

1155 East 57th Street  
Chicago 37, Illinois  
December 22, 1950

Dr. Hans Neurath  
Department of Biochemistry  
The University of Washington  
Seattle, Washington

Dear Neurath:

Enclosed you will find the manuscript of a paper which might perhaps interest you. We have since gone beyond it and have further results. I am dreaming at present of a trip along the West Coast, perhaps in February, all the way from Pasadena to Vancouver; and if it should materialize, which partly depends on the financial arrangements that I can make, I should be very glad to give you a seminar on this paper if you think this would be of interest to your group.

With best wishes--

Sincerely,



Leo Szilard

UNIVERSITY OF WASHINGTON  
SCHOOL OF MEDICINE  
DEPARTMENT OF BIOCHEMISTRY  
SEATTLE 5

December 27, 1950

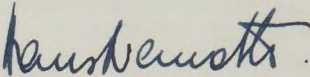
Professor Leo Szilard  
The University of Chicago  
Institute of Radiobiology and Biophysics  
1155 East 57th Street  
Chicago 37, Illinois

Dear Szilard:

I was pleased to receive your letter of December 22nd and the pre-print of your paper on, "Experiments with the Chemostat on Spontaneous Mutations of Bacteria". I shall be anxious to read it as well as the companion paper on the description of the Chemostat. I am sure that many people here, including myself of course, would be very much interested in a seminar on these papers and I do hope that you will let me know well in advance when you will be in Seattle so that we can make the proper arrangements.

Looking forward to hearing from you again, I am

Sincerely yours,

  
Hans Neurath

HN/mg



UNIVERSITY OF WASHINGTON  
SCHOOL OF MEDICINE  
DEPARTMENT OF BIOCHEMISTRY  
SEATTLE 5

March 26, 1951

Dr. Leo Szilard  
The University of Chicago  
Institute of Radiobiology and Biophysics  
1155 East 57th Street  
Chicago 37, Illinois

Dear Dr. Szilard:

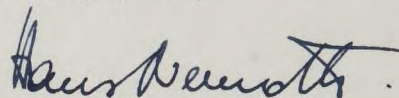
In confirmation of our telephone conversation of recent date, I should like to ask you to participate in the symposium on "Biochemical Kinetics", which the Division of Physical and Inorganic Chemistry together with the Division of Biological Chemistry of The American Chemical Society are sponsoring in connection with the Jubilee Meeting of The American Chemical Society to be held in New York City on September 3 through 7.

This symposium is scheduled to be held in two half-day sessions, and each speaker will be allotted approximately 30 to 35 minutes for the presentation of his contribution. Speakers from abroad will include, C. N. Hinshelwood, who will talk on the kinetics of the bacterial cell, F. J. W. Roughton, who will speak on the kinetics and equilibria of hemoglobin with oxygen and carbon monoxide, and K. Linderström-Lang who will speak on the initial break-down of proteins by proteolytic enzymes. Other speakers include, Walter Kauzmann, (The Kinetics of Protein Denaturation), Max A. Lauffer and H. K. Schachman, (Kinetics of the Disintegration of Tobacco Mosaic Virus), David Rittenberg (The Rate of Interaction of Amino Acids with Tissue Proteins in the Human), and Britton Chance (The Kinetics and Inhibition of Components of the Succinic Oxidase System).

Two-Hundred word abstracts, in triplicate, should be in my hands on or before May 1st, the abstracts to follow the style proposed on the enclosed sample abstract. I should appreciate too, to have as soon as possible, the title of your paper as it is to appear on the printed program. As I told you over the telephone, American contributors have to be members of the Society. I am asking Dr. Frank Long, of the Division of Physical and Inorganic Chemistry, to send you an application form and to act as sponsor for your membership.

I hope that you will not hesitate to let me know if you have any questions on this matter that I can answer for you. Thanking you for your cooperation and looking forward to seeing you, I am with best wishes,

Sincerely yours,



Hans Neurath  
Symposium Chairman

HN/mg  
enclosure



Please Supply Three Copies of Abstract

PREFERRED STYLE TO BE USED FOR ABSTRACTS

(Suggested Copy)

TITLE OF PAPER. Author's name (followed by present affiliation and address).

SAMPLE ABSTRACT

\* \* \* \*

THE DETERMINATION OF BENZENE HEXACHLORIDE BY A COLORIMETRIC METHOD

Milton S. Schechter and Irwin Hornstein, U. S. Department of  
Agriculture, Bureau of Entomology and Plant Quarantine, Beltsville, Md.

The widespread use of benzene hexachloride as an insecticide has created a need for a sensitive method for its determination in spray residues and in pharmacological studies. Because so many other chlorine-containing insecticides such as DDT, chlordan, toxaphene, dieldrin, and aldrin are now employed on a large scale, any method for benzene hexachloride should have some degree of specificity.

Such a method has now been developed which is simple, sensitive, and relatively free from interference from other insecticides or plant extracts. It can be employed to determine benzene hexachloride in most materials directly, without the need for preliminary separations.

The principle of the method involves refluxing the sample in acetic acid with granulated zinc metal in a special apparatus. Benzene is produced, absorbed in a nitrating mixture, and converted to m-dinitrobenzene, which produces a violet-red color when reacted with methyl ethyl ketone and alkali. Five micrograms of benzene hexachloride can readily be determined.

UNIVERSITY OF WASHINGTON  
SCHOOL OF MEDICINE  
DEPARTMENT OF BIOCHEMISTRY  
SEATTLE 5

April 9, 1951

MEMORANDUM TO:

CONTRIBUTORS TO THE SYMPOSIUM ON "BIOCHEMICAL  
KINETICS"

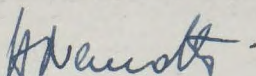
Gentlemen:

I hope you will not object if I remind you that the deadline for the receipt of abstracts is approaching rapidly. This is merely to call to your attention that abstracts, in triplicate, should be in my hands on or before May 1, 1951.

Thanking you in advance for your cooperation,

I am

Sincerely yours,



Hans Neurath  
Symposium Chairman

HN/mg



1155 East 57th Street  
Chicago 37, Illinois  
April 21, 1951

Dr. Hans Neurath  
School of Medicine  
Department of Biochemistry  
University of Washington  
Seattle 5, Washington

Dear Neurath:

In response to your letter of March 26 I am sending you the abstract that you needed. I have also filed an application for membership with the American Chemical Society. I am not able yet to make a final commitment concerning my participation in the symposium, but I intend to let you know by wire by the first of May whether or not I can make it.

With best wishes--

Sincerely yours,

Leo Szilard

wv



ON THE RATE OF SPONTANEOUS AND CHEMICALLY INDUCED MUTATIONS IN  
BACTERIAL POPULATIONS MAINTAINED IN THE CHEMOSTAT

Leo Szilard and Aaron Novick  
Institute of Radiobiology and Biophysics  
University of Chicago

We used in our experiments a device called the Chemostat in which a bacterial population may be maintained for an indefinite period of time in the growth phase. The growth rate is set at some value down to one-tenth of its maximum and is maintained at a fixed value by maintaining the concentration of some one of the growth factors required by the bacteria--the controlling growth factor--at a low fixed value, while the concentrations of all the other growth factors are maintained at a comparatively high level.

A number of different mutations of which the bacterium is capable will keep occurring in the bacterial population maintained in the Chemostat and for any one given mutation--in the absence of selection for or against the mutant--the mutant population will rise linearly with time. This circumstance permits the determination of the mutation rate in the Chemostat, both for spontaneous mutations and for mutations induced by mutagenic agents which may be added to the nutrient.

Using tryptophane as the controlling growth factor, we studied the mutation of the B-strain of *E. coli* to resistance to the bacterial virus T5 in the presence of any one of a number of different purine derivatives. Many of these purine derivatives proved to be highly mutagenic in concentrations in which there was no appreciable killing of the bacteria.

We further studied the dependence of the mutation rate on the choice of the controlling growth factor. As the controlling growth factor, we chose various amino acids or nitrogen or phosphorus or lactate.



5650 Ellis Avenue

May 7, 1951

Dr. Hans Neurath  
School of Medicine  
Department of Biochemistry  
University of Washington  
Seattle 5, Washington

Dear Neurath:

When you were in Denver you thought--I understand-- that you had not received the abstract of my paper. This abstract was sent to you with a covering letter dated April 21st, and I am enclosing a copy of both the abstract and the covering letter for your convenience in case it got lost in the mail or in your office.

I left a note for you in Denver saying that I should be glad to give the talk if you so desired.

With best wishes,

Sincerely yours,

Leo Szilard

LS/sds  
Enclosures



UNIVERSITY OF WASHINGTON  
SCHOOL OF MEDICINE  
DEPARTMENT OF BIOCHEMISTRY  
SEATTLE 5

June 1, 1951

MEMORANDUM TO THE CONTRIBUTORS TO THE SYMPOSIUM  
ON "BIOCHEMICAL KINETICS"

Gentlemen:

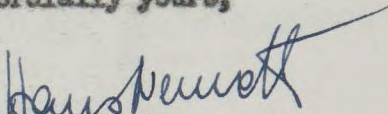
I am enclosing herein the final program of the symposium on "Biochemical Kinetics". This symposium has now been scheduled for the morning and afternoon of Thursday, September 6. A period of ten minutes will be allowed for the discussion of each paper, and since we shall have to adhere rigidly to the enclosed time schedule, I should like to ask each speaker to note carefully the time which is allowed to him for the presentation of his paper as given below:

<u>PAPER NO.</u>	<u>MINUTES FOR PRESENTATION</u>
19 . . . . .	30
20 . . . . .	30
21 . . . . .	30
22 . . . . .	35
23 . . . . .	25
24 . . . . .	30
25 . . . . .	35
26 . . . . .	25
27 . . . . .	25

I trust that you will let me know if you have any questions concerning this program which, thanks to your splendid cooperation, promises to render this symposium one of the highlights of the meeting.

Looking forward to greeting you at the meetings, I am

Cordially yours,

  
Hans Neurath  
Symposium Chairman

HN/mg  
enclosure



1155 East 57th Street  
Chicago 37, Illinois  
October 2, 1951

Professor H. Neurath  
Department of Biochemistry  
The University of Washington  
Seattle 5, Washington

Dear Neurath:

I am writing to apologize for not turning up in time at the New York meeting. I had a rather bad cold which made me doubt whether my voice would be of any use if I rushed to New York, and in addition I had difficulty getting reservations between Denver and Chicago. So in order to be on the safe side I asked Aaron Novick, who was in New York anyway, to take my place if you had no objection for him to do so. I actually got to New York one day late, so I was glad that Novick was able to jump in. I regret that I couldn't make it, but hope that my absence caused no inconvenience.

With kind regards,

Sincerely yours,

Leo Szilard

LS/sds