. University of Checago Radio - T. V.A University of Checago Chicago, Illinais

Rear Ser: I learned through Radio Station KPFA that you were distributing capies of Dr. Seo Szilard sadd vess, " Eve the Un The Road To war? " I would very much like a copy, as well as information in how to contact or . Silved to engress support for his Peace Lobby. yours truly, alan D. Ulebry Prof. Dr. Richard Übelhör Alserstrasse 25 Vienna.

Dear Professor ÜbelhörÜ

I had hoped to return to Vienna and have you take care of my trouble but I found myself obliged to return to America. I have now arranged to be inccare here of Prof. R.S.Hotchkiss who is in charge of urological surgery of the New York University Division of Bellevue Hospital. I have arranged to take a room in New York Hospital between November 8 and 16 and Dr. Hotchkiss will try to remove the papilloma which you found, in the course of cystoscopy performed in general anesthesia. If this procedure should fail to be successful, he would proceed to make a transpubic resection of the bladder, in order to remove the papilloma. I hope that the examination will show nothing that would make it necessary to remove the prostate also, even though there seems to be an appreciable enlargement of the middle lobe.

I sent you last night a cable concerning the tissue slide which was made by your pathologist. I should be very grateful if the pathologist could send this preparation, air mail, directly to Dr. Hotchkiss's office, 65 East 66th Street, New York, N.Y.

My own address at present, until November 7, is the Hotel Statler in New York. My permanent address is the one given at the top.

I should greatly appreciate your sending me a bill for your services. You may want to include whatever expenses the pathologist may incur in mailing the slide.

I want to add that I am very grateful to you for letting me have your evaluation of the case.

With best wishes,

Very sincerely yours,

Leo Szilard

CREETINGS ARE THE ULLMANS

December 13, 1961 Swarthmore College Swarthmore, Penna.

Dr. Leo Szilard Hotel DuPont Plaza Washington, D.C.

Dear Dr. Szilard:

I attended Your Speech at our college some time ago. Consequently, I was inspired to develoe the enclosed plan. I would appreciate your thought on the matter. If, despite any objections you might have, you still think that the plan has value, I would appreciate you're seeing what can be done with it.

Respectfully yours,

Keter Unger

Peter Unger

THE FOLLOWING PROPOSAL is offered under the assumption that at some point in the future, if not at present, it will be clearly in the interest of the United States to renounce the capacity to deliver a first strike upon Communist targets in favor of an involverable second strike capacity which could to unbearable damage to Communist targets in retaliation for a major attack. Should the US convince the Russians of its success in renouncing this first strike capacity and achieving the second, it would be in the interest of the Russians to do likewise, and for each nation to compel its allies to submit to the same program.

THE REGIONS/

The US should abandon its manned bombers, which are quickly becoming vulnerable to a Soviet first strike coupled with a Soviet ground-to-air missile, and replace them with an effective ground-to-ground missile force, as quickly as possible.

Then the US would base all of its missiles in two separate and well defined regions, near enough to the USSR to wreak damage upon important cities in Russia proper and the Ukraine. The destruction of these two (or, if need be, more) Soviet Republics can be made disastrous enough to deter the Soviets from launching a first strike. The closer the regions are to the Soviet Union the more rapdily van we fill them with missiles that can deliver sufficient damage on a retaliatory strike. There are, however, reasons for not wanting the bases too close which will be considered below. Each of these regions would have, scattered throughout the area, enough armed nuclear missiles to do the required job.

In a third group of isolated regions we would impound, for a period of 200 days, all of our remaining means of destruction not committed to the tactical atomic force to be described below: sizeable nuclear bombs, and chemical, biological and radiological weapons. These areas would be rather small. Some would not contain any means of delivering the weapons they contained, while others would not contain weapons to be delivered by the means they contain. We would satisfy the Russians as to this point by having them inspect the areas previous to the impounding, to see that they do not contain any means of delivery and that the warhead and meapons areas are not capable of producing any means of delivery. We would also let the Russians inspect what we brought into the weapons areas as far as necessary to

Fand that the means of delivery areas contain no warheads

/2/ determine that we are not bringing in any means of delivery or means of producing means of delivery during the impounding. But we would not let them inspect further: they would learn none of the secrets of our arsenal. Finally, after the impounding, we would bring nothing dangerous into the respective areas, and the Russians could inspect as to this point, for these would be small areas;

Outside of the first two areas we would have no useful means of delivering any nuclear, chemical, biological, or radiological weapons to any location on Russia's side of the free world boundary. We would insure, by force or threat of force if need be, that any area in the free world to which Russia might find difficulty getting access without our support would be inspectable by here We would allow Russia to inspect any of the territories outside of these two armed regions and the depot regions at all times so that she could assure herself that we could not hurt her at all by using such territories. We would still produce nuclear, chemical, and biological weapons in these areas and do research in these areas. Russia could inspect this production and research only insofar as to make sure that they contained no means of delivery. Russian inspectors would be accompanied by US officials on their inspection of these facilities. As soon as we had produced an item it would be delivered to an appropriate impounding area. The other territories would contain no weapons that were not being worked on and no means of delivery at all. that were not being researched. THE IMPLEMENTATION/

We would first achieve a position where we required no work on means of delivery for 200 days. The two armed areas would tontain many thousands of missiles each, but only a very few, say 200, of these missiles would contain nuclear warheads. The remainder would be decoys.

Starting at a given date we would announce our plan to the world, and allow the Russians to inspect one of the two regions and satisfy themselves that we had several thousand missiles in the region, but only 200 contained warheads. We would facilitate the works of the Russians by bringing the missiles into a large shed. There is an important reason for the shed which will be indicated below. During this period the Russians see that only 200 of the missiles contain warheads, but in doing so they know which of the many thousands of missiles contain the warheads. They would know where to strike in the region in order to wipe out these headed missiles. They would

/3/ be prompted to strike the shed. If we didn't bring the missiles into the shed, they would be prompted to strike the bases of the real missiles. This would be more difficult to do, but, very likely, not prohibitively so. But the Russians are deterred from this action of striking the inspected region by our second strike force in the other region, Hence, this inspection does not endanger our national security.

After 18 days we would send the Russians out of the sheds. We would then take the heads out of the missiles, and randomly assign them to new missiles, by machine perhaps. As a double check we can randomly assign the missiles to trucks each of which has a predetermined base for a destination. We would then set up the missiles. Let us say that all of this would take two days. During the 18 days the Russians can assure themselves that there are no launching pads in or under the shed. They can also assure themselves that we are not bringing anything in during the two days; the trucks are brought in previously. Thus, they can assure themselves that we are not cheating on this point. After the missiles are set up we allow the Russians to inspect as to what the missiles in the other region contain, and follow the same procedure. For the first inspection period the Russians were not denied access to the second of the two regions; they were only denied permission to inspect what was inside the missiles in this region. We would go through the entire cycle five times. (The decoy missiles, it should be noted, would also be useful in a retaliatory strike. They protect us against the Russian development of an effective anti-missile missile. The Russians may be able to knock out half of, say 150, missiles descending on a city, but it is unlikely that they could knowk all or the great majority of them out of the sky. And they could not take the chance that they missed one of the few armed ones.)

With this setup we can deter an attack on the US and an attack on the regions that we have armed, but it is not clear that we can deter lesser military aggression. To do this we can employ small, tactical atomically armed forces and conventional armies. We would only fire the atomic weapons at targets on our side of the free world boundary. These weapons would be incapable of firing far enough to penetrate the Communist bloc, and we would show this fact to the Russians. We could evacuate the areas that form a strip around the Soviet bloc,

I most important "addition"

\* your own idea.

/4/ allowing us to atomically attack Russian land armies that might try to aggress and occupy without inflicting serious damage on non-Communist nations and peoples. This should provide an effective deterrent. It is because of this tactical deterrent that we want our missile areas to be some distance away from the borders of the Communist world.

We would want to call in our Polaris submarines, discontinue their production, and show the Russians that we are doing these things. To show them that there remain no Polarises submerged under the sea could be a problem if we had secretly produced some previously, but it should be obvious that we are no longer building them.

THE CONSEQUENCES/

This proposal entails a unilateral act which has little if anything to do with trusting the Russians. The plan, with minor modifications, could be initiated by the Russians. It is a plan which induces the other side to follow suit. We could stop our research and production of nuclear, chemical, biological, and radiological weapons if the Russians would follow suit. We could turn our arsenal over to the United Nations or some other international body , or perhaps destroy it, if the Russians should join us. And if the Russians didn't follow suit we could put our arsenal back in our missiles, call off the plan, and continue the arms race.

If Russia did follow suit, the US and the USSR could atomically, chemically, and biologically disarm the world. Thus, we would not need similar arrangements with other countries. It would be to our mutual advantage to do this.

If Russia did not follow suit this would be, perhaps, the greatest propaganda advantage of the cold war, assuming that opinion leaders could be brought to understand the program. It would, however, also indicate something potentially very alarming about the rationality of the Russian leaders and Russian calculations of self-interest.

It would be better to have only, say, 75 warheads in the missiles of each region. But there are many thoughtful people who feel that a retaliatory force of this limited capability might be insufficient to deter the Russians, given the latter's lack of concern for human values. We could say to the Russians that we would reduce our retaliatory force if they could show us, and the rest of the world, that our fears about this point are not based on fact. This could be a powerful force for opening up Russian society, or else another great propaganda victory.

###

## UNITED NATIONS



## NATIONS UNIES

LAKE SUCCESS, NEW YORK . FIELDSTONE 7-1100

24 August 1949

REFERENCE:

SCA 371/01

Dear Sir:

From time to time, and most recently during the preparation of two volumes of "An International Bibliography on Atomic Energy", it has been suggested to the Atomic Energy Commission Group of the Department of Security Council Affairs that a volume containing studies on the peaceful uses of atomic energy might be well received and be of particular value to those interested in the natural, political and social sciences, administrators, engineers, and others. It is thought that if the Secretary-General of the United Nations were to request eminent experts in various countries to prepare papers dealing with the subjects indicated in this letter, a volume of considerable value would result. The preparation of a comprehensive study of the peaceful uses of atomic energy to be issued by the United Nations and translated into several languages, would ensure its wide circulation.

The authors would be responsible for the views expressed in their papers, the length of which should probably not exceed eight thousand words. It is hardly necessary to emphasize that all papers will have to conform to the security regulations of the respective countries. As in the case of the introductory essays to the individual parts of Volume II (the scientific aspects) of our bibliography and of other projects of international organizations, it is hoped that the authors of the various papers will make their contributions without financial remuneration as a service to the United Nations.

No definite plans as to contents, date of publication, contributors, etc. have been formed, but the following table of contents is presented as a basis for discussion:

Professor Leo Szilard Bulletin of the ATomic Scientists Atomic Scientists of Chicago, Inc. 1126 East 59th Street Chicago 37, Illinois

## TENTATIVE TABLE OF CONTENTS

(The contents of each chapter will be established when some preliminary comment has been received.)

1. Introduction: The Atomic Age

(A philosophical and sociological analysis, noting the social and economic consequence of comparable major discoveries, assessing the present problems and the trends of the future.)

2. The Scientist and Nuclear Theory

(The development of nuclear science - a review of the major developments and their significance.)

3.\* The Engineer and Atomic Energy

(The application of nuclear science to the production of atomic energy.)

4. The Economist and Atomic Power

(The comparative costs of atomic energy and conventional energy; possible effect of atomic power on energy consuming industries; atomic power in the economic development.)

5.\* Nuclear Theory and the Equipment for Fundamental Research

(Mass spectroscopes, particle accelerators, radiation detectors, and reactors, and their uses in the study of nuclear structure and moments, natural and artificial radioactivity, isotopic masses, and cosmic rays.)

6. The Materials of Atomic Energy

(The geology of uranium and thorium, types of deposits - mining, milling, and refining procedures and problems - methods of isotope separation.)

7.\* Reactors

(Theory, engineering, materials, operating problems including radiation hazards and protective measures, and the technicalities of power production.

\* The scarcity of published material and other difficulties will probably make it advisable to combine some of these chapters.

8. The Applications of Artificial Radioactivity

(The development of tracer techniques in biology, agriculture, medicine, industrial research, and the physical sciences generally.)

9. The Dissemination of Information

(Classification and declassification, the variety and limited circulation of journals, use of abstracts and bibliographies, and the value of scientific conferences.)

- 10. Legal and Procedural Problems
- 11. The Administrator and Atomic Energy

(The psychology and structure of large-scale research, the nature of national regulations.)

The difficulties of such an enterprise are not under-estimated. In order to ascertain the best way of preparing and presenting a comprehensive collection of papers, this letter is being sent to a number of distinguished individuals in several countries. It would be very much appreciated if you could express your views fully as to the practicability and usefulness of such a project and make suggestions as to the method, form and contents of the volume, if you think it desirable and useful. It is hoped that the suggestions received will enable us to arrive at a generally acceptable formulation of the headings of the major chapters and at their sub-division.

The question of style of the volume will also have to be decided. The volume will be directed to persons of varying scientific background who, as administrators, members of parliament, economists or scientists, are called upon to take a view or position on the peaceful application of atomic energy. A form of presentation which will transcend the boundaries of specialization and still avoid neglecting the scientific and technical originality of the subject will be desirable. Your views on this question will be most helpful.

Yours very truly,

Dr. O. Frey

Chief of the Atomic Energy Commission Group Department of Security Council Affairs Dec. 5 up to 3000 wdo. Herbert Harris

## United Nations WORLD

319 East 44th Street, New York 17, New York

November 22, 1949

MV93968

Professor Leo Szilard c/o Bulletin of the Atomic Scientists 956 East 58th Street Chicago, Illinois

Dear Professor Szilard:

We were very sorry indeed that our November special issue on the atom, which contained contributions by Professors Urey and Seitz, did not carry an article by you. We wonder, however, if it would be possible for you to write for one of our early issues your ideas on what probably is the most vital problem today — the problem of how to get out of the atomic deadlock and especially how to use atomic energy for peaceful purposes all over the world without bogging down in international complications.

More specifically, we would like to have your authoritative statement on the different ways of handling — if possible — atomic energy for purposes of war and for purposes of peace. Is it true that an agreement on the peaceful use of atomic energy is illusory since facilities could automatically be transformed into atomic war plants in case of a conflict? Or is it possible to set up plants for industrial and health purposes without the danger of the same plants producing bombs if international control is lax or non-existant? In other words, is there such a thing as production of atomic energy serving exclusively peace and progress by the very physical nature of the production methods?

If you would be interested in outlining an article, giving the answers to our questions and also containing all the ideas and suggestions you have on the subject, we wonder if it would not be useful to include a short survey of the progress in the field as it is shaping up in the various countries of the world. It is quite probable that we might learn much from other nations and we think the public should be told just what these lessons are.

We are thinking of an article whose length would be between 3,000 and 3,500 words and which would illuminate our international readership on a high and still easily understandable level, coming from one of the most respected authorities in the field.

Hoping to hear from you at your convenience, I am,

Yours most sincerely, Work Holes

Tibor Koeves Senior Editor A STATE OF THE PARTY OF THE PAR

## 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 Kolland 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 cosst. Since, however, the Physical Sciences Division of the National Research Council has mine appointed a committee for the purpose of looking into the question of uranium and this xummanithms 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 b 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 sble 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 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 their cereers 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 exide 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.

Not amond by RBL United Press GENERAL OFFICES NEWS BUILDING NEW YORK CITY Written From WASHINGTON BUREAU NATIONAL PRESS BLDG. WASHINGTON 4, D. C. Jan. 22. 1962 Dear Dr. Szilard: With deleterious effects for me which I'm sure you did not intend, you wrote to the New York Post more than two years ago taking exception to one of my science articles. I've since made many unsuccessful attempts to see you, and to get the matter out of my pending file will finally write this letter. My article was based on the attached pamphlet which I believe I had every reason to assume at the time of writing had been approved by you, but which I was subsequently forced to conclude you had never seen. For example, you said in your letter to the Post that "My article was not concerned with the issue of why women live longer than men," which makes it certain you cannot have seen the long paragraph which begins at the bottom of the first page and continues at the top of the second page of this pamphlet. Of course my piece was a little loosely written, and included ideas of my own and other others as well as yourself. It wasn't supposed to be used as a news story but as a rather homespun column called "Science and You," which has since been turned over to another writer. But I made no misstatements of fact except as they may appear in the pamphle t. Incidentally, to the extent it did refer to you, the article was intended to be entirely laudatory, and I still

think your theory is excellent. I saw a piece only the other day applying it in an interesting way to taste buds.

I also read youy"The Voice of the Dolphins" some time back, and got a big kick out of it. I hope you will be assured of my good wishes and admiration.

Sincerely,



ITY OF CHICAGO

# teports

## WHY DO WE GROW OLD?

THE fact that we are all growing older each day has stimulated many general theories of aging.

Unfortunately, none has held up.

Now what has been called the "first promising general theory of aging" has been advanced by Leo Szilard, professor of biophysics in the University of Chicago's Enrico Fermi Institute for Nuclear Studies. An articulate spokesman for banning nuclear bomb tests, he led the effort in World War II to persuade President Roosevelt to form the Manhattan District.

In the January issue of the Proceedings of the National Academy of Sciences, published by the Academy from Washington, D.C., Szilard presents mathematical formulas for age. With the right numbers, the derivations of which he explains, these formulas produce distributions of ages at death that match well the actual census of the numbers of persons that die at various ages in the United States.

Szilard's formulas are based on a hypothesis of "aging hits." These hits inactivate functioning chromosomes; they do not alter future generations

of them, as do mutations.

This concept of an "aging hit" is entirely hypothetical. But it provides an intellectual base upon which new experiments and new theories can be built. The "aging-hit" concept could be a breakthrough; it could also be a dud.

It follows the tradition of heresy exemplified by the postulation of the meson in the atomic nucleus by Yukawa or Darwin's and Wallace's identical theories of biological evolution. Both at their inceptions were brilliant insights into reality. But the reality had to be proved.

## The "Aging Hit"

The nucleus of every human cell-except sperm and egg cells-contains twenty-three pairs of chromosomes. The chromosomes are the "executive directors" of the complex chemical factory that is the

cell. Composing each chromosome are thousands of genes, which determine such traits as nose length or hair color by directing the intricate manufacture of such basic substances as protein.

This is the base of the "aging-hit" idea: when a chromosome is neutralized, its genes can no longer

direct chemical processes.

When a single chromosome is knocked out of commission, its mate can assume its functions. But, when both chromosomes of a pair are neutralized, the cell dies.

Since aging hits occur at random, according to Szilard, any cell in the body is as likely to be struck

as any other cell. Thus cell death is a probability statistic, much like the chances of your being struck by lightning.

As a person grows older, the number of functioning cells decreases. When less than one-third to one-twelfth of the total adult number remain, the individual dies a "natural" death, Szilard estimates.



SZILARD

Deaths due to accident or disease are not directly

accounted for by this theory, but, with fewer and fewer surviving cells, a person becomes more and more susceptible to such death.

Some genes are more vital to a chromosome's purpose than are others.

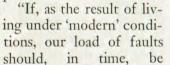
Only a woman's cell can have a perfect set of 15,000 genes. Men have a built-in gene fault: the nonfunctioning "Y," which at birth determined their sex. The counterpart on the other chromosome of the pair is the "X"-gene. If the "X" is hit, the chromosome pair is neutralized, and the cell dies. This fits in well with what is known about the outstanding mortality difference between men and women: from conception on, males die off at a faster rate than females.

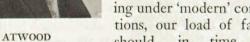
Other gene faults, besides those for sex determination, can be inherited. "The main reason why some adults live shorter lives and others longer is the difference between the number of faults they have inherited," Szilard wrote.

A natural pressure against the transmission of gene faults from generation to generation used to be "maternal selection." Said Szilard: "In the past, infant mortality was high, the birth rate was high, and women kept on having children until the end of their child-bearing period. Clearly, the maternal selection ... is switched off when women have two or three children between the ages of 18 and 25 and then avoid having further children." With maternal selection stopped, "our load of faults may double in . . . twenty-five generations."

Maternal selection is not the only multiplier of

faults. One-fifth of the genes in both body and reproductive cells can be altered by radioactivity. Thus radiation can bring death closer by reducing the number of functioning cells. It also can increase the load of faults a person both inherits and passes on.





doubled, then . . . the physiological age of the average female at 65 would be the same as that of the average 80-year-old woman today," Szilard wrote.

## Heuristic Stimulant

The scientist who called Szilard's aging theory "promising" is Dr. Kimball C. Atwood, associate professor of human genetics in the University of Chicago's Department of Obstetrics and Gynecology and Department of Zoölogy.

"Szilard's theory," he commented, "will be attacked from all quarters. It will be of greatest heuristic value. That is, it will tend to stimulate research, particularly experiments designed to test its predictions and the nature of the 'aging hit.' "

There are, he said, no analogies to such hits. A question that will be raised is: What is it and how do you neutralize a chromosome without completely destroying it? "This involves basic information about gene action that we do not as yet have," Dr. Atwood explained.

Another question the theory does not answer is: What is the site of this aging process? "Certainly not all of the body is involved, since most organs of the body replace dead cells by the division of live ones. As an example, the liver has as many cells at 60 years of age as it did at 20 years," he said.

Dr. Atwood believes that some organ which does not have regenerative powers must be affected. The best bet is the central nervous system. "Brain cells do not divide during a person's lifetime. But not all of the brain is involved, since portions can be destroyed in disease without increasing aging," he said.

The only other organs whose cells do not divide are the muscles. But, as Dr. Atwood put it, "muscle, of course, is not so crucial to the life of an individual as is his brain except, perhaps, heart muscle."

The third problem Szilard's theory poses is how to correlate it with some current observations and other theories of aging.

Also, points out Dr. Atwood, "Szilard's theory says nothing about superficial evidences of aging, such as the blotchy, wrinkled skin of old men. Does this indicate general aging or does skin have a natural life-span?"

In this infant Atomic Age year of 1959, any step toward a full understanding of aging is eagerly welcomed. There are now fifteen and a half million Americans 65 years of age or older. Born before radium was discovered but aided by such mid-twentieth-century advances as antibiotics and vitamins, their ranks will increase to over nineteen million in a decade, to twenty-five million by 1980.

## HORMONE FOR RADIATION

At the base of the neck, just beneath the larynx, is the thyroid gland, which makes and secretes the hormones that regulate the metabolism of practically all the tissues in the body.

Too little of the hormone slows a person's mind and body, induces apathy, and causes him to gain

Too much of the hormone leads to a condition known as "hyperthyroidism," in which the life-rate is so accelerated that irritability, nervousness, loss of weight despite voracious appetite, excessive sweating, and high heart and breathing rates follow.

In 1956, experiments at the U.S. Air Force Radiation Laboratory of the University of Chicago showed incidentally that hyperthyroid mice given large doses of radiation died faster than mice with normal metabolic rates.



NUMBER 3

(Photo: Ben Ross) GRIEM, PATIENT, COBALT-60 SOURCE

These results provided a spark of insight to Drs. Melvin L. Griem and Joseph A. Stein, who, just across the street in the medical center's Department of Radiology, were treating cancer with pinpoints of radiation from shiny X-ray equipment, a giant Van de Graaff generator, and a radioactive cobalt-60 "bomb" (Reports, March, 1953).

Radiation is at present a potent weapon against such cancers as those of the skin and throat. But larger, deeper cancers, as of the stomach and lungs, present great difficulties for radiation treatment.

Dr. Griem is assistant professor of radiology at the University of Chicago and an American Cancer Society Fellow. Dr. Stein, of the Radium Institute of Hebrew University's Hadassah Medical School, was at the University of Chicago as an Ann Langer Cancer Research Foundation Fellow.

Last summer, in pioneer experiments supported also by the Chicago Tumor Institute, they transplanted two types of solid tumor, one highly radiation-resistant, to the legs of 400 laboratory animals. After two weeks, the tumors had "taken." The animals were then stimulated into hyperthyroidism by a series of four injections of L-triiodothyronine sodium, a commercial test-tube version of the potent factor in thyroxin, the principal thyroid hormone. Then the animals were placed in lead boxes with holes for exposing the leg cancers and irradiated by a complicated schedule of radiation doses.

The results were published recently in the British scientific journal Nature. Only 103 of the mice and rats survived. The rest died either immediately from the effects of too much radiation or too much drug or later from cancer because of too little radiation.

Among the survivors, the tumors disappeared within four weeks. These animals had been subjected to 500 rads (measuring units of radiation). Identical tumors in control mice not given the drug were destroyed only by doses of 1,000 rads.

Thus the triiodothyronine apparently enabled the radiation to kill the cancers in one-half the normally required dose.

Confident of their results, Drs. Griem and Stein next tried the drug-radiation treatment on two men with advanced cancer of the lungs. The patients volunteered because their tumors were beyond surgical help. Both, in fact, have since died because their cancer had long before begun to spread to other parts of their body.

The men took triiodothyronine by mouth over a two-week period so that hyperthyroidism could be brought on with as little shock as possible. During the next two to three weeks, still under the drug, each was periodically placed for treatment in the center of the doughnut-shaped cobalt-60 machine in the subbasement of Argonne Cancer Research Hospital (which the University of Chicago operates for the U.S. Atomic Energy Commission). Here gamma rays from the rotating isotope pierced the tumors from all sides.

The primary lung cancers disappeared.

"Regression of tumor masses was unequivocal at one-third the dose level (1,500 rads) at which such a response might ordinarily be expected," Drs. Griem and Stein wrote in their Nature article. "Treatment was suspended at half the customary therapeutic level (3,000 rads) because the tumor mass could no longer be palpated."

They added that in one patient, closely observed for three months, cancer failed to recur in the treated area of his lungs.

Thus, in humans also, the hormone halved the amount of radiation needed to destroy cancer.

Dr. Griem feels that the use of triiodothyronine promises both to reduce the amount of radiation needed in those cancers now successfully treated and to bring more stubborn kinds of cancer within range of radiological treatment. "However," he cautions, "while the animal data are very concrete and the human data are promising, it is yet too early to use the hormone-X-ray combination routinely."

## NERVE-POISON ENZYME

Late in World War II the Allies received intelligence reports of a new poison gas developed by the Nazis, called "Tabun." Unlike previous poison gases, it was colorless, odorless, and tasteless. It entered the body with inhaled air, with swallowed food, or by direct absorption through the skin. It had a reputation for driving its victims insane before finally killing them. Fortunately, it was never used in combat.

Wartime tests of fifteen hundred substances at the University of Chicago's Toxicity Laboratory convinced scientists that Tabun was organic phosphate. Postwar experiments with it and similar chemicals captured from the Nazis led to a large-scale effort toward the constructive use of these compounds and started a new generation of agricultural and industrial pesticides that succeeded DDT.

Research at the Laboratory in 1947 by Kenneth P. Du Bois, now professor of pharmacology, showed in animals that four commercial organic phosphates acted as nerve poisons by inhibiting the enzyme cholinesterase (*Reports*, October, 1951).

This enzyme normally catalyzes the breakup of acetylcholine, the chemical that transmits nervous impulses to tissue. Without cholinesterase, these impulses would continue stimulating receptor cells until they were literally exhausted to death.

Less than a gram—about two drops—of the phosphate on the skin is effective. Then all the muscles and all the glands in the body are simultaneously driven into action.

Because not all the frenzied cells die at once, the victim is first blinded, then partially paralyzed, then experiencing vertigo—as with Tabun—as optic nerves, skeletal muscles, and brain areas die, exhausted, bit by bit.

Chemical companies searching for organic phosphates that would kill pests yet would be harmless to men developed the more sophisticated thiophosphates. But now research at the University of Chicago shows that these newer insecticides, while harmless to isolated human tissue, nevertheless act as a powerful nerve poison on the body.

Once in the blood stream, the chemical travels to the liver, where it was found to be converted from its harmless form to a cholinesterase inhibitor.

Du Bois, director of the Toxicity Laboratory's successor, the United States Air Force Radiation Laboratory, and Dr. Donald R. Thursh, former medical student, found an enzyme in the liver that substitutes oxyzen for sulfur in thiophosphates, thus reverting them to a poisonous form.





THURSH

DU BOIS

Their experiments were with rats, but the chemistry also applies in humans.

Du Bois and Thursh worked down to thin slices of rat-liver tissue and found the enzyme's site to be the microsomes, the dark supervisors of the chemical processes in the cells.

In further experiments they discovered that males are more susceptible to poisoning by these phosphates than females. The concentration of the oxidizing liver enzyme seems to be linked with the output of male sex hormone by the testes. Only when young male rats reached puberty did the enzyme show up in significant amounts. Also the concentrations in the livers of newborn and female rats could be upped merely by injecting male sex hormone into their blood.

The two researchers further found that the only effective measure against the enzyme-converted poison was atropine, a muscular relaxant regularly used to dilate the pupils before eye examinations.

The discovery of this liver enyzme, Du Bois feels, is more than an interesting bit of scientific information. A consultant to the U.S. Food and Drug Administration and a member of the American Medical Association's committee on pesticides, he believes that preparations of the enzyme could be used for laboratory tests of the safety of new phosphate pesticides before they are put on the market.

## THE UNIVERSITY OF CHICAGO REPORTS

Vol. 9, No. 3 January 1959 Theodore Berland, *Editor* 

Further information on subjects covered in this publication may be obtained on request.
5801 Ellis Avenue, Chicago 37, Illinois

file 8 February 1962 Mr. Darrell Garwood United Press Associations Washington Bureau National Press Building Washington 4, D.C. Dear Mr. Garwood: Many thanks for your very kind letter of February 22nd. I am very sorry if my letter to the New York Post caused you any trouble. Right now I am swamped with letters arising from my interest in activities other than aging, therefore, please excuse my shortness. I have not seen the article concerning taste buds to which you refer and I should very greatly appreciate your sending me a copy if one is available to you. If not, please just send me the reference so that I may secure a copy myself. With best wishes. Sincerely yours, Leo Szilard

## DEPARTMENT OF THE AIR FORCE

Washington

Office of the Secretary

April 26, 1960

Dear Mrs. Adams:

Secretary Sharp has asked me to thank you for the reprints including Dr. Szilard's recent article "How to Live with the Bomb and Survive".

He has not as yet had an opportunity to read them but is looking forward to doing so.

Sincerely yours,

/s/ James A. Knight, Jr. Major, USAF Deputy Executive

Mrs. Ruth Adams
Bulletin of the Atomic Scientists
1100 East 58th Street
Chicago 37, Illinois

C 0 UNITED STATES P DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION OFFICE OF ASSISTANT COMMISSIONER AND CHIEF ENGINEER Building 53, Denver Federal Center Denver 2, Colorado Apr 22 1955 Dr. Theodore Puck Head, Biophysics Department University of Colorado Medical School 4200 East 9th Avenue Denver, Colorado Dear Dr. Puck: Recently Mr. L. O. Timblin of our Engineering Laboratories met with you and Dr. Leo Szilard to discuss the possible use of monomolecular layers to reduce the evaporation of water from reservoir surfaces. As he explained at that time, the Bureau of Reclamation is conducting a literature search and is corresponding with workers in the field in order to obtain the most recent data possible. Should these data prove encouraging, we plan to proceed with a limited experimental program to ascertain the practicality of the method under field conditions. At the time of your meeting with Mr. Timblin, you mentioned the possible use of a double layer, consisting of a top layer of a mineral oil and a second layer of a polar compound. This suggestion is most interesting. Several questions have arisen in consideration of the use of monomolecular layers (or of a double layer as you suggested). Your comments on these points, as stated below, in particular, and on the program in general would be quite helpful. Comments on the probable merits of both the monomolecular layer and the double film would be appreciated. Techniques of application to a free-water surface, including solvents used and mechanical equipment. Characteristics of the films under field conditions of inflows outflow, and fluctuating water surface with respect to: Persistence when the surface of the water expands. Any possible wash-out effects on shore lines and deposits on structures such as powerplant intake towers or the faces of dams or on boats. Survival of the films on a white-capped-wave reservoir surface. Possible emulsifying effect of the monolayer on other substances, such as oils, or in the case of the double film, emulsification by the polar compound of the mineral oil and water.

Foaming effects, if any.

- 3. Any toxicity to plant, animal, fish and water fowl life.
- 4. Durability of the films under natural conditions.
- 5. Effect of the films on the oxygen balance of the body of water.
- 6. Effect of a film on the thermal balance of a reservoir. A recently concluded investigation of evaporation at Lake Mead showed that about one-third of the heat reaching the waters is lost by being absorbed in latent heat of evaporation. A reduction in the evaporation would undoubtedly have some effect on increasing surface water temperature. Although this might be balanced to some extent by increased back radiation of heat to the atmosphere, nevertheless, changes in water temperature could have an effect on the biological balance of the lake.
- 7. A list of polar compounds and oils which might be investigated for reservoir application.
- 8. Probable cost of application of a compressed monolayer to a reservoir surface.

The interest and cooperation of yourself and Dr. Szilard is greatly appreciated.

Sincerely yours

L. N. McClellan Assistant Commissioner and Chief Engineer

/s/ Grant Bloodgood ACTING

1155 East 57th Street Chicago 37, Illinois June 29, 1949

Mr. Gordon P. Dean United States Energy Commission 19th Street and Constitution Avenue Washington, D.C.

Dear Mr. Dean:

I was very glad to have had an opportunity to talk with you when I was in Washington. After I left you I spent some time with Dr. Hafstad whom I had known before but whom I have not seen for the past seven years. I was much relieved to see that he is under no illusions concerning the progress made in the field of reactor development since the end of the war. A clear recognition of the problem which we face is half the solution. Naturally, there are obstacles. As a result of some other conversations which I had in Washington, I begin to have a clearer picture of these obstacles than I had before. I want to think more about this problem and perhaps also talk with some of my colleagues in the near future.

Very simerely yours,

Leo Szilard



## UNITED STATES INFORMATION AGENCY WASHINGTON

April 25, 1960

Dear Dr. Szilard:

We have received a request from the United States Information Service in Bonn, Germany, for photographs of this year's recipients of the International Atoms for Peace Award, for display in cultural centers throughout Germany.

Can you supply us with a portrait photograph of yourself as well as photographs showing you at your work and at home with your family, recreational activities and hobbies? We can use effectively up to a dozen photographs, preferably size 8" x 10" or larger. We shall handle them with care and return them to you as soon as our photo laboratory has made copies.

Any assistance you can give us will be greatly appreciated.

Sincerely yours,

Harriet Hall

Exhibits Division

Information Center Service

Harriet Hace

Dr. Leo Szilard University of Chicago Chicago, Illinois

## IN THE UNITED STATES PATENT OFFICE

Serial No.

263,017

Filing Date:

March 20, 1939

Applicant:

Leo Szilard

Title:

Apparatus for Nuclear Transmutation

## POWER TO INSPECT

The Commissioner of Patents Washington, D. C.

Sir:

Please permit Robert A. Lavender or his duly authorized representative to inspect and make copies of the above-entitled application.

Respectfully,

Leo Szilard

Washington, D.C. May 17, 1943



## Office of the Attorney General Washington, D.C.

November 11, 1947

Dr. Leo Szilard, Institute of Radiobiology & Biophysics, University of Chicago, Chicago, Illinois.

Dear Dr. Szilard:

This is in reference to your letters addressed to the Attorney General, dated October 25, November 3, and November 8, 1947, relative to your proposed letter to Marshal Stalin.

We have taken up the matter with the Department of State, and have today received a communication from that Department signed by the Honorable Robert A. Lovett, Under Secretary of State, and dated November 11, 1947. I enclose a copy of that letter for your information.

With regard to the questions of law involved, and particularly the application of the so-called Logan Act (18 U.S.C. 5), I wish to inform you that under the established policy of the Department of Justice the Attorney General does not advise private individuals as to the consequences of their acts under the criminal statutes. You may, of course, wish to consult your own attorney.

I am sending a copy of this letter and its enclosure to the editor of the Bulletin of the Atomic Scientists.

Very truly yours,

Acting Attorney General.



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Treasurer

March 30, 1954

Professor Leo Szilard c/o King's Crown Hotel 420 West 116th Street New York, New York

Dear Professor Szilard:

Mr. Grenville Clark wrote you on March 26 concerning a conference on disarmament and Charter Review which will be held under the auspices of the New England Council of United World Federalists, at Springfield, Massachusetts, May 14, 15 and 16.

The issues involved are taking on an immediacy at present which needs no emphasis. What we need, however, is someone like you who can speak with the authority of the scientist on the issues which science has removed from the area of speculation and day-dreaming and brought into practical, inescapable focus.

I am no believer in the "fear technique" to rouse interest. People get bored, or retire into their shells, when "wolf" is shouted too often. But I see no way of giving people a sense of relevance unless they have the issues of the day honestly and wholely presented to them. Political, social and moral decisions are necessary because science does not permit us longer to dodge them.

Our Congress at Springfield will be divided into four sessions, for each of which a commission will prepare a report for the basis of discussion. It will be a working conference, attended by 100 to 200 people, many of whom have been studying Charter Review for some months. The greater part of the time will be given over to discussion. At the start of the plenary sessions on Saturday we plan three opening talks to set the tone for the rest of the meeting. We are also asking a number of experts to advise and lead in the

tel. sent may 5/54

conference discussions.

Would you make one of the opening statements on Saturday morning and serve as one of the experts on Commission IV, which deals with the factors for and against convening a Charter Revision Conference at the UN in 1955.

The other commissions are as follows: Commission I: Membership, Disarmament, Inspectorate and Police, Courts, World Equity Tribunal; Commission II: World Legislature and World Executive Council; and Commission III: Economic and Social Council, Trusteeship, Human Rights, Technical Assistance Program, etc.

We would consider it an honor to have you present. We will, of course, pay your expenses.

Yours sincerely,

George C. Holt Field Director

GCH:mab Enclosure

cc: Mr. Grenville Clark



## WESTERN UNION Tologon





GXB FR PD CHD: INTERNATIONAL LATEX CORPORATION 5/5/54

MR. GEORGE C. HOLT UNITED WORLD FEDERALISTS, INC. 100 BARBER AVENUE WORCESTER 6, MASS.

RE YOUR LETTER OF MARCH 30, REGRET SHALL NOT BE ABLE TO ATTEND YOUR MEETING. PLEASE EXCUSE DELAY IN ANSWERING.

SZILARD

Send the above message, subject to the terms on back hereof, which are hereby agreed to PLEASE TYPE OR WRITE PLAINLY WITHIN BORDER-DO NOT FOLD

reace file Dinner

in bonor of

## GENERAL CARLOS P. ROMULO

on behalf of

UNITED WORLD FEDERALISTS, Inc.

HOTEL ROOSEVELT

MAY 21, 1955

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Invocation

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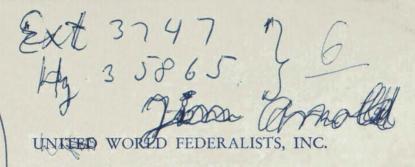
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# RECTORIA (CHILE)

## UNIVERSIDAD DE CONCEPCION

CONCEPCION, November 14, 1961.

Dr. Leo Lzylars
Dupont Plaza Hotel
Washington
U.S.A.

Dear Sir,

We are addressing you not only as an author and thinker, but also as an interpreter of humanism and a witness of our time.

Since its foundation, the University of Concepción, Chile, has been striving to grasp the varied role of man faced with the complexities of the contemporary world. To this end, in addition to the ordinary work of the University, we have sponsored the recent Writers' Meeting, Philosophical Dialogues, and Scientific Symposia. We have attempted to come to grips with the realities of the problem rather than to deal with it in abstract terms. POR EL DESARROLLO LI BRE DEL ESPIRITU has been more than a motto to us in our search for a new humanism to guide us in building the world of tomorrow.

The problem with which we have been dealing is that which has concerned so many great thinkers, philosophers, scientists, and artists of our time: a reevaluation of what we are today in relation to what we are no more - tradition, past, - and what we must become in the near future.

We are aware that the past years have seen a tremendous increase in the number of symposia, conferences, and meetings devoted to this important theme; however, the very complexity of the problem and the multiplicity of technological and sociological advances of the last few years, seem to indicate a need for a more thorough and enlightening investigation of the very meaning of humanism. For this reason, the University of Concepción is planning a series of open discussions for January 1962.



The fact that we are planning to meet in this apparently remote corner of the world, stands as one more proof that our theme knows no frontiers, and that we must reappraise our thinking in recognition of the universal scope of the problems of man.

But few men, even among those of high scientific, philosophical, and artistic qualifications, are capable of going deeply into this idea. The responsibility of those few men who have been able to go to the root of the problem is a great one. It is in recognition of your leadership and mastery that we are asking you to be present at this meeting, where you will be able to state your thoughts in the light of your experience in dealing with the problems of man with the utmost freedom. We are deeply interested in your testimony as a creator and investigator as well as in an analysis of your own thought regarding our subject.

Our only theme will be the generic one of the destiny of man. We feel we have no right to propose to you a set of specific subjects, but only wish that you give us your own views upon the man of today and of the future.

The discussions of philosophers, scientists, and writers on the role of man in the universe will give us a dimension of this complex problem, which will be transcribed and published in "Atenea", one of the oldest intellectual publications in America. The publication of the work of these sessions will be bilingual.

We would like to inform you that simultaneously with the symposium on humanism there will be another dealing with the problems of Latin America, in terms of its cultural, sociological and educational situation. We take great pleasure in inviting you to take an active part in the latter discussions, in which many prominent figures of Latin America have been asked to participate.

In reference to your contribution to the discussions on the destiny of man, we would welcome one or two speeches on your current investigations in the form of monologue or dialogue.

You may choose your own dates for coming during the month of January 1962. We are placing at your disposal your return fare, and we will naturally take charge of your stay in Chile. We are prepared as well, to offer you the sum of US\$ 1.000.— (one thousand dollars) as a compensation for the additional expenses that a trip to our country means. We could not possibly talk of honorarium as your

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#### UNIVERSIDAD DE CONCEPCION

participation in this meeting is too important and valuable to be measured in terms of money. Should you require an additional ticket kindly let us know in advance.

Finally, by way of information, we want to let you know that the University of Concepción owns a broadcasting station which will be available for nationwide broadcast of the speeches of the symposium. Under separate cover we are sending you a copy of Atenea. You will also find enclosed a set of photographs of our campus.

We have invited to this gathering of intellectuals public figures from Asia, Europe and America; our mutual friend Dr.Abraham Horwitz is also invited and we are sure he will have a great pleasure to inform you about our program. We would like to reiterate the importance and the necessity of your valuable cooperation and are looking forward to hearing from you at your earliest convenience.

Very sincerely yours,

David Stitchkin Branover

RECTOR

ple 4 Washington, D.C. 29 December 1961 Mr. David Stitchkin Branover Rector Universidad de Poncepcion Concepcion Chile Dear Mr. Branover: I am writing to thank you for your very kind letter of November 14th in which you invited me for January. I have been very much tempted to accept and have delayed writing to you in the hope that I could fit in a trip to Chile with my other activities. Unfortunately, it is now clear that I cannot do this and I am writing to say that to my regret, I cannot accept. With all good wishes for the success of your open discussions, I am Very sincerely yours, Leo Szilard Hotel Dupont Plaza Washington 6, D.C.

UNIVERSITY INSTITUTE OF MICROBIOLOGY

OSTER FARIMAGSGADE 2A · COPENHAGEN K · DENMARK

August 7, 1963.

Alle : Julius 1963.

Professor Leo Szilard,
The Enrico Fermi Institute
for Nuclear Studies,
University of Chicago,
Chicago 37 - Illinois,
U.S.A.

Dear Dr. Szilard,

I just received a letter from a body called 'Studenter-samfundet', that is a rather active sort of leftish academic organization, asking me to try to persuade you to come to Copenhagen on your way to or from the Dubrovnic conference. They would like you to speak at a general meeting to which students and university people of all sorts would be invited and they would like particularly to be informed about your current activities in and around Washington D.C.

It would be very nice to see you again in Copenhagen and we would be delighted to have you spend a little time in the lab, so for both reasons I hope you can manage to make a detour to Copenhagen in September.

Naturally 'Studentersamfundet' would take care of your travel arrangements and your stay in Copenhagen.

I hope this letter will reach you without much delay and that you will let me know as soon as you can about your travel plans in September.

If it should be impossible for you to fit in a visit to Copenhagen at that time please let me know if later this fall or winter you expect to return to furope and whether at such a time you might be able to come to Copenhagen.

With kind regards to your wife and yourself,

Yours sincerely,

The M. O. Maalee

## THE UNIVERSITY OF BUFFALO BUFFALO 14, NEW YORK SCHOOL OF PHARMACY July 31, 1962 OFFICE OF THE DEAN Dr. L. Szilard Institue of Radiobiology 5650 Ellis Ave.

Chicago 37, Illinois

Dear Dr. Szilard:

The School of Pharmacy is serving as host, from October 22-27, 1962, for a UNESCO Conference on "Amplification Techniques on Cell Biology". In the interests of most productive discussion, attendance is by invitation only. I write at this time to extend a warm invitation to be with us, A provisional program and schedule for the conference are enclosed, together with an advance registration form on which I hope you will indicate your plan to attend. In the event that you do anticipate attendance, the final program and schedule will be sent along in early September.

Yours sincerely,

Daniel H. Murray

Dean

Enclosures - Anna Property of the Control of the Co

UNESCO SYMPOSIUM ON "AMPLIFICATION TECHNIQUES IN CELL BIOLOGY\* to be held at the School of Pharmacy, University of Buffalo, New York, from 22nd to 27th October 1962.

## DRAFT PROGRAMME

Introduction

J.R. Platt, Physics Dept University of Chicago

## I. History of development of techniques

Chromatography

R.L.M. Synge, Rowett Research Institute, Aberdeen, Scotland.

X-ray study of macromolecules M.H.F.Wilkins, Biophysics

M.H.F.Wilkins, Biophysics Research Unit, King's College London, England.

Electron microscopy and thin sectioning

K.R. Porter, Biology Laboratory Harvard University

## II. Identification of problems requiring new technical solutions

Requirements for new techniques in relation to photosynthesis

D.K. Sauer, Chemistry Dept., University of California, Berkeley

Requirements for analysis of membrane function

H. Fernandez-Moran, Biophysics Dept. University of Chicago.

Accuracy in amino acid and base analysis

E.A. Barnard, Zoology Dept. King's College, London, England

New requirements for chromosome studies

T. Hauschka, Roswell Park Memorial Institute, Buffalo.

## III. Techniques in development

Chromatography on surfaces by interferometry

E. Tolansky, Physics Dept. Royal Holloway College, Surrey England.

Charge transfer complexes

A. Szent-Gyorgyi, Marine Biological Laboratory, Woods Hole, Mass.

Gas chromatography in relation to amino acid analysis

D.E. Johnson, Tufts University, Boston.

Enzyme cycling techniques

O.H.Lowry, Pharmacology Dept. Washington University Medical School

Diver techniques

E. Zeuthen, Copenhapen, Denmark.

The requirement for new techniques in studying cellular energetics

Measurement of activity of single enzyme molecules

Theory and instrumentation of microdissection

## IV. Problems to consider

The problems of measurement in D. Prescott, Oak Ridge cell cycle

Synchronisation of cell growth and division

Study of cell interactions

Problems of separation of intracellular particles

Centrifugation methods of cell analysis

Detection of living matter

and an entering a special of the

F. Lipman, Rockefeller Institute. New York.

B. Rotman, Stanford University, Palo Alto

G. Ellis, Molecular Biology Dept., Vanderbilt University, Nashville

National Laboratory

T.W. James, University of California, Los Angeles

M.D. Rosenberg, The Rockefeller Institute New York

> C. de Duve, Rockefeller Institute New York and Professor of Biochemistry, Louvain, Belgium

> > M.G. Anderson, Oak Ridge National Laboratory

General discussion

#### ADVANCE REGISTRATION

UNESCO Symposium "Amplification Techniques in Cell Biology"

Monday, October 22 - Saturday, October 27, 1962

School of Pharmacy, The University of Buffalo

NAME	Title
ADDRESS	
	attendDo you wish accommodation reserved me of arrivalDeparture
REGISTRATION F	<u>EE</u> = \$10.00
Luncheons (\$3, wish to attend	
	Luncheons - Student Union, University Campus
	TuesdayWednesday
	Thursday
	Friday
	Saturday
	Dinners
	Tuesday, Sheraton Brock Hotel
	Wednesday, Buffalo Launch Club
	Thursday, Buffalo Launch Club
	Friday, Buffalo Launch Club

Please fill in above advance registration form, enclose your check payable to The University of Buffalo School of Pharmacy, and return in enclosed envelope not later than September 15.

UNESCO Conference - "Amplification Techniques in Cell Biology"

October 22-27, 1962

Host Institution - School of Pharmacy, The University of Buffalo

### MONDAY, October 22

Augustus 1	D	E 7	01-1	0-00	
Arrival =	Reception,	raculty	Club	8:00 p.n	n.

### TUESDAY, October 23

Luncheon, Student Union	12:00-1:30 p.m.
Visit to Niagara Falls	1:30-6:00 p.m.
Dinner - Sheraton Brock Hotel	
Niagara Falls, Ontario	6:00-9:00 p.m.

### WEDNESDAY, THURSDAY, FRIDAY, October 24-26

Conference Sessions	
Morning	9:00-12:30
Afternoon	2:00- 4:30 p.m.
Luncheons, Student Union	12:30- 2:00 p.m.
Dinners, Buffalo Launch Club	6:30- 9:30 p.m.

#### SATURDAY, October 27

Morning session tentatively scheduled 9:00=12:30

August 17, 1962

Dr. Daniel H. Murray Dean, School of Pharmacy The University of Buffalo Buffalo 14, New York

Dear Dr. Murray:

I very much appreciate your kind invitation to a

UNESCO Conference on October 22 through 27th. I am

writing to say that I regret I cannot attend it because
of other previous commitments.

Yours sincerely,

Leo Szilard

## The University of Chicago Law Review

Office of the Editor

Professor Leo Szilard 1155 E. 57th Street Chicago 37, Ill.

Dear Professor Szilard,

Enclosed is a copy of the galley proof of your article and a statement of the reprint policy adopted by the press. We would appreciate it if you would read over the proof and indicate any errors which you may note.

You will see from the pink slip attached to the proof that the press has suddenly adopted a very strict attitude with respect to changes from manuscript copy. We know that this is unsatisfactory from the point of view of an author who has contributed considerable time and effort to favor us with an article. If there are any changes which you feel absolutely necessary we will do our best to secure a relaxation of the press policy.

Please return the proof to us as soon as possible so that we may return the press copy of the proof at an early date. We would like to have it back by the end of the week if this is convenient for you. We would prefer to call at your home to collect the proof if there is a possibility that it might be held over the week-end in the mails.

Very truly yours,
Wm. S. Boylston
Wm. S. Boylston

February 13, 1952

Dr. Leo Szilard Research Institutes 308 Faculty Exchange

Dear Dr. Szilard:

Just recently I was rereading with delight your "Report on Grand Central Terminal" in the Round Table transcript of a few years back, and gave it to Don Morris, editor of the University of Chicago MAGAZINE to read, since he had not seen it before. He shares my enthusiasm for it, and urged me to ask you if we might have permission to print it in the MAGAZINE. We would like very much to use it, Dr. Szilard, and, in fact, are bold enough to ask if you have any other articles of a like nature on hand which you would be willing to submit for the pleasure and edification of our alumni readers?

Hoping that this request may be an agreeable

one to you, I am

the New Republic

the Plant this request

Sincerely,

Mrs. George Probst

Associate Editor

Alfochul Frank

40 Wall Bor 90911 150 Central Mas a 67700

#### 5650 Ellis Avenue

February 28, 1952

Mrs. George Probst Associate Editor The University of Chicago Magazine 5733 University Avenue Chicago 37, Illinois

Dear Mrs. Probst:

Enclosed is an article entitled "The Mark Gable
Foundation". If you want to use it, please let me know and
I will then make some minor corrections before releasing
it. Enclosed is also a reprint from the Chicago Law
Review in which you might be interested. Though it found
great favor with Colonel McCormick to the extent of the
Tribune devoting an editorial to its praises, you might
find it unsuitable for your magazine.

Sincerely yours,

Leo Szilard

LS/sds Enclosures COLLEGE OF ARTS AND SCIENCES
DEPARTMENT OF PHYSICS

July 10, 1954

Dr. Leo Szilard Institute for Radiology and Biophysics University of Chicago Chicago 37, Illinois

Dear Dr. Szilard:

There is at present a vacancy in the professorial staff of this department which we would like to fill by the beginning of the fall semester in September.

We are seeking either an experimental or theoretical physicist. So far as field of specialization is concerned our preference would be nuclear physics, but we would be interested in considering any promising applicants. In recent years the teaching load of the department has been such as to permit considerable time for individual staff members to engage in research and in the supervision of thesis work. We prefer a man who is interested in both teaching and research.

Enclosed are mimeographed sheets which we have used in correspondence with prospective graduate students, particularly possible junior staff members. The information in these sheets gives some indication of the facilities of the department.

Appointments can be made on either a ten month or twelve month basis at a rank and salary determined by the appointee's qualifications. We would appreciate you calling this letter to the attention of any persons whom you consider well qualified for this position.

Process h. Gost

Francis L. Yost Head of the Department

## THE UNIVERSITY OF KENTUCKY

Opportunities for Graduate Study in Physics

Study and Research

<u>Degrees</u>--The Department of Physics of the University of Kentucky offers a complete program of graduate courses leading to the Master's and Doctor's degrees.

Library--The Department has a truly excellent library housed in the physics building and available to the staff at all times. It contains an admirably chosen (and more than adequate) collection of textbooks and reference books. It currently receives copies of some 50 periodicals of interest in connection with modern physics; and the files of many of these periodicals are complete from the first issue.

Machine Shop--The Department has a fine machine shop which is staffed by two foreign-trained machinists and instrument makers. The Chief Instrument Maker, trained in Germany, has been with the Department since about 1925. He consistently turns out work of the highest perfection. He can help design and produce almost any sort of precision equipment. His colleague, an Instrument Maker, has been with the Department a fairly short time. He also does excellent work. Much of our nuclear accelerators is the handiwork of these expert instrument makers.

Nuclear Research -- The Department of Physics has two accelerators with basic characteristics as follows:

## (1) Van de Graaff Accelerator

Particles
Energy
Ion Source

Accelerating tube

Tank

Beam

Calibrated

-- p,d -- 2.5 MEV

-- radio-

frequency type
-- 7.5 feet long;
vertical

-- Diam: 8 feet
Hght: 10 feet
Pressure: 100 psi
(0.8 N2; 0.2 CO2)

-- Max. Current: 50 microamps.

-- 1949

## (2) Cockcroft-Walton Accelerator

Particle Energy Ion Source

Accelerating tube

Tank Beam

In operation

-- d -- 125 KEV

-- radiofrequency type

-- 2.5 feet long; horizontal

-- None

-- Max. Current: 1000 microamps.

-- 1953

In addition might be mentioned the facts that the Department has a beta-ray spectrograph almost completed (magnetic-180°-deflection type with shaped field) and owns an Atomic Instrument Company 20-Channel Analyzer. In recent years the nuclear work here has been partially supported by federal grants.

Other Types of Research--Despite the fact that the Department has placed major emphasis on nuclear research during the past few years the Department has the facilities and equipment to carry on a variety of other types of research, particularly in optics and in micro-wave spectroscopy.

Cooperation with Oak Ridge National Laboratory

The University of Kentucky is a member of the Oak Ridge Institute of Nuclear Studies. This affords the opportunity for certain qualified students to use the unique facilities of the Oak Ridge Laboratories for their thesis work.

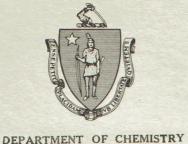
Teaching Assistantships

The Department has on its staff a number of Graduate Assistants and Part-Time Instructors. These appointments carry a stipend of from \$900 to \$1400 per academic year plus remission of out of state tuition; and require eight to ten hours per week for elementary instruction.

Research Assistantships.

Ordinarily a number of Research Assistantships are available to advanced graduate students in connection with the research program of the Nuclear Laboratory. Assistants receive \$2000 per calendar year plus remission of out of state tuition; and may take two courses per semester. Research performed on these appointments usually is of such nature as to be acceptable as thesis work.

Further information may be obtained by addressing the Head of the Department of Physics, University of Kentucky, Lexington.



# The Commonwealth of Massachusetts

University of Massachusetts

Amherst

December 8, 1953

Dr. Leo Szelard Department of Physics Brandeis University Waltham, Massachusetts

Dear Dr. Szelard:

We would be interested in having you speak before our graduate chemistry seminar group on some phase of your work. Would you be willing to do this sometime during the spring semester?

Our seminar usually meets on a weekday evening at eight o'clock. The date of your talk could be arranged for your convenience.

We hope that we shall have the pleasure of your visit.

Very sincerely,

Richard S. Stein Assistant Professor Department of Chemistry

mek

## The Center for Research on Conflict Resolution

THE UNIVERSITY OF MICHIGAN ANN ARBOR, MICHIGAN NORMANDY 3-1511, EXT. 2018

September 24, 1962

Dr. Leo Szilard Council for Abolishing Wars Suite 738 1500 New Hampshire Avenue, N. W. Washington 6, D. C.

Dear Dr. Szilard:

I am sorry you are unable to accept our invitation at the time proposed. We will be happy to have you address our faculty seminars some time in the future when you have a less crowded schedule. Please get in touch with me at your convenience.

Sincerely yours,

Professor Elton B. McNeil

Ellan B. M: hul

Executive Director of the Seminars

EBM: erf

UNIVERSITY OF MINNESOTA
DEPARTMENT OF AGRICULTURE
UNIVERSITY FARM, ST. PAUL 1

DIVISION OF PLANT PATHOLOGY AND BOTANY

May 29, 1951

Professor Leo Szilard
Institute of Radiobiology and Biophysics
The University of Chicago
Chicago 37, Illinois

Dear Professor Szilard:

I am sorry that your letter regarding Dr. Rodrigo Orellana has remained unanswered, because of my absence from the University recently.

Dr. Orellana obtained his Master's degree in soils at the University of Minnesota and then transferred to plant pathology where he did very good work considering the fact that he was supporting himself by teaching Spanish while working for his Doctorate.

After completing his work Dr. Orellana spent a year in Venezuela under rather difficult circumstances, as he apparently got caught in certain rivalries in which he had no part. These things sometimes happen.

Dr. Orellana is capable of doing very good work in the general field of microbiology, even though his principal interest was in soils and plant pathology. I had hoped that he would return to Ecuador or one of the other Latin American countries where services of men of his competence are badly needed. He prefers, however, to stay in the United States, and has had difficulty in getting a position because he is not a citizen. I understand, however, that he is eligible for citizenship within a short time.

I am sure that Dr. Orellana can do good work in the general field of microbiology if given the opportunity.

Sincerely yours,

E. C. Stakman

Chief

ECS: 10

### UNIVERSITY OF MISSOURI COLUMBIA

22 December 1952

COLLEGE OF ARTS AND SCIENCE DEPARTMENT OF BOTANY

> Dr L. Szilard Institute of Radiobiology University of Chicago Chicago, 37 Ill.

> > Dear Dr Szilard,

The purpose of this note is to tell you that Mr Robert W. Cowan has expressed the wish to see you, and that he may write to you in this connection.

Mr Cowan was a student here in the physics department, and my own acquaintance with him is largely casual. At present he works for the Evans Signal Corps Engineering laboratory in New Jersey. While a proper appraisal of him must come from others, I can say from my side that he does have rather unusual capacity for laboratory experimentation.

Now Mr Cowan has produced most ambitious plans, no less than to test Milne's relativity theory experimentally (temporal change in h). I believe the actual derivation of the experiments is elementary, and that everything depends on their practicability. If, after brief examination, the scheme still seems to you worthy of attention, you might perhaps be so kind as to put him in touch with the proper persons at the University of Chicago, or anyone else who may seem appropriate.

I am aware that that you are not a member of the physics or astronomy departments, but I feel sure you must know rather well what the interests of various members of these departments are. It is fully appreciated that such an approach is very unorthodox; all I can say is that it is most unusual for young students without Ph. D.'s to produce such projects.

I should have written to you earlier about our experiments with rings. Irradiation of females gave results nicely in accord with simple theory,there is a little note about this in the abstracts of the last Genetics Society meeting at Cornell. But I have recently made other tests using a ring Y chromosome, and here something peculiar is happening, - for which there might or might not be a simple explanation. In sum, I dont feel any more, or any less certain of the evidence that shows recessive lethats to be independent of chromosome breaks. It is this unsatisfactory situation which has prevented me from writing to you before.

It is too late for Christmas wishes, but perhaps not too late to wish you all the best for 1953.

Yours sincerely

A. C. Faberge A Ctaberge

file: morbadions/63

## UNIVERSITY OF NEW HAMPSHIRE DURHAM, N. H.

OFFICE OF THE PRESIDENT

Sax Loller

November 11, 1963

Dr. Leo Szilard Physics Department University of Chicago 5801 Ellis Avenue Chicago 37, Illinois

Dear Dr. Szilard:

On the recommendation of our Faculty Lectures Committee, I am happy to extend to you the invitation of the University of New Hampshire to lecture on our campus as a part of our program of exploring Current Issues. We wish to have both sides of the Nuclear Testing Question discussed by eminent authorities. While we realize a Congressional decision on the Nuclear Test Ban Treaty has been reached, we feel that this topic still merits serious consideration and discussion. Dr. Edward Teller has agreed to lecture on our campus on December 5, with the title of his talk being "Consequences of the Test Ban Treaty". We should like to have you address us regarding the favorable aspects of this Treaty.

We would welcome your appearance at your convenience, though hopefully near early December. We would be glad to transport you from Boston to Durham if you are able to schedule this visit. We would be happy to offer you an honorarium of \$500 in addition to covering other expenses incidental to your visit.

Needless to say, the University would be both honored and grateful if you should be able to accept this invitation. I shall look forward to your reply in the near future.

Sincerely yours,

John W. McConnell

President

HOTEL DUPONT PLAZA WASHINGTON, D.C.

November 22, 1963

President John W. McConnell University of New Hampshire Durham, New Hampshire

Dear President McConnell:

I am writing you to thank you for your very kind letter of November 11th inviting me to give a talk on your campus. Unfortunately, my schedule is such that it is not possible for me to fit in any such talk in the next few months.

Sincerely yours,

Leo Szilard

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## UNIVERSITY of PENNSYLVANIA

FOREIGN POLICY RESEARCH INSTITUTE Room 102 - 133 South 36th Street PHILADELPHIA, PENNSYLVANIA 19104 EVERGREEN 2-0685

ROBERT STRAUSZ-HUPE, Director

May 6, 1964

Dr. Leo Szilard Jonas Salk Institute La Jolla, California

Dear Dr. Szilard:

For more than two decades, Father Edward A. Conway, S. J. has worked through many channels to promote an intelligent study of the problems of peace, international organization, and the control of armaments.

The Catholic Association for International Peace plans to honor Father Conway at a testimonial dinner in Washington June 2, at which time a plaque with citation will be presented to him. Incidentally, Father Conway knows nothing of this as yet. In view of Father's long record of interfaith activity (dating from the Pattern for Peace in 1944), and in view of the fact that there are many persons outside the CAIP who would wish to join in the tribute, Dean William E. Moran, Jr. of the School of Foreign Service at Georgetown University, President of the Association, has asked me to form a Testimonial Committee of honorary sponsors for the affair. I cordially invite you to be a member of this Committee.

You will be informed soon as to the place and other details. But even if it should be impossible for you to be in Washington on that date, I hope that you will consent to add your name to the list of honorary sponsors. A preliminary list of invitees is enclosed for your information. I urge you to make additional nominations in your reply, and to send me any suggestions which might help to make this testimonial a memorable occasion for a man whom all his friends deeply admire. Please let me know as early as possible whether we may enroll you as a member of the Conway Testimonial Committee, and how you wish to be listed.

Sincerely,

James E. Dougherty

Associate

May 12, 1964 Dr. James E. Dougherty University of Pennsylvania Foreign Policy Research Institute Room 102-133 South 36th Street Philadelphia, Pennsylvania 19104 Dear Dr. Dougherty: In response to your letter of May 6, I wish to say that I shall not be able to attend the testimonial dinner in Washington on June 2, to honor Father Conway but you may add my name to the list of honorary

sponsors.

Sincerely,

Leo Szilard

LS:jm

Kings Crown Hotel 420 W. 116th St New York, N. Y. February 8, 1955

Dr. Ralph Buchsbaum Department of Biology University of Pittsburgh Pittsburgh, Pa

Dear Dr. Buchsbaum:

It was very kind of you to phone me from Pittsburgh and I should have been happy to visit your department if I had in fact gone to Pittsburgh. However, I had the flu, or something, and had to call off the trip. Maybe, there will be another chance some time in the future, though I do not at present have any future trip to Pittsburgh scheduled.

Sincerely yours,

Leo Szilard

LS/nr

#### UNIVERSITY of WASHINGTON SCHOOL OF MEDICINE DEPARTMENT OF MICROBIOLOGY SEATTLE 5

November 28, 1955

Dr. Leo Szilard
Division of Science
Brandeis University
Waltham, Massachusetts

Dear Dr. Szilard:

Dr. Karl Lark has suggested that we write you relative to his application for a position in this department. The enclosed statement will explain to you the nature of the position for which he is applying. In the past we have had a fine group of young men in these positions, and we of course hope to continue this sequence with men of similar caliber.

I would appreciate a statement from you relative to those qualities of mind and personality that are important in an academic colleague. Some of the points of interest to us are the following:

How does his scholastic record compare with that of other young men of comparable development that you have known? Do you regard this as a fair indication of his intellectual capabilities? Is he habitually industrious? Is he thorough in his laboratory work, his preparation for teaching, and his mastery of knowledge pertinent to his fields of research interest? How does he compare with other young men as to capacity for self-expression in writing, in conversation, and in prepared talks?

Does he have any characteristics of voice or personality that would interfere with his effectiveness as a lecturer to a large class or as a teacher on the person to person level of graduate instruction? How do his associates react to him personally? Is he a leader, a source of dissension, well liked?

As an over-all evaluation, how would you estimate his potentialities as a future investigator and as a teacher? Your comments about characteristics that would be significant relative to both of these activities will be of much interest to us, and your help in evaluating Dr. Lark will be greatly appreciated.

Charles a. E wans

Charles A. Evans

Professor and Executive Officer

CAE:rml Enclosure

cc: to Dr. Szilard addressed to Dept. of Biophysics, University of Colorado, School of Medicine, Denver.

#### THE ROTATING APPOINTMENT PROGRAM

of the

# Department of Microbiology University of Washington

The Department of Microbiology of the University of Washington maintains two rotating positions on its staff. These positions are regular faculty appointments in all respects, except that by fixed policy they are limited in duration to five years.

It is the intent of the program to provide young men starting an academic career with a broader academic experience than is usually associated with post-doctoral positions. The appointee is not only provided with ample time and opportunity to develop a research program but also participates as a full-time staff member in the teaching and administrative responsibilities of the Department. He has a voice equal to that of men of higher rank in all departmental matters, except appointments and promotions.

Initial appointment is usually made with regular faculty rank of instructor but may be at the rank of assistant professor for a properly qualified person. Increases of salary and promotion to the rank of assistant professor are made on the basis of merit. It is a fixed policy that appointments are not renewed beyond five years unless a vacancy should occur in the permanent staff. In that case, present and past appointees under the rotational program will be considered for the vacant position in competition with all other available qualified candidates.

It is felt that, within the time limit set, the appointee will have a good opportunity to develop his reputation as an investigator and his abilities as a teacher. With this varied experience and expected productivity in research, he should be well prepared for a permanent academic position at the time the appointment terminates. The value of this program to the Department of Microbiology lies in the periodic introduction of fresh viewpoints and interests to the staff and student body. This continued renewal of ideas over the years constitutes one of the primary aims of the program.

One vacancy is available at this time. Starting salary for an instructor will be \$5,000. Applicants should send the usual biographical data and transcripts of all academic records to

C. A. Evans
Department of Microbiology
University of Washington
Seattle 5, Washington
8-25-55

enfulement UNIVERSITY of WASHINGTON DEPARTMENT OF PHYSICS SEATTLE 5, WASHINGTON January 3, 1962 Dr. Leo Szilard Hotel Dupont Plaza Washington 6, D. C. Dear Dr. Szilard: I was sorry to learn that you will be unable to give your talk in Seattle. We would be delighted to have you come at some time in the future if you wish. In the meantime, my best wishes for success in your venture. Sincerely yours, Ronald Geballe Professor and Executive Officer RG: dj cc:Dr. Aaron Novick

# THE UNIVERSITY OF WISCONSIN PRESS 811 STATE STREET: MADISON 5

THOMPSON WEBB, JR.

Director

SINA SPIKER Editor SPENCER B. DRAFFAN
Sales Manager

June 2, 1950

Professor L. Szilard Institute of Radiobiology & Biophysics University of Chicago Chicago, Illinois

Dear Professor Szilard:

Joshua Lederberg of our Genetics Department has asked the University Press to consider the possibility of publishing a volume reprinting a number of papers in microbial genetics. Before we can consider undertaking such a proposal, I must have an indication of interest in the volume sufficient to justify its publication. At Dr. Lederberg's suggestion, therefore, I ask your advice. Your opinions will be of great assistance to us, and we will welcome any comments and suggestions. Please be frank in your judgment of the project; I shall hold anything you say in confidence unless you specify otherwise.

Dr. Lederberg proposes to bring together in one volume previously published original papers in microbial genetics which would be assigned to graduate students in a course on the subject. In most colleges such papers are available only in single copies in the journals in which they originally appeared; thus they are seldom satisfactorily available to students. Since most of these papers are out of print, there is no way to obtain additional copies.

Although the proposed volume could not include all the readings that every professor might consider desirable, careful selection may make a useful book. We hope that research workers might also consider this gathering convenient, even if they already have most of the articles in their reprint file, and that biology teachers who are not specialists in microbial genetics might welcome a collection of this kind for reference. The proposed volume is not intended as a substitute for a textbook, of which there is none yet available, but it should be a useful adjunct to a text.

Professor L. Szilard June 2, 1950 Page 2

The size of the volume will depend on the cost, which in turn will depend largely on the size of the edition, and that can be estimated only in terms of the potential market. It is not now possible, therefore, to prepare a complete list of the titles which would be included. A few authors, however, have been circularized and have given a preliminary consent to be mentioned as contributors. The following list is included here primarily to convey to you the kind of paper which would be included:

Beadle Burnet Coulson Delbruck Hershey Luria Demerec Sonneborn

I must emphasize that the list above is only partial; final selection can be made only after the size of the volume is determined. In addition, it is hoped especially to include more papers on fungi.

For obvious reasons, it will not be possible to include review articles. The primary consideration in choosing a title will be the desirability of making its contents available to students and not its being the first report of a discovery. The length of papers and their general availability will also have to be considered. The present plan also calls for a comprehensive bibliography of microbial genetics arranged by subject matter. Dr. Lederberg has indicated that he will be glad to receive any suggestions you may care to make concerning the papers which should be included.

The present plan calls for reproducing these books by offset directly from the original papers. The project would be undertaken by the University of Wisconsin Press as a service to scholars. The contributors would receive no royalties, and the price will be kept as reasonable as possible.

If we are to undertake this project at all, we shall need answers to the questions on the attached page. Your answers to these questions will not be considered as a commitment, but we shall be very grateful to you for any advice that you are willing to give us.

Yours very sincerely,

Director

### 6200 Drexel Avenue

June 5, 1950

Mr. Thompson Webb, Jr., Director The University of Wisconsin Press 811 State Street Madison 5, Wisconsin

Dear Mr. Webb:

Dr. Szilard has asked me to send you the enclosed questionnaire. He hopes that his opinions will be of assistance to you.

Sincerely yours,

Shirley D. Sykes Secretary to Dr. Leo Szilard

12/22/61

Dr. Leo Szilard, Scientist, author, Benefactor:

With sincere gratitude I commend your understanding and compassion expressed in your many writings and above all in

your life.

The unswerving efforts you have made, and are making, to awaken the sleeping people - government officials, scientists (so-called) technological fanatics - these efforts must be taking effect.

Your "Voice of the Dolphins" is a delight,

refreshment needed these days.

And your anti-War Lobby is what we need in government: Some time ago Durote the President: "How about the Government" Trinting Office putting out some pamphlets against war, against the Unholy alliance of the Rightists? \* Just for a change?

Thank you for your courage!

Ingegerd Uppman III Leland Way Menlo Park, California

URANIA file: morfutsous Monatsschrift über Natur und Gesellschaft Berlin C 2, Littenstraße 79a · Ruf XXXXXX 510221 Herrn Prof. Dr. L. Szilard The Enrico Fermi Institute for Nuclear Studies University of Chicago Chicago / Ill. Berlin, den 10. April 1964 USA Sehr verehrter Herr Professor, die Leser unserer populärwissenschaftlichen Zeitschrift - die URANIA ist die auflagenstärkste deutschsprachige Zeitschrift dieses Genres - interessieren sich sehr für die Entwicklung auf dem Gebiet der Molekularbiologie und der Molekulargenetik. Wir haben unsere Leser bereits mit einigen Beiträgen in diese Problematik eingeführt.

Nunmehr wenden wir uns in einer großen Umfrage an die profiliertesten Wissenschaftler der ganzen Welt mit der Bitte, unsere Leser mit den möglichen Konsequenzen dieser Forschungen bekannt zu machen: Werden wir in absehbarer Zeit das Krebsproblem lösen; werden wir durch neuartige Züchtungsmethoden schneller zu besseren Pflanzensorten und Haustierrassen gelangen; welche weiteren Ergebnisse sind zu erwarten?

Wir wären Ihnen, sehr verehrter Herr Professor, zu tiefem Dank verpflichtet, wenn Sie uns kurz - in etwa 20 Schreibmaschinenzeilen - folgende Frage beantworten könnten:

> "Welche praktischen Ergebnisse erwarten Sie in Ihrem Fachbereich im Laufe der nächsten Jahrzehnte von den internationalen Forschungen auf dem Gebiet der Molekulargenetik?"

Im Interesse unserer rund 500 000 Leser hoffen wir sehr, daß Sie dieser Bitte nachkommen werden und hoffen, daß wir Ihre Antwort bis zum 15. Mai 1964 erhalten.

Mit vorzüglicher Hochachtung

Jürgen Demloff

Chefredakteur

May 13, 1964 Mr. Jurgen Demloff URANIA Berlin C2, Littenstrasse 79a W. Germany Dear Mr. Demloff: I am writing in response to your letter of April 10. I appreciate your asking me to contribute to your journal but, because of my pre-occupation with other matters, I shall not be able to do so. Incidentally, your letter does not mention what remuneration, if any, you would propose to pay. Yours sincerely, Leo Szilard LS:jm

hotel DUPONT PLAZA file M Seenday 8 P.M

DUPONT CIRCLE AND NEW HAMPSHIRE AVENUE N. W., WASHINGTON 6, D. C.

TELEPHONE HUdson 3-6000

Dear On Szilard,

a Romm. Meeting of the american Psychiatrical asn. I also happen to be a member of GAP (Group for advancement of Psychiatry) through which your relatively recent address at Brandies was circulated.

I would like to have the pleasure of meeting you. My days will be fully occupied, but I am hoping you would not object to my phoning you some not one of the next couple nights to see if I could meet you. May I?

Gene L. Usolin, M.D. Room 475