

AMERICAN ASSOCIATION  
FOR THE ADVANCEMENT OF SCIENCE

OFFICE OF  
THE PERMANENT SECRETARY

SMITHSONIAN INSTITUTION BUILDING  
WASHINGTON, D. C.

October 1, 1938

Prof. Norbert Wiener,  
Mass. Institute of Technology,  
Cambridge, Mass.

Dear Prof. Wiener:

American Men of Science contains about 28,000 names of leading scientists in the United States and Canada. Your name is in this great Biographical Directory.

The membership roll of the American Association for the Advancement of Science contains nearly 20,000 names. The names of nearly all of the leading American scientists and of many distinguished foreign scientists are included in this list. Do you not think yours should be there also?

Through its fifteen sections and 166 affiliated and associated societies the Association covers practically all of pure and applied science. Its meetings are the largest general meetings of scientists in the world. At the meeting at Indianapolis, for example, 1681 scientific papers were presented. The publicity its meetings received is unequalled by that of other scientific organizations. It makes grants-in-aid of research. It awards prizes. It preeminently represents the voice of science in America.

Since your name appears in American Men of Science, I cordially invite you to become a member of the Association and to participate in its work. With your membership you will receive a subscription either to SCIENCE or to THE SCIENTIFIC MONTHLY at your option. I am enclosing for your information a leaflet concerning the organization and purposes of the Association. I am also enclosing a membership application card which I hope you will promptly fill out and return to this office with your check for one year's dues, \$5. By action of the Executive Committee the usual entrance fee is waived.

Very sincerely yours,

*F. R. Moulton*

F. R. Moulton  
Permanent Secretary

AMERICAN ASSOCIATION  
FOR THE ADVANCEMENT OF SCIENCE

1914

1914

1914

Resolved, That the American Association for the Advancement of Science...

The membership roll of the American Association for the Advancement of Science...

Resolved, That the American Association for the Advancement of Science...

Resolved, That the American Association for the Advancement of Science...

Resolved, That the American Association for the Advancement of Science...



THE JOHNS HOPKINS UNIVERSITY  
BALTIMORE, MARYLAND

DEPARTMENT OF MATHEMATICS

October 3, 1938

Professor Norbert Wiener  
Massachusetts Institute of Technology  
Cambridge, Massachusetts

Dear ~~Professor~~ Wiener:

I should like to ask your advice as to one passage in the mean motion paper of ours. I mean a sentence about the middle of page 6 of the enclosed revised copy. Is it really obvious that "the volume of the region on the torus with a certain number of positive and of negative improper transits will be the same when the positive and the negative transits are interchanged"? Is it not rather possible that, *e.g.*, this equalization happens only in the limit? At any rate, I was unable to reconstruct the proof, and van Kampen did not succeed either. Of course this passage only concerns the explicit representation, and not the existence, of  $\mu$ .

I also changed one sentence in the introduction, since I just observed from the proof sheets of Weyl's paper, ~~that~~ <sup>that</sup> he is not having trouble with the exceptional amplitudes after all.

There happened many things since I saw you last. About these I write you next.

I wonder if Kershner returned to you the manuscript of our Riesz-Bohr paper for the M.I.T. Journal.

With kind regards from house to house,

Very sincerely yours,

*Aurel Wintner*  
Aurel Wintner

AW:R

AMERICAN MATHEMATICAL SOCIETY  
LOW MEMORIAL LIBRARY  
531 WEST 116th STREET  
NEW YORK, N. Y.

October 4, 1938.

Members of the Organizing Committee,  
International Congress of Mathematicians.

Gentlemen:

Chairman Graustein wishes to call a meeting of the Organizing Committee in connection with the October meeting of the Society. Members of other committees of the I.C.M. are invited to sit with the Organizing Committee on this occasion.

The meeting will be held in a private room of the Men's Faculty Club of Columbia University, immediately following the afternoon session of the Society on October 29. We can have dinner together in the middle of our deliberations, which will probably last into the evening.

The Chairman expects to send out shortly a letter outlining the business of the meeting.

Herewith are the minutes of the September Meeting.

Sincerely yours,

J.R. Kline, Secretary,  
Organizing Committee, I.C.M.



October 4, 1938

To:  
Warden of the Prison  
Attica, New York

Dear Sir:

Mr. Scimone, an inmate of your prison, has written to me concerning his mathematical interest. The letter has made an impression on me and my colleagues as coming from a man whose interests are genuine.

We have sent, under separate cover, four volumes of mathematical works to him. I do not know whether under the regulations of your prison an inmate is allowed to receive such books, but I hope it is possible and that it will be delivered to him. If, however, it should be impossible then I hope that you will find it possible to put them in the prison library where they will be available to him or to any other prisoner who might now, or in the future, happen to have like interests.

I would esteem it a great favor if you would let me know whether Mr. Scimone #1158 may receive the books personally or in case he cannot, whether you will find it possible to put them at his disposal in the prison library.

Very truly yours,

Norbert Wiener  
Professor of Mathematics

W/s

A. VERE SHAW & COMPANY

INVESTMENT COUNSEL  
MEMBERS  
INVESTMENT COUNSEL ASSOCIATION OF AMERICA

15 WILLIAM STREET  
NEW YORK  
HANOVER 2-1360  
CABLE ADDRESS "AVERESHAW"  
453 SO. SPRING STREET  
LOS ANGELES

October 5, 1938

7  
Professor Norbert Weiner  
Mass. Inst. of Tech.  
Cambridge, Mass.

Dear Sir:

We have recently seen mention of a study which you have made concerning the measurement of the forces in chaos. We would appreciate it if you can send us any public report of the results of your study or can refer us to printed reports or reviews of your addresses on the subject.

Sincerely yours,

*Richard L. Fuller*

rlf/h

*copy sent 11/14/38*



LEHIGH UNIVERSITY

BETHLEHEM, PA.

MATHEMATICS AND ASTRONOMY

October 6, 1938.

Professor Norbert Wiener  
Massachusetts Institute of Technology  
Cambridge, Massachusetts

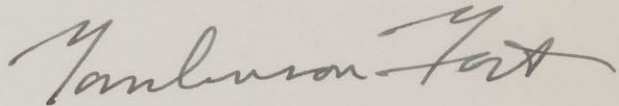
Dear Wiener:

Would you be willing to write a review  
of Churchill's recent book described as follows:

Churchill, Ruel V.  
Introduction to Fourier Series and Boundary  
Value Problems. Ann Arbor, Michigan, Ruel  
V. Churchill, 1938. 4 + 94 pp.

If you will undertake the review, I  
will appreciate it and will see that a copy of the  
book is sent to you. I suspect that the review will  
be more suitable for the Monthly than the Bulletin.  
In this matter I will be guided by your opinion.

Cordially yours,



Tomlinson Fort

accept

8



WILLIAM HUNT  
WARDEN

STATE OF NEW YORK  
DEPARTMENT OF CORRECTION  
ATTICA PRISON

ATTICA, N. Y.

October 6, 1938

Norbert Wiener, Professor of Mathematics  
Massachusetts Institute of Technology  
Cambridge, Mass.

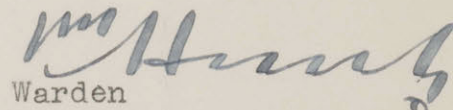
Dear Sir:

Re: Frank Scimone #1158

In reply to your letter of October 4th, I wish to advise that as soon as the four volumes of mathematical works are received at this institution, they will be turned over to the abovenamed inmate.

Thank you for the unselfish interest you have taken in assisting one of the inmates of this institution.

Very truly yours,

  
Warden

WH:WLD



AMERICAN MATHEMATICAL SOCIETY  
LOW MEMORIAL LIBRARY  
531 WEST 116th STREET  
NEW YORK, N. Y.

October 7, 1938

Members of the Organizing Committee  
International Congress of Mathematicians

Gentlemen:

It seems desirable, on account of certain pressing questions, to have a meeting of the Organizing Committee at the October meeting of the Society and you have undoubtedly already received from Professor Kline a notice of such. It is important that appointments and major decisions be made as soon as possible. At the time of the Annual Meeting in Williamsburg, all preliminary business of the Congress should be cleared so far as feasible. Decisions which can be made at the October meeting ought to be of assistance in this direction.

Chairman Graustein and I have gone over the business at great length, and we have made a tentative agenda as attached to this letter. We submit herewith comments on some of the items.

In connection with the nomination of additional members of the Program Committee by the ex-officio members (the Secretary, the Chairmen of the Organizing and Editorial Committees and of the several Conferences), early action on the proposal that the responsibility for the conduct of the various sections be delegated to specific individuals has become highly desirable. This arises from the fact that if "Chairmen of Sections" are authorized, it would be natural to have them made ex-officio members of the Program Committee.

If Chairmen of Sections are authorized, it would also be desirable to have them appointed or elected as soon as possible in order that their names may be included in the notices that are to be sent abroad. In view of the importance of these positions, it is to be assumed that the Organizing Committee will choose to have the men to fill them elected rather than appointed. Accordingly, the ex-officio members of the Program Committee are being asked to propose two names for each position and it is hoped that they will be ready to report, if called upon, at the October meeting of the Organizing Committee.

Copy sent 11/15/38

*Dwight & Scoville*  
*Winthrop E. Dwight*

*63 Wall Street*  
*New York*

CABLE ADDRESS-SCODWIGHT

October 7, 1938

Massachusetts Institute of Technology,  
Boston, Mass.

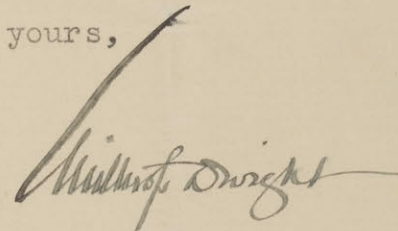
Attention of the Secretary

Gentlemen:

I would appreciate it if you would let me know whether the paper read by Professor Norbert Wiener at the recent meeting in September of the International Congress for Applied Mechanics, which was held in Cambridge, has been published in printed form. If this report has been published or is to be published, I would like to know where it will be obtainable.

Thanking you in advance for your kind attention in this matter, I am

Very truly yours,



WED:EZ

Enc.



CONSOLIDATED ENGINEERING CORPORATION  
164 NORTH HILL AVENUE PASADENA, CALIFORNIA  
TELEPHONE TERRACE 6555

October 10, 1938

Professor Norbert Wiener and  
Dr. Yuk-Wing Lee  
Massachusetts Institute of Technology  
Cambridge, Massachusetts

Dear Doctors Wiener and Lee:

Recently I have been studying your patent, number 2,024,900 on an electrical network system. Your work certainly does represent an important step in the design of electrical networks.

Due to the fact, however, that I have only an A.B. in Physics, I have considerable difficulty in understanding the theory of your patent. Would it be possible to obtain a copy of Dr. Lee's doctoral dissertation? I would appreciate it greatly if you could send me a copy.

*Look up*

Respectfully,

*Reed Lawlor*

Reed Lawlor

RL-bd

~~10-20~~ See "Synthesis of Electric Networks by means of Fourier Transforms of Laguerre's Functions," Y. W. Lee, ~~Jan 1933~~ (Journal of Math. & Physics Vol. XI, No. 2, 1932)

When Replying Sign Your Full Name and  
Address. Give Inmate's Full Name and  
Number

Name....Dr. Norbert Wiener,  
Street & No....Mass. Inst. of Technology,  
City....Cambridge,.....State....Mass.

P. O. Box 149  
ATTICA, N. Y.

Date....Oct. 10, 1938

Dear Doctor Wiener:

I wish to express my gratitude to you and Dr. Levinson for your active interest in me and my studies. The remaining years of my sentence will be much more pleasant because of the incentive you have created for me. The fact that I am able to correspond with you and keep you informed as to my progress serves as a stimulus. During my imprisonment the study of Mathematics was rather a lonesome affair as I had no one with whom to discuss the subject and, if it had not been for my inherent love for the subject I would have dropped it long ago.

After approval by the Prison Officials the four books were given me on the 8th. The two books by Goursat are excellent- - especially Volume II. The explanations pertaining to the Complex Variable are very comprehensive. I have looked for a book of this type for a long time.

The difficulty of studying Math. previous to now was the proper sequencing. I know I shall get great benefits from these books and a great many things I have missed heretofore. For instance: The Circular Functions, which are explained in the latter part of Hardy's book are quite new to me. They have appeared



simultaneously with a treatise on the Complex Variable in an analysis I borrowed not long ago but the explanations did not leave much of an impression. Heretofore I have gleaned my knowledge of Math. from the books I could get and not the ones I should have had.

I have previously studied practically everything in Vol. I of Goursat but not in that order. However, that is the first book I shall study even though I'm very anxious to get at Vol. II and also Hardy's, as there are many things in the latter two that are new to me.

According to your advice I have obtained a German Grammar and an German-English dictionary and have already started the study of the German Language. A fellow-inmate, educated in Germany, is assisting me.

It is difficult for me to say just how long it will take for me to study these books thoroughly but, as you say, they most certainly will keep me busy for a long time. Osgood's book looks troublesome because of the language. I shall reserve comment until I have made some progress with the German language.

The reprints were not with the books as you stated in your letter of the 30th. Please let me know if they were sent, for if they were, I shall have to obtain an interview with the Warden in order to secure them.

Please know that this correspondence with you is more than enough incentive for me to enter the field of Analysis as you and Dr. Levinson suggest.

Respectfully yours,

*Frank J. Seimore*  
# 1158

October 11, 1938

Winthrop E. Dwight, Esq.  
63 Wall Street  
New York, N. Y.

Dear Mr. Dwight:

My paper on "Homogeneous Chaos" will appear in extenso in the Hill issue of the American Journal of Mathematics which may be out anytime. It is a technical job and probably in its present stage would be of relatively little interest to anybody but a professional mathematician. On the other hand, I am expecting, before the lapse of many months, to get onto the stage of computation and to see if I could extract some results of turbulence which may be of use to practical investigators like Mr. G. I. Taylor.

I shall be glad to inform you of any results that may be of interest to you, but as of most of these fields, the public to which one addresses one's self is for a long time necessarily limited to technicians.

Very truly yours,

Norbert Wiener  
Professor of Mathematics

W/s



AMERICAN MATHEMATICAL SOCIETY

TEMPLE R. HOLLCROFT  
ASSOCIATE SECRETARY

WELLS COLLEGE  
AURORA, N. Y.

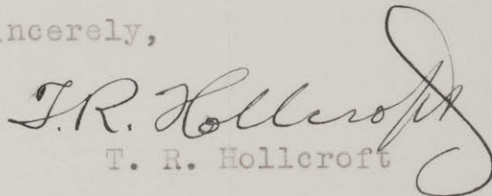
October 11, 1938

Professor Norbert Wiener,  
Cambridge, Mass.

Dear Professor Wiener:

Please send me as soon as possible and not later than Nov. 26, the title of your address to be delivered at the Meeting of the Society April 6 - 7 at Duke University. The titles of the three addresses are needed by that time for the announcement of this meeting on the third cover page of the December 1938 Bulletin (See Dec. 1937 Bulletin for a similar announcement of the Charlottesville Meeting).

Yours sincerely,

  
T. R. Hollcroft

TRH:JH

THE JOHNS HOPKINS UNIVERSITY  
BALTIMORE, MARYLAND

DEPARTMENT OF MATHEMATICS

October 11, 1938

Professor Norbert Wiener  
M.I.T.  
Cambridge, Massachusetts

Dear Wiener:

I sent you some days ago the manuscript of our mean motion paper, with a question mark, and I am somewhat worried that you did not receive it. If you did, kindly return it as soon as you can, since otherwise we could not place it in an early issue of the American Journal.

I am also worried whether you received our M.I.T. Journal paper from Kershner.

There are many other things about which I am worrying.

Did S.S.S. get his job?

With regards from house to house,

Very sincerely yours,

*And Wintner*  
A. Wintner

AW:R



*Dwight & Scoville*  
*Winthrop E. Dwight*

*63 Wall Street*  
*New York*

CABLE ADDRESS-SCODWIGHT

October 15, 1938

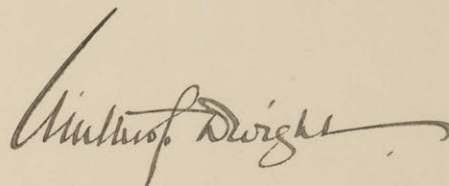
Professor Norbert Wiener,  
Massachusetts Institute of Technology,  
Cambridge, Mass.

Dear Professor Wiener:

You are very kind to have written me so promptly in reply to my inquiry about your paper on "Homogeneous Chaos", which I shall have the opportunity of seeing in the American Journal of Mathematics. My interest in the matter is only on the theoretical side and probably my mathematical equipment is inadequate to enable me to study your paper intelligently. However, I shall try to do so.

Thanking you again for your courtesy,

Yours very truly,



WED:EZ



Philosophical Library  
Jackson Hall  
Cambridge, Mass.  
October 18, 1938

~~Miss Prof. Herbert Wiener~~  
~~Secretary, China Aid Council~~  
Chapter, ALPD

M. I. T.  
Cambridge, Mass.

Dear Prof. Wiener:

Since last Spring, when the City Committee of the American League for Peace and Democracy ended its regular meetings, the separate chapters have limited themselves to local activity. May I, as temporary chairman of the City Committee, call upon the chapters to resume this city-wide phase of League activity?

Events of the past few months and weeks, as we must all realize, have put before the League more urgently than ever the task of doing what it can to stem the Fascist tide. Good as our local activities may be by themselves they fall short of bringing the full potentialities of the League. It is only by pooling the resources of all the chapters in activities on a city-wide scale, that the League can become an articulate and effective agency for peace over the entire Boston area.

One immediate task confronts the League. A large mass-meeting for Czechoslovakia is being arranged by the American-Czechoslovakia Defense Committee jointly with the Committee for Concerted Peace Efforts, of which the League is a constituent organization, for Armistice Day, November 11th. These Committees depend on us to some extent for the success of this meeting. Our League campaign for the meeting can be best carried by centralized effort in the City Committee.

In many ways an active City Committee will strengthen the League in Boston. It will further work for China in the China Aid Council, recently reorganized with great promise, in the Boycott Committee, work for Spain, and, it saddens us now to add, work for Czechoslovakia. The League should hold several mass-meetings in Boston this year under its own auspices as well as set up the apparatus to send delegates to the National Conference on January 6, 7, and 8th. Through the City Committee a sponsoring and advisory group of figures well-known to Boston could be set up with beneficial effects in the League.

*Council come* May I, therefore, urge that ~~each chapter of the ALPD elect two delegates to the City Committee?~~ <sup>+ you as Chairman of the China Aid</sup> The ~~delegates~~ first meeting of the Committee will be held on Monday, October 24th, at the Elizabeth Peabody House, 307 Charles Street, Boston, at 8:30 P.M. ~~if it is not possible for any chapter to elect delegates in time for this meeting, temporary delegates could be named by the executive committee.~~

*It is not necessary to come as early as 8:30 for China Aid will not be discussed until later in the evening. Of course you will be welcome whenever you come.*

Sincerely yours,  
LOUIS HARAP  
Temporary Chairman, City Com.

LB/CIL



60	10
190	30
50	17
195	
<hr/>	
385	8
40	



~~250~~

500

~~125~~

180

If the League is as tenacious as  
this, heaven help democracy!

October 13, 1938

Professor Aurel Wintner  
Johns Hopkins University  
Baltimore, Maryland

Dear Professor Wintner:

I am enclosing a revised version of our paper. It was rather hard for me to find the precise way to state the corrected formula but I think it will go in its present form.

I have been very sorry to hear of your bad luck, whatever it may be, and if there is anything I can help you in I would like to know. As to the ergodic material as you will no doubt have observed, there is one stage in the proof of my dominated ergodic theorem where I got a fraction wrong side up and another stage later where the argument is a little obscure, but I can assure you that it will be made o.k. if we introduce a constant factor into the formula.

I have succeeded in proving the full Birkhoff theorem by my machinery. I have also got an utterly trivial proof of the Neuman ergodic theorem. I shall send these soon to you at short notice. Furthermore I have shown that a form of the dominated ergodic theorem holds for the Class L, although of course the dominated no longer belongs to the Class L. Thus I am in a position to go ahead with my paper for the Duke Journal and I consider that I have practically a clean-up on ergodic matters.

The chapter of our book on ergodic theorems will be substantially the same as the stuff I am now writing up for the Duke Journal. It is completely self-contained. As you see, I have been making some headway with our project. I am running a seminar on this sort of material and am having a good deal of success.

I hope you will give me really detailed information about your situation as I want to help you and hope that I can. As for me, locally things are going very well--of course I am immensely perturbed by the European political state of affairs!

Our Congress on Applied Mechanics came off very successfully. I see my way clear to doing something on the turbulence matter from a computational point of view.

Won't you be up at the October Meeting of the Mathematical Society? I shall be there and shall have an enormous amount of material to talk over with you. I wish to send my best regards to you and your family.

Sincerely,

Norbert Wiener

W/s



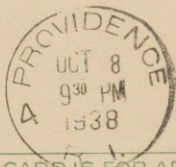
Brown University  
Mathematics Colloquium

Friday            October 14, 1938            Wilson 26

Dr. S. E. Warschawski  
of Brown University

"On functions analytic in a half-plane"

Oct. 21, Professor L. W. Cohen of the  
University of Kentucky.



THIS SIDE OF CARD IS FOR ADDRESS

Professor Norbert Wiener  
Department of Mathematics  
Mass. Institute of Technology  
Cambridge, Mass.



## ACCEPTANCE CARD

### American Association for the Advancement of Science

The Permanent Secretary, A. A. A. S.,  
Smithsonian Institution Building,  
Washington, D. C.

(Date) -----

Dear Sir:

I accept the invitation to become a member of the American Association for the Advancement of Science, and I am enclosing my check for \$5 to pay the annual dues for 1938-39 (Oct. 1, 1938, to Sept. 30, 1939). I understand this payment includes a journal subscription for the calendar year 1939.

Yours very truly,

(Signature) -----

(Address for journal) -----

I wish to receive  Science (weekly)  
 Scientific Monthly  
(Check only one.)

[OVER]

Date\_\_\_\_\_

Name  
in full (print or typewrite)\_\_\_\_\_

(Place parentheses around parts of name usually omitted in correspondence)

Mail address for the journal\_\_\_\_\_

Degree(s) received, and  
institution(s) by which conferred\_\_\_\_\_

State whether Mr.,  
Miss, Mrs., Prof., Dr., etc.\_\_\_\_\_

Name and address of  
institution, firm, etc.\_\_\_\_\_

Official title \_\_\_\_\_

Member of following  
scientific societies: \_\_\_\_\_

For enrollment in the following section(s), A. A. A. S. \_\_\_\_\_

(Name sections in order of importance to you.)

[The sections of the Association are: A (Mathematics), B (Physics), C (Chemistry), D (Astronomy), E (Geology and Geography), F (Zoological Sciences), G (Botanical Sciences), H (Anthropology), I (Psychology), K (Social and Economic Sciences), L (Historical and Philological Sciences), M (Engineering), N (Medical Sciences), O (Agriculture), P (Industrial Science), and Q (Education).] (OVER)



# **THE AMERICAN ASSOCIATION**

*for the*

## **ADVANCEMENT OF SCIENCE**

There is something new under the sun. It is science. Of course science started a long time ago, but the greater part of it has been developed in this century. Within two or three generations it has transformed the world.

Science has become an extraordinarily important and pervasive influence upon human beings, whether considered as individuals or as members of society. It has provided undreamed-of physical comforts. It has opened up unparalleled opportunities for intellectual development and aesthetic enjoyment. And, alas! it has enormously increased the complexities of the relations among men.

A new injunction has been laid upon the spirit of man, to know and to understand ever more broadly and deeply.

In the promotion of science, the Association has played a distinguished role for 90 years. Through its 15 sections and 166 associated societies it covers essentially the whole field of pure and applied science. Like science itself, the Association is not limited by national boundaries. Its membership extends throughout the world, including even such islands of the sea as Haiti, Jamaica, and Tahiti.

The Association holds two meetings each year, one at the Christmas holiday season and the other in June. At these meetings general addresses are delivered by distinguished American and foreign scientists; notable symposia are held on broad fields of science and on the effects of science upon education and civilization; and on the average a thousand papers are presented on the various sciences and their applications. In a very real sense American science speaks to the world at the meetings of the Association. It looks hopefully toward a glorious future for the human race, but it realizes that progress in the future will depend, as it has depended in the past, upon growth in understanding.

WESLEY C. MITCHELL,  
*President.*



## FOUNDING AND ORGANIZATION

The American Association for the Advancement of Science, which was organized in 1848, is the oldest truly national scientific society in the United States, though the American Philosophical Society, of Philadelphia, was founded in 1766, and the American Academy of Arts and Sciences, of Boston in 1780.

In 1848, when the Association was organized, science consisted of two general divisions, *natural philosophy* and *natural history*, the former including the physical sciences then existing, and the latter the biological. In fact, the Association succeeded a society organized in accordance with this division of the sciences, viz., the Association of American Geologists and Naturalists, which was the culmination, in 1842, of several abortive attempts to establish a national scientific society.

Since the organization of the Association 90 years ago, the progress of science has been astounding. It has rapidly undertaken to explore every part and aspect of the physical, biological, and intellectual universe about us. Its fundamental discoveries have been as important as its applications, which together have made for us in about three generations a new heaven and a new earth. Like a fertilized germ cell, it has divided into separate sciences, each of which has grown with amazing vitality. The Association has now 15 sections and 166 affiliated and associated societies which together cover the whole field of pure and applied science. True to the spirit that inspired its organization, the Association has continued to be an integrating factor in this growing diversity. It is a federation of the most important forces, at least in the long run, that are operating in our continent. It is demonstrating that the whole of science is greater than the sum of its parts, just as a man is more than the sum of his cells. The voice of the Association is increasingly the combined voice of science in America, great in volume because of the multitude speaking and enriched by the variety of its tones.

The Association has more than 19,000 members, and the membership of its affiliated societies (including duplications) is approaching a million. The membership of the Association consists not only of professional scientists but also of other persons who find in science romance, adventure, high ideals, service to the race, and a new picture of the cosmos.

Professional scientists do not belong to the Association because there are not technical so-

cieties in their special fields, for there are such societies. They have joined the Association because it represents preeminently science in general, and even more because of the opportunities it offers for coordinating and integrating different sciences. Broad symposia on subjects involving a number of sciences are becoming more and more important features of the meetings of the Association. These symposia now are extending to the relationships of science to our economic and social systems. Perhaps the Association is rendering its greatest service to science, and to mankind in general as well, by providing opportunities for its professional members to look at their subjects in general settings and to reflect on the effects of their work upon the problems that beset this disordered world.

Every member of the Association receives, at his option, either the weekly journal *Science* or *The Scientific Monthly*. *Science* is the official publication of the Association, containing all its official announcements, its scientific programs, the general addresses delivered at its meetings, scientific discussions, international news items about science and scientists, lists and reviews of scientific books, and current scientific news. *The Scientific Monthly* is an illustrated magazine in the broad field of science and its applications.

The regular membership dues of the Association, including a subscription to *Science* or *The Scientific Monthly*, are \$5 a year. A member can obtain both journals by paying \$3 a year in addition to his membership dues, or a total of \$8. Any member paying to the Association \$100 at one time becomes a *life member* subject to no further dues. A person paying \$1,000 becomes a *sustaining member*. Persons having been members of the Association continuously for 50 years are automatically exempt from the payment of dues.

All persons who are workers in science, all who get pleasure in following its discoveries from electrons to galaxies of stars, from microorganisms to man, all who see in it and its applications the promise of a better world in which to live, all who look hopefully toward it to provide a new basis for ethics and possibly for religion—all these are cordially invited to become members of the Association.

F. R. MOULTON,  
*Permanent Secretary.*

Smithsonian Institution Building,  
Washington, D. C.



## OFFICERS FOR 1938

Wesley C. Mitchell . . . . . *President*  
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There are 120 special scientific societies which are affiliated or associated with the Association. When these societies hold meetings with the Association their programs are prepared and presented in cooperation with the sections to which they are related. There are in addition 46 state academies and other scientific organizations which cooperate actively with the Association. Members of affiliated societies and academies are admitted to membership in the Association without an entrance fee by paying only the annual dues.

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#### MATHEMATICS (A)

*Affiliated Societies:* American Mathematical Society; Mathematical Association of America; Association for Symbolic Logic.

#### PHYSICS (B)

*Affiliated Societies:* American Physical Society; Optical Society of America; American Association of Physics Teachers; American Meteorological Society; Acoustical Society of America; Society of Rheology.

*Associated Society:* Sigma Pi Sigma.

#### CHEMISTRY (C)

*Affiliated Societies:* American Chemical Society; Electrochemical Society; American Oil Chemists' Society.

*Associated Societies:* American Institute of Chemical Engineers; Phi Lambda Upsilon; Alpha Chi Sigma Fraternity.

#### ASTRONOMY (D)

*Affiliated Societies:* American Astronomical Society; Astronomical Society of the Pacific.

*Associated Society:* Society for Research on Meteorites.

#### GEOLOGY AND GEOGRAPHY (E)

*Affiliated Societies:* Geological Society of America; Paleontological Society; Association of American Geographers; Seismological Society of America; American Geographical Society of New York; Mineralogical Society of America.

*Associated Societies:* National Council of Geography Teachers; American Alpine Club.

#### ZOOLOGICAL SCIENCES (F)

*Affiliated Societies:* American Society of Zoologists; Entomological Society of America; American Association of Economic Entomologists; American Society of Parasitologists; American Society of Mammalogists; Eugenics Research Association.

*Associated Society:* Wilson Ornithological Club.

#### BOTANICAL SCIENCES (G)

*Affiliated Societies:* Botanical Society of America; American Phytopathological Society; American Society of Plant Physiologists; Torrey Botanical Club; Mycological Society of America.

*Associated Societies:* American Fern Society; Sullivant Moss Society.

#### ZOOLOGICAL AND BOTANICAL SCIENCES (F and G)

*Affiliated Societies:* American Society of Naturalists; Ecological Society of America; Western Society of Naturalists; American Genetic Association; American Microscopical Society; Genetics Society of America; Limnological Society of America; Federation of Societies for Experimental Biology.

*Associated Society:* Phi Sigma Society.

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*Affiliated Society:* American Anthropological Association.

*Associated Societies:* Archaeological Institute of America; American Folk-Lore Society.

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*Associated Society:* Southern Society for Philosophy and Psychology.

#### SOCIAL AND ECONOMIC SCIENCES (K)

*Affiliated Societies:* American Statistical Association; American Sociological Society; Econometric Society.

*Associated Societies:* American Planning and Civic Association; American Economic Association; Metric Association.

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*Affiliated Societies:* History of Science Society; Linguistic Society of America.

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*Affiliated Societies:* American Society of Mechanical Engineers; American Institute of Mining and Metallurgical Engineers; American Institute of Electrical Engineers; American Society of Civil Engineers; Illuminating Engineering Society; American Society for Testing Materials; American Ceramic Society; Institute of Radio Engineers; Society for Promotion of Engineering Education; Institute of Aeronautical Sciences.

*Associated Societies:* American Society of Heating and Ventilating Engineers; American Society of Refrigerating Engineers; Western Society of Engineers; American Society of Photogrammetry.

#### MEDICAL SCIENCES (N)

*Affiliated Societies:* American Medical Association; American Association of Anatomists; Society of American Bacteriologists; American Public Health Association; Society for Experimental Biology and Medicine; American Veterinary Medical Association; American Roentgen Ray Society; American Academy of Tropical Medicine; International Association for Dental Research (American Division); American Pharmaceutical Association; American Society for Experimental Pathology; American Society of Biological Chemists; American Physiological Society; American Society for Pharmacology and Experimental Therapeutics, Inc.; American Academy of Ophthalmology and Otolaryngology; American Psychiatric Association.

*Associated Societies:* American Dental Association; American College of Dentists; American Association of Dental Schools; American Association of Colleges of Pharmacy; American Dietetic Association; Alpha Epsilon Delta Premedical Fraternity.

#### AGRICULTURE (O)

*Affiliated Societies:* American Society of Agronomy; American Society for Horticultural Science; Society of American Foresters; Canadian Society of Technical Agriculturists; American Society of Animal Production.

*Associated Societies:* Potato Association of America; American Dairy Science Association; Association of Official Seed Analysts; American Pomological Society; Gamma Sigma Delta; Xi Sigma Pi.

#### EDUCATION (Q)

*Affiliated Societies:* National Education Association; National Society of College Teachers of Education; National Society for the Study of Education; American Philosophical Association.

*Associated Societies:* Kappa Delta Pi; Phi Delta Kappa Fraternity; Pi Lambda Theta.



## AFFILIATED ACADEMIES OF SCIENCES

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*Affiliated Societies:* American Association of University Professors; Society of Sigma Xi; United Chapters of Phi Beta Kappa; Honor Society of Phi Kappa Phi; American Nature Study Society; American Library Association.

*Associated Societies:* Bibliographical Society of America; American College Personnel Association; Pi Gamma Mu; Gamma Alpha Graduate Scientific Fraternity; Chi Beta Phi Scientific Association; Sigma Delta Epsilon; American Science Teachers' Association; The Wildlife Society; Research Council on Problems of Alcohol.

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## SYMPOSIA OF THE ASSOCIATION

1. The Protection by Patents of Scientific Discoveries ----- \$0.50
2. Physical and Chemical Changes in Nerve During Activity. (Out of print.)
3. The Scientific Aspects of Flood Control... 0.50
4. Some Fundamental Aspects of the Cancer Problem. Paper, \$2.00; cloth 2.50
5. Tuberculosis and Leprosy—The Mycobacterial Diseases. Cloth 2.50
6. Syphilis. (In press.)
7. Science and Society—Fundamental Resources as Affected by Science. (To be published in 1938.)
8. (a) Applications in Surface Chemistry;  
(b) Recent Advances in Chemical Physics.  
(In press.)

## COMING MEETINGS

Richmond, Va., December 27 to 31, 1938.  
Milwaukee, Wis., June 19 to 24, 1939.  
Columbus, Ohio, Dec. 27, 1939, to Jan. 2, 1940.  
Seattle, Washington, Summer of 1940.  
Philadelphia, Pa., Dec. 27, 1940, to Jan. 2, 1941.

Massachusetts Inst. of Tech.  
Room 2-165  
October 14, 1938

Mr. Frank J. Scimone  
Post Office Box 149  
Attica, New York

Dear Mr. Scimone:

The reprints were sent last Thursday  
and should be in the hands of the authorities now.  
If you wish, I shall write directly to the authorities  
notifying them of the purpose for which I sent these.

I am very pleased with your letter and  
hope that you will find the books useful. I am prepared  
to hear of your progress and keep you advised on what  
is necessary to further it.

Sincerely yours,

W/s

Norbert Wiener



Vienna, 15 th. October 1938

Dear Sir,

I am not aware whether there is a relationship between you and me, however being obliged by the prevailing conditions over here to ask even persons beyond the ocean whom I never have known to help us, I think it to be more natural and simple to apply to those who have the same name as I had not yet being married.

My family is not-Aryan, and that is the reason why we are not able to find any employment here and why we are obliged to leave the country where we are born and where our parents and grand<sup>d</sup>parents have lived as honestly working people. Should you be prepared to enable us to enter the United States by giving us an "Affidavit of support"? This will not only be a good deed for which we shall thank you for ever, but you may rest assured that we will do our utmost to make our way and to earn our living by our work thus giving you a proof that you have not wasted your help to people who don't deserve it.

In the following I beg to give you particulars and details with regard to my family in order to give you an idea ~~what~~ we have learned and worked till now and, what is more, also to know ~~where~~ to find possibilities of work and furthermore what could be done at your end for us in this respect.

Irene Wolheim, born Wieder, born 21 th. November 1888 in Vienna, Vienna citizen, now German. I have got a diploma as druggist, worked in several shops as a book-keeper, and I am very experienced in all household- and children's education work.

Arnold Wolheim, my husband, born 24 th. February 1893 in Vienna, Vienna citizen, now German, has made his matric and got his diploma as "Magister of pharmacy" at the university of Vienna, took part in the War through four years, had a practice of six years as a chemist in a dispensary. In the following 17 years he was owner of a druggist's shop/wholesale and retail/, where he produced too several chemical, pharmaceutical and cosmetical articles and where he occupied himself with elaboration of photos and with selling of photographic articles.

Our daughter, Maria Wolheim, born 23 th. January 1923, former pupil in a grammar-school/5 forms/learned English, shorthand, Typewriting, household and needlework and has got a temporary invitation for England.



Thanking you in advance for all you would be kind enough to do  
for us by sending us an Affidavit as soon as ever you can

I remain

Yours truly

*Irene Wolheim - Wiener*

Vienna, XVI, Brunnengasse 72



U. S. WORKS PROGRESS ADMINISTRATION  
FOR THE CITY OF NEW YORK  
70 COLUMBUS AVE., NEW YORK, N. Y.

BREHON SOMERVELL  
ADMINISTRATOR

October 17, 1938

Professor Norbert Wiener,  
Massachusetts Institute of Technology,  
Cambridge, Massachusetts

Dear Professor Wiener:

The Works Progress Administration for New York City has a group engaged in computing mathematical tables for use in scientific fields.

Here in the Public Information Section we have at the moment the problem of conveying the practical utility of such tables to the General Public through the medium of the printed word.

To that end we are seeking concrete examples showing where higher mathematical tables have been, or are being used in the process of creating or improving something in everyday use.

For instance, research workers for the National Broadcasting Company have explained to us how tables of Bessel Functions are of use to them in improving the transmission of radio programs. That's the sort of thing we are seeking.

Can you furnish us with one or two examples of this kind? We shall deeply appreciate them.

Very truly yours,

*John Collins*  
John Collins, Asst. Unit Manager,  
PUBLIC INFORMATION SECTION

JC:W

October 17, 1938

Professor Norbert Wiener  
Mass. Institute of Technology  
Cambridge, Mass.

Dear Professor Wiener:

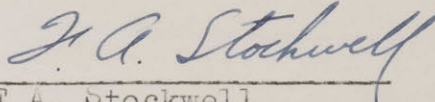
Mr. Charles Bechle, of the class of '34, has referred you to me for a solution of a mathematical problem on which we recently had quite a discussion. I am taking the liberty of writing you for the correct solution.

What I would like to know is whether or not the percentage or odds are with or against the player in the ordinary game of dice. That is, in using two dice, the player wins when he rolls number 7 or 11; he loses when he rolls 2, 3 or 12; when any of the other numbers, namely 4, 5, 6, 8, 9 and 10 are rolled, he must repeat this number before rolling a 7 or he loses.

I would appreciate very much receiving your method of solving a problem of this kind and would be very grateful if you would take a few minutes of your time to send me a reply. Enclosed is a self-addressed envelope for your convenience in replying to my letter.

I want to thank you in advance for this information and trust that I may have the pleasure of hearing from you at your leisure.

Yours very truly,

  
F.A. Stockwell

FAS:M



When Replying Sign Your Full Name and Address. Give Inmate's Full Name and Number

Name Doctor Norbert Wiener  
Street & No. Mass. Inst. of Technology  
City Cambridge, State Mass.

P. O. Box 149  
ATTICA, N. Y.

Date Oct. 18 1938

Dear Doctor Wiener:

I received your reprints on Saturday, October 14- - -one-hundred and forty-three of them; really, I am so overwhelmed I don't know what to say. Your generosity, encouraging letters and interest leave me in a quandry as to how I am to show my appreciation. Believe me, I am very much indebted to you.

A good majority of the reprints are too difficult for me to understand, but as I progress with the books you sent I am confident that I will be able to handle a good share of them.

The discussion given in the reprint #117- -THE SIMSON LINES OF A TRIANGLE, by Phillip Franklin, was most intriguing and fascinating, especially the relation of the hypocycloid to the Morley triangles. This is the only one I actually went through so far. I also got started on one of your publications, namely: "NOTE ON A NEW TYPE OF SUMMABILITY". On this I can get up to only a certain point. The method in which the Fourier series is applied is most elegant and with some difficulty I carried through the series from:

$$\frac{2n}{\pi} \sum_{k=1}^{\infty} \frac{1}{2\pi k^2} \sin^2 \frac{k}{n} \frac{\sin(2k+1)u}{\sin u} \quad \text{to} = \frac{1}{4\pi^2} \cot u \log \frac{\sin^2 \xi_1}{\sin^2 \xi_2} - \frac{1}{2\pi^2 n}$$

but here I can't seem to proceed further, possibly because of my inexperience with partial sums.

The numerous reprints by Mr. Lepine H. Rice on Determinants seem very interesting, probably because they are within

my range of comprehension. I have gone through Muir's text on determinants and feel that his book has given me a good foundation in this one particular field.

Again I wish to thank you for your interest.

Respectfully yours,

*Frank J. Scimone*

#1158



me plenty of time. Everybody here has asked me to explain your random theory which I have tried to do to the best of my ability. I shall have to present your theory at one or more meetings of the math. colloquium. This means that I would appreciate a reprint or galley of your paper as soon as possible. I do not mean to impose on you but it would be very helpful.

Several physicists (Bethe) and Prof. Kiskewood whom you know have also cornered me on the chaos theory, so you see I am somewhat on the spot and need the reprint. So much for the present. Greetings from house to house. Please remember me to the gang.

Yours  
Sam  
I shall write regularly

Oct. 18, 1938.  
507 E. Buffalo St.  
Albaca, N.Y.

Dear Prof. Wiener;  
Please excuse my delay in writing to you. I am just getting settled. In the first place I had great difficulty getting here on time due to the hurricane. When I arrived the rooming problem was very acute but with the help of Prof. Plexner (who by the way is my office mate and a real swell "guy") this was finally settled.

The bills will certainly keep me in trim but the natural beauty of the campus



and helpful. The department had a picnic last Saturday at which Prof. Carver gave me the impression that he liked me. He is a sports enthusiast and I played a good game of baseball and ping pong which impressed him with the fact that I am extroverted and he has been extremely friendly since then. I shall not overdo it.

My teaching load is 14 hrs. per week; 2 sections of trig. 1 section of engineering calculus, and 1 section of calculus for arts students. I am trying my best to do a good job of it. Before long I shall have to get busy on some research. All classes are held in the mornings leaving

and surroundings more than makes up for the daily climb. We have been having Indian summer weather for the last two weeks and as a result the coloring of the trees is positively the most beautiful thing I have seen for a long time.

The general atmosphere of the University is entirely different from that of Cambridge and we are just getting adjusted to it. I have ~~tried~~ tried and I think succeeded in heeding your very good advice about being proper and minding my own business. Everyone has been most cordial



THE JOHNS HOPKINS UNIVERSITY  
BALTIMORE, MARYLAND

October 20, 1938

DEPARTMENT OF MATHEMATICS

Professor Norbert Wiener  
Massachusetts Institute of Technology  
Cambridge, Massachusetts

Dear Wiener:

Many thanks for your kind letter. I am indeed very glad that your work is completing the ergodic material and that, in particular, you have now ~~the~~ full L-theorem. I too have a proof for the mean ergodic theorem, which is getting more and more trivial.

I am very glad that I can see you at the meeting again. My last our on Friday is between 9.30 and 10.30, so that I could be in New York in the later afternoon and we could come together Friday evening to talk over things in detail, if you intend to be in New York already on Friday.

I have some comments on the mean motion manuscript. I think it is better if we can go over this issue, as ~~well~~ as my own case, if any, rather in New York.

With kindest regards from house to house,

Very sincerely yours,

*A. Wintner*

A. Wintner

AW:R

25/X. 1938

Masatosi Sakai

in Kawasakiso

Toky (Japan) Meguroku Jiyugaoka 263

Dear Prof.Dr. Norbert Wiener:

I received your letter date April 6  $\beta$  but  
yet your paper failed to reach with myhand.  
Will you kindly send me your papers. I want to read  
Your papers extraordinarily, and I will <sup>make</sup> to progress  
my study by your papers.

Please send me your papers in hast.

Your very truly

Masatosi Sakai



6

# COLEMAN COLLEGE

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DAY AND  
EVENING SESSIONS



ACADEMY AND HALSEY STREETS  
ELEVATOR ENTRANCE 45 ACADEMY ST.  
NEWARK, NEW JERSEY

October 25, 1938.

Dr. Norbert Wiener,  
% Massachusetts Institute of Technology,  
Cambridge, Massachusetts.

Dear Sir:

In the September 17th issue of the New York Times there appeared an article entitled "Confusion Clarified" with reference to a new form of calculus credited to you.

We have written to the newspaper concerning a copy of your article and have been referred to you. We are informed that the article had for its basis a paper read by you before the Fourth International Congress of Applied Mathematics at Cambridge, Massachusetts.

Has this article been published in pamphlet form, or has it appeared in any technical magazine? If issued in any way, will you kindly advise through whom or where we may obtain a copy.

Yours very truly,

COLEMAN COLLEGE,

B. A. Wilson,  
Principal.

W:S

copy sent 11/14/38  
4/3/41

3002 West 28th Street  
Brooklyn, New York  
September 22, 1938

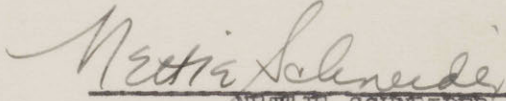
Professor Norbert Weiner  
c/o Massachusetts Institute of Technology  
Cambridge, Massachusetts

Dear Sir:-

Having noticed with great interest your new conception of the calculus of chaos which was delivered at a mathematical session in Cambridge, I would deeply appreciate knowing if and how I might obtain a copy of this document.

I trust you will be able to comply with this request and remain,

Respectfully yours

  
NETTIE SCHNEIDER

P. S. Enclosed find self-addressed stamped envelope.

Copy sent 11/14/38



Dear Prof. Wiener:

(6)

I would appreciate it very much if you would be able to send me a reprint of your recent paper on homogeneous chaos, published in the American Journal of Mathematics.

I am very much interested in ergodic theory and for that reason your paper interests me a great deal. Thank you.

W. Ambrose

W. AMBROSE  
1621 ALACA PLACE  
TUSCALOOSA,  
ALABAMA

11/14/38



THIS SIDE OF CARD IS FOR ADDRESS

PROF. N. WIENER  
MATH. DEPT.  
MASS. INST. OF TECHNOLOGY  
CAMBRIDGE, MASSACHUSETTS



*Rabbi*

JOSEPH S. SHUBOW  
STADIUM 8948

*Ritual Supervisor*

ABRAHAM C. MITTELL  
STADIUM 0695

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ALEXANDER SPITZER  
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October 26, 1938

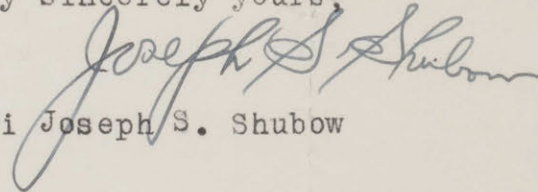
Professor Norbert Wiener  
Massachusetts Institute of Technology  
Cambridge, Mass.

Dear Professor Wiener :

In accordance with our telephone conversation last night at the little dinner in behalf of China Aid, permit me to state that the leaders of my Brotherhood were very happy to learn that you were available for November 10th.

The meeting is in the form of a dinner which takes place at 7 o'clock. You told me that you have a machine, but if you are unable to use it that evening, I shall be happy to call for you. If Mrs. Wiener would like to come along, we can provide for her at 8:30 as the dinner is for men only.

Very sincerely yours,



Rabbi Joseph S. Shubow

JSS;es

AMERICAN MATHEMATICAL SOCIETY  
LOW MEMORIAL LIBRARY  
531 WEST 116TH STREET  
NEW YORK, N. Y.

October 31, 1938

Professor Norbert Wiener,  
150 Oakley Road,  
Belmont, Massachusetts.

Dear Professor Wiener:

This morning the Department of Buildings and Grounds called and gave us your request that the gladstone bag which you left at the registration desk on Saturday be forwarded to you at Belmont.

When we left the Pupin building on Saturday, your bag was taken to the Faculty Club and left there with a request that you be informed of its presence there. Upon checking with the Faculty Club this morning, they report that your bag was claimed. Unless I hear otherwise from you, I shall then assume that you claimed your bag at the Faculty Club after leaving a message at the Pupin building.

Sincerely,

*Grace K. Anderson*  
Grace K. Anderson



U. S. DEPARTMENT OF COMMERCE

NATIONAL BUREAU OF STANDARDS

WASHINGTON

ADDRESS REPLY TO  
NATIONAL BUREAU OF STANDARDS

PRH:LJ

November 1, 1938

IN YOUR REPLY  
REFER TO FILE  
VI-2/COM

Prof. Norbert Wiener,  
Massachusetts Institute of Technology,  
Cambridge, Mass.

Subject: Request for Reprint

My dear Professor Wiener:

~~Handwritten scribble~~  
I understand that the American Mathematical Society  
expects to print in collected form the different papers  
presented at the 44th summer meeting. When you receive a  
reprint of your paper on the historical background of  
harmonic analysis I would be glad to receive a copy.

Very truly,

*Paul R. Heyl*

Paul R. Heyl,  
Physicist.

# AMERICAN FRIENDS OF THE CHINESE PEOPLE

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Prof. Norbert Wiener  
Mass. Institute of Technology  
Boston, Mass.

Dear Prof. Wiener:

Our mutual friend, Mr. Su, has just returned from Boston and he told us of your continued interest and splendid work for China. We were very happy to know that you are tireless in your efforts, and I am sure that your enthusiasm and interest will bring to you many friends with whom to carry on the work.

I am writing this letter with the specific purpose of informing you that our organization is opening a drive to secure 100 sustaining members by the end of the year. The support and encouragement which you have given us as a member of our National Advisory Board has been most helpful. May we now appeal to you to be one of the first to subscribe as a sustaining member, and thereby assure the American Friends of the Chinese People of a fund with which to carry on its work.

The increased difficulties which the Chinese people are now facing makes it necessary for all friends of China to rally to her support. We feel confident that our friends will make it possible for our organization to meet the demands of the moment by redoubling its efforts in behalf of China's cause.

We are enclosing several leaflets which will give you an idea of our more recent activities. I am sure you will also agree that CHINA TODAY, our magazine, has improved considerably in the recent months and with your support we shall improve it further.

Sincerely yours,

AMERICAN FRIENDS OF THE CHINESE PEOPLE

*Esther Carroll*  
Esther Carroll  
Organization Secretary



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Dear Dr. Wiener:

This is to remind you that, as arranged at the meeting last night, you are to speak to Dr. Riach and Dr. Cannon to ask permission to use their mailing lists. In particular, at this time you were to get the address of Will Pollack, publicity director, in order to write to ask for his help. Miss Lynn Gordon may have this for you Sunday night if you can not get it before.

Hannah Cauman

# CHINA AID COUNCIL

AMERICAN LEAGUE FOR PEACE AND DEMOCRACY

NATIONAL OFFICE - 268 FOURTH AVENUE - ROOM 805 - NEW YORK, N. Y.

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November 4, 1938

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Dear Professor Wiener:

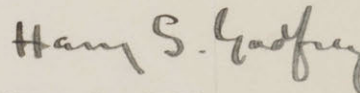
Miss Hannah Couman has just written us the information that you have become Chairman of the Greater Boston branch of the China Aid Council. In the absence of Mr. Haskell, our National Director, on a speaking trip to the Northwest and the Pacific Coast, I am writing to welcome you and to thank you for the interest which has led you to take this post.

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Dr. Max Yergen

Whenever and however we can be of service, please feel free to call on us. We shall gladly co-operate in every way possible.

Sincerely



Harry S. Godfrey  
Assistant Director  
China Aid Council



# HARVARD MATHEMATICAL CLUB

*Harvard University*  
CAMBRIDGE, MASSACHUSETTS

Kirkland House B-52  
Nov. 4, 1938

Prof. Norbert Wiener  
Massachusetts Institute of Technology  
Cambridge, Mass.

Dear Professor Wiener:

The Harvard Mathematical Club would consider it a great privilege to have you lecture before it at one of its meetings.

In our fall series of lectures, the date December 6th is still open. If this date is not convenient for you, we should be happy to arrange a date after the mid-year examinations.

Any topic you would consider suitable for not too advanced students would be entirely satisfactory to us.

May we hear from you soon?

Very sincerely yours,

*Edwin Hewitt*

Edwin Hewitt, Secretary.

THE INSTITUTE FOR ADVANCED STUDY  
SCHOOL OF MATHEMATICS, FINE HALL  
PRINCETON, NEW JERSEY

(6)

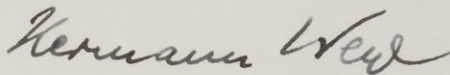
November 5, 1938

Dear Professor Wiener:

While preparing a talk on Mean Motion for the Mathematics Club I realized that my method displays its full beauty only when extended to the exceptional cases of a "partially" rational frequency vector. Hence the enclosed note! Will you please let me know at your convenience whether you agree with the reference to your paper, and protest loudly if I have transgressed too far into land already occupied by you?

With best greetings,

Sincerely yours,



Hermann Weyl

Professor Norbert Wiener  
Massachusetts Institute of Technology  
Cambridge, Mass.  
HW:GB



Regards to Norman + Fazi  
Larrison - Harry Wallman

MEAN MOTION, ONCE MORE

by

Hermann Weyl

In establishing "mean motion" for the azimuth  $\varphi$  of a finite exponential sum

$$(1) \quad z = \sum_{k=1}^n a_k^* e(i\varphi_k),$$

$$(2) \quad \varphi_k = \varphi_k^0 + \lambda_k t,$$

one has to resort to the Kronecker equidistribution law for the straight line

(2) in the  $n$ -dimensional torus space  $(\varphi_1, \dots, \varphi_n)$ . The result derived

[1] in my previous paper ~~Footnote 1~~, for the case of a "totally irrational" frequency vector  $\lambda = (\lambda_1, \dots, \lambda_n)$  is independent of the initial phases  $\varphi_k^0$ .

The first remark which I wish to add here is to the effect that the limit of  $\varphi(t)/t$  defining the mean motion exists uniformly with respect to the  $\varphi_k^0$ .

This is an immediate consequence of the transcendental method based on finite Fourier series by which I proved the equidistribution law. For certain singular values of the initial phases  $\varphi_k^0$  the curve  $z = z(t)$  will pass through the origin and thereby cause ambiguity of the continuation of  $\varphi(t)$ .

In the most effective way our uniformity silences these trouble makers by ~~om-~~  
~~bedding~~ them in the army of all possible initial phases.

In the second place I propose to study the case where  $\lambda$  is not totally irrational. As often happens, the whole treatment becomes considerably more satisfactory and natural if one is forced to include the "exceptions". The wholesome influence in this case comes from the necessity of stating the problem in terms of an arbitrary lattice basis. In the  $n$ -dimensional space of the vectors  $\xi = (\xi_1, \dots, \xi_n)$  all the equations with integral co-

efficients  $h$ .

$$(3) \quad h_1 \xi_1 + \dots + h_n \xi_n = 0,$$

satisfied by  $\lambda = (\lambda_1, \dots, \lambda_n)$  define a linear subspace  $E$  of dimensionality  $m \leq n$ . As one readily sees,  $E$  is a lattice subspace, i.e. we can

find  $m$  linearly independent lattice vectors in  $E$ ,

$$l_1 = (l_{11}, \dots, l_{1n}), \dots, l_m = (l_{m1}, \dots, l_{mn})$$

→ basis (lattice ~~vectors~~) such that a vector

$$(4) \quad \xi = \xi'_1 l_1 + \dots + \xi'_m l_m$$

in  $E$  is a lattice vector (namely a vector with integral components  $\xi'_k$ ) if and only if the  $\xi'_i$  are integers. Hence by identifying points on  $E$  whose

→ vector difference is a lattice ~~point~~,  $E$  is changed into an  $m$ -dimensional torus space  $(E)$ . We call  $\xi$  totally irrational in  $E$  if the components  $\xi'_i$  are

linked by no homogeneous linear relation with integral coefficients. This

/ i notion is clearly independent of the choice of the lattice bases  $l_i$ , and  $\lambda$  itself is totally irrational in  $E$ .

From now on we use the complex amplitudes

$$a_k = a_k^* e(i \mathcal{V}_k^0).$$

For a totally irrational frequency vector  $\lambda$  in  $E$  the method formally employed at once yields a mean motion  $M$  expressed as a certain volume or flux in  $E$ . Namely with  $\mathcal{V} = (\mathcal{V}_1, \dots, \mathcal{V}_n)$  varying in  $E$ , one constructs the "slit" in  $(E)$  for whose points the azimuth  $\varphi$  of

$$(5) \quad z = \sum_k a_k e(i \mathcal{V}_k)$$

is  $\equiv \frac{1}{2} \pmod{1}$ , and for an arbitrary vector  $\xi$  in  $E$  one determines the flux  $W(\xi)$  sent through the slit by the constant current of velocity

$$\xi = (\xi_1, \dots, \xi_n). \quad \text{Then the mean motion } M = W(\lambda).$$



The flux  $W(\xi)$  considered as a function of the variable vector (4)

has quite remarkable properties. By its very definition it is independent of the choice of the lattice bases  $l_1, \dots, l_m$  in  $E$ . Moreover it is a linear form in  $E$ . Let us therefore write

$$(6) \quad W(\xi) = W'_1 \xi'_1 + \dots + W'_m \xi'_m.$$

By substituting

$$\xi = \nu'_1 l_1 + \dots + \nu'_m l_m,$$

(5) changes into a function  $z = z(\nu'_1, \dots, \nu'_m)$  of the  $\nu'_i$ . For given values  $\nu'_2, \dots, \nu'_m$  and with the parameter  $\nu'_1$  traveling over a full cycle from 0 to 1,  $z(\nu'_1, \dots, \nu'_m)$  describes a closed curve  $C(\nu'_2, \dots, \nu'_m)$ . The coefficient  $W'_1$  is given by the integral

$$\int_0^1 \dots \int_0^1 N(\nu'_2, \dots, \nu'_m) d\nu'_2 \dots d\nu'_m$$

where  $N$  denotes the number of times this curve  $C(\nu'_2, \dots, \nu'_m)$  surrounds the origin. I transform this expression to which our method immediately leads by a very simple trick. If  $\nu'_1, \dots, \nu'_m$  are fixed and  $t$  is the variable parameter, then

$$z = z(t + \nu'_1, \nu'_2, \dots, \nu'_m)$$

describes a curve  $C(\nu'_1, \dots, \nu'_m)$  which is actually independent of  $\nu'_1$  and coincides with  $C(\nu'_2, \dots, \nu'_m)$ . If it surrounds the origin  $N(\nu'_1, \nu'_2, \dots, \nu'_m)$

$\rightarrow$  times ~~at once~~, then one has

$$W'_1 = \int_0^1 \dots \int_0^1 N(\nu'_1, \dots, \nu'_m) d\nu'_1 \dots d\nu'_m.$$

The argument  $\nu'_1$  is a fake. However, in this more symmetric form we can at once get rid of the particular coordinate system  $l_i$ . Considering the fact that  $W(\xi)$  has a significance independent of that coordinate system, and that any primitive lattice vector  $l = (l_1, \dots, l_m)$  in  $E$  ( $l_k$  integers without

common divisor) may serve as the first basis vector in an appropriate lattice basis for  $E$ , we obtain the following definition of the linear form  $W(\xi)$  in  $E$ .

Denote, for any lattice vector  $l$  in  $E$  and any vector  $\mathcal{J}$  in  $E$ , by  $N(l, \mathcal{J})$  the number of times the curve

$$(7) \quad C(l; \mathcal{J}): \quad z = \sum_k a_k e(\mathcal{J}_k + \mathcal{I}_k t) \quad (0 \leq t \leq 1)$$

surrounds the origin. Then

$$(8) \quad W(l) = E_{\mathcal{J}} \{ N(l; \mathcal{J}) \}.$$

$E_{\mathcal{J}}$  indicates the average with respect to  $\mathcal{J}$  over the  $m$ -dimensional torus space  $(E)$ . The assumption that the  $\mathcal{I}_k$  are without common divisor may be at once removed since the curve  $C(hl)$ ,  $h$  a positive integer, is  $h$  times the curve  $C(l)$ . When one has to define a linear form in a lattice subspace without prejudicing the choice of the basis, it is best to give its values for all lattice vectors. In doing so one is obliged to show that these values fit together. Here we have got around that difficulty by means of the invariance significance of the form (6)                      as a volume or flux.

The final result becomes perhaps more intelligible if looked at in the following way. If  $\lambda$  (in  $E$ ) is rational, then it is trivial that

$$(9) \quad z = \sum_k a_k e(\mathcal{J}_k + \lambda_k t)$$

has a mean motion, because the curve is closed. Yet its mean motion is highly sensitive to variation of the initial phases  $\mathcal{J}_k$ , and such a simple result as a linear form  $W(\lambda)$  is to be expected only after averaging over  $\mathcal{J}$  in  $(E)$ . However, if  $\lambda$  is totally irrational, the curve itself according to the equi-distribution law takes care of this smearing effect and has therefore a mean



motion equalling  $W(\lambda)$  and independent of  $\nu$ .

HR

Replacing  $e(t)$  in (7) by a complex variable  $\zeta$ , one can describe  $N(l; \nu)$  as the total order (number of zeros minus number of poles) of the function

$$\sum_k a_k e(\nu_k) \zeta^{l_k}$$

within the unit circle  $|\zeta| < 1$ . Hence  $W(l)$  lies between the least

H-greatest

and the ~~biggest~~ of the components  $l_k$ . ~~Approaching~~ an arbitrary vector

Approximating to

(4) in  $E$  by such vectors with rational components  $\xi'_i$ , one extends this result to all  $\xi$ :

H-greatest

The linear form  $W(\xi)$  defined on  $E$  lies between the least and the ~~biggest~~ of the  $n$  components  $\xi_k$  of  $\xi = (\xi_1, \dots, \xi_n)$ . It is thus characterized as a certain mean value of the components.

Our whole treatment calls for an improvement by taking notice of the equation

$$\varphi(\nu_1 + \nu, \dots, \nu_m + \nu) = \varphi(\nu_1, \dots, \nu_m) + \nu$$

and the resulting redundancy of one of the phases  $\nu_k$ . We now define  $E$  by all those relations (3) with integral coefficients  $h$  for which

$$h_1 \lambda_1 + \dots + h_m \lambda_m = 0 \quad \text{and} \quad h_1 + \dots + h_m = 0.$$

$E$  contains the vector  $\pi = (1, 1, \dots, 1)$ . We determine a lattice basis

$l_1, \dots, l_m$  of  $E$  with  $l_1 = \pi$ . By operating in the  $(m-1)$ -dimensional subspace  $E^*$  of  $E$  spanned by  $l_2, \dots, l_m$  we find a mean motion

$$(10) \quad M = \lambda_1' + (W_2' \lambda_2' + \dots + W_m' \lambda_m'),$$

and for any lattice vector  $l = l_2' l_2 + \dots + l_m' l_m$  in  $E$ ,  $W_2' l_2' + \dots + W_m' l_m'$  is expressed as a certain integral over  $\nu_2', \dots, \nu_m'$ . However, since, in an easily understandable notation, the curve  $C(\nu_1', \nu_2', \dots, \nu_m')$  arises from

$C(0, z_2', \dots, z_m')$  by rotating it around the origin by the angle  $\alpha_1'$ , one falls back on the old expression (8) :

$$W(l) = W_2' z_2' + \dots + W_m' z_m' \quad (l \in E^*).$$

Moreover, the definition of  $N(l)$  shows readily that

$$N(l + lz) = N(l) + z \quad (z \text{ any integer}),$$

and hence for any lattice vector  $l$  in  $E$  :

$$(ii) \quad W(l) = z_1' + (W_2' z_2' + \dots + W_m' z_m'),$$

in particular  $W(1) = 1$ . Comparison of (10) with (11) reestablishes our former results.

It appears very natural to express the number  $N$  in the Cauchy manner:

$$N(l; \mathcal{D}) = \int_0^1 \mathcal{R} \left\{ \frac{1}{2\pi i} \frac{z'}{z} \right\} dt;$$

its  
 $\Pi$  with respect to

$z$  is again defined by (1),  $z'$  is derivative of  $z$  with respect to  $t$ . Hence

$$W(l) = \int_{\mathcal{D}} \left\{ \int_0^1 \mathcal{R} \left( \frac{1}{2\pi i} \frac{z'}{z} \right) dt \right\}.$$

$$\frac{1}{2\pi i} \frac{z'}{z} = \sum_k z_k \frac{a_k e^{(\nu_k + l_k t)}}{z}.$$

If one exchanges the integrations  $\int_{\mathcal{D}}$  and  $\int_0^1 dt$  one finds that

$$W(l) = \sum_k z_k \int_0^1 W_k(t) dt$$

with

$$W_k(t) = \int_{\mathcal{D}} \left\{ \frac{a_k e^{(\nu_k + l_k t)}}{z} \right\}.$$

$W_k(t)$  is clearly independent of  $t$ . Indeed,  $l$  is in  $E$  and thus for a given  $t$ ,  $\nu_k \rightarrow \nu_k + l_k t$  indicates merely a parallel displacement of  $E$  into itself. Therefore

$$W(l) = \sum_k W_k z_k$$

with

$$W_k = \int_{\mathcal{D}} \left\{ \frac{a_k e^{(\nu_k)}}{a_1 e^{(\nu_1)} + \dots + a_m e^{(\nu_m)}} \right\}.$$

1/2  
 the integration  
 with respect to



These formulas are in keeping with the Hartmann-van Kampen-Wintner approach [2] [ and furnish another proof of the fact that  $W(l)$  depends linearly on  $l$ . The argument hinges, however, on the exchange of two integrations, which is somewhat awkward to justify in view of the infinities of the integrand. I therefore prefer the method here adopted, resting on the simple fact that the flux of a constant current of arbitrary velocity through a given hole depends linearly on the velocity.

We summarize:

Let  $n$  real frequencies  $\lambda_k$  and  $n$  complex amplitudes  $a_k$  be given. All equations  $h_1 \xi_1 + \dots + h_n \xi_n = 0$  with integral coefficients  $h_k$  satisfying the relations

$$h_1 + \dots + h_n = 0, \quad h_1 \lambda_1 + \dots + h_n \lambda_n = 0$$

define a  $n$   $m$ -dimensional linear subspace  $E$  in the  $n$ -space of the generic vector  $\xi = (\xi_1, \dots, \xi_n)$ . The vector  $\mathbb{1} = (1, 1, \dots, 1)$  lies in  $E$ . We assume that  $\sum a_k e^{i\lambda_k}$  does not vanish identically with  $\mathcal{J} = (\mathcal{J}_1, \dots, \mathcal{J}_n)$  running over  $E$ . Denote for any lattice vector  $l$  in  $E$  and any vector  $\mathcal{J}$  in  $E$  by  $N(l; \mathcal{J})$  the number of times the curve

$$z = \sum_k a_k e^{i(\mathcal{J}_k + \lambda_k t)} \quad (0 \leq t \leq 1)$$

surrounds the origin. There exists a linear form  $W(\xi)$  on  $E$  such that for any lattice vector  $l$  in  $E$ ,

$$W(l) = E_{\mathcal{J}} \{ N(l; \mathcal{J}) \}.$$

$W(\mathbb{1}) = 1$ .  $W(\xi)$  is  $\geq 0$  if all components  $\xi_k$  of  $\xi$  are  $\geq 0$ . The azimuth of

$$z = \sum_k a_k e^{i(\mathcal{J}_k + \lambda_k t)}$$

has a mean motion, uniformly with respect to and independent of the initial phases

phase

$\nu_k$ , provided the ~~first~~ vector  $\nu = (\nu_1, \dots, \nu_n)$  lies in  $E$ . The mean motion equals  $W(\lambda)$ .

The Institute for Advanced Study

Princeton, N.J.

#### Footnotes

[1]. See this journal 60 (1938), p. 889. Professor Norbert Wiener told me that he has found another way of establishing the general formula for mean motion. His method will probably be published in this journal before the present brief sequel to my first paper.

[2]. Cf. this journal 59 (1937), p. 261.



November 5, 1938

Professor S. Beatty  
Department of Pure Mathematics  
University of Toronto  
Toronto, Canada

Dear Professor Beatty:

Thank you very much for your letter concerning Mr. Pitt, which I am afraid I have been slow in answering.

I have seen a recent letter from Pitt in which he professes the desire to get a job on this side of the water. He certainly has received no definitive place in England and the job situation looks tight there. I think, therefore, if you find it possible to go ahead with plans for bringing him over, you almost certainly can get him.

As you know, your old pupil Halperin is around here and I am greatly benefitting by scientific conversation with him. There is no question that the men whom you at Toronto have sent over have made an unusually fine impression.

I hope that I get up to Toronto sometime this year and meet your department more intimately as you suggested might be the case. I have been enormously impressed by the esprit de cour and effectiveness of the group.

Very sincerely yours,

W/s

Norbert Wiener

November 5, 1938

Edwin Hewitt, Secretary  
Harvard Mathematical Club  
Harvard University  
Cambridge, Massachusetts

Dear Mr. Hewitt:

I should be delighted to talk to the Harvard  
Mathematical Club on December 6.

How about discussing the fundamental theorem  
of Calculus? The theorem ties up with a lot of interest-  
ing considerations and is really a good deal easier than  
it is in many of the textbooks. If this subject does not  
meet your approval, I will get in touch with you and we  
will settle on something else.

Very truly yours,

W/s

Norbert Wiener



November 5, 1938

John Simon Guggenheim Memorial Foundation  
551 Fifth Avenue  
New York, New York

Dear Mr. Moe;

I am writing you in behalf of Mr. Wintner of the Mathematics Department at Johns Hopkins. The situation is a little complicated; in the first place, as you know, Zariski is applying from the same school although I do not see why this should mean any conflicts of interest. In the second place, I learned from Wintner that his tenure at the school is very uncertain. He would like to spend next year working with me on our book on "Analytical Statistics" and, as you know, I am very eager that the book be finished and Mr. Wintner's work would be indispensable for me. Now in order to get "leave of absence" under the rather difficult conditions, it would be desirable for Mr. Wintner to have some evidence to present--either that he stands a chance of getting a Guggenheim Fellowship or at least that I am willing to put in a strong recommendation to you for him. I appreciate the difficulties of giving him any letter in a matter which naturally cannot yet be adjudicated but if it is possible for you to send him a letter urging him to apply, it would be of great assistance. If that is not possible, I should at least like to know whether it would be out of order for me to write a letter which he could show to the authorities, urging him to apply for a Guggenheim Fellowship. I appreciate the unusualness of these requests and can well understand that they may have to be turned down. However, if we can go through with them, we will help save a good man and get good work done.

I enormously enjoyed your visit here in Boston and hope that we shall see more of one another in the future. I cannot tell you how enthusiastic my colleagues--Struik, Vallarta and the rest, have been concerning your extremely humane and enlightened outlook in matters of academic administration.

Very truly yours,

W/s

Norbert Wiener



November 5, 1938

Mr. H. R. Pitt  
Peterhouse  
Cambridge University  
Cambridge, England

Dear Mr. Pitt:

I am sorry that I have neglected answering your letter but I did receive our joint manuscript and found a little hole in it which I have duly patched and I have sent it on for publication in our "Tech" Journal.

As to the other problem, The Ergodic Problem in N Dimensions, I have completely cleaned it up and I shall send you a reprint. I have also got the Turbulence matter in shape.

I have started the wheels moving which may reach the job at Toronto. I know that they are impressed with you and your work and I think the possibilities of getting you over here are really good.

I am not writing to you about politics as the politics of the present time unquestionably hurt you fully as much as they hurt me. We shall be awfully glad if we can have you on this side.

Sincerely yours,

W/s

Norbert Wiener



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November 8, 1938

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Chu Tong  
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Dr. Max Yergen

Professor Norbert Wiener  
150 Oakley Road  
Belmont, Massachusetts

Dear Professor Wiener:

Mr. Su has written to Mrs. Tormey asking her to make arrangements for a proposed visit to Boston. To date we have received no answer.

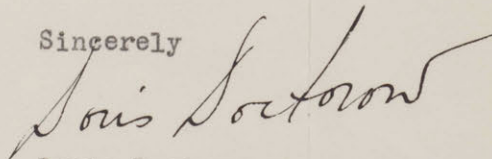
In view of the intense drive to raise funds for China by Christmas, the need for running large affairs, tag days, etc. is most important. We realize the difficulty of arranging these affairs without assistance. Mr. Su will be more than happy to assist you in any way he can.

A Japanese dancer, Saki by name, has offered his services for a very nominal fee for the raising of funds for China. Also, Miss Si-Lan Chen, a very fine Chinese Dancer, will be happy to give her services.

Should you see fit, Mr. Su could arrive December 11 and remain until the twenty-fourth to follow through any arrangements that you may care to make.

May we hear from you shortly so that definite plans can be set for Mr. Su's stay in Boston.

Sincerely



Doris Doctorow  
Secretary, China Aid Council

DD:MS  
uopwa - 16

University of Toronto  
FACULTY OF ARTS

DEAN'S OFFICE

November 8th, 1938.

Professor Norbert Wiener,  
Department of Mathematics,  
Massachusetts Institute of Technology,  
Cambridge, Mass.

Dear Professor Wiener:-

I had just arranged with the President to open negotiations with Dr. Pitt to see if he would be willing to join our staff next year. I am writing to him at once to see if he would be willing to come to us. Unfortunately, we could not offer him a very large salary at present. It would be \$2,000 at most. However, the position would be interesting for him. He would find Mathematics in the atmosphere of staff and students alike, and he would not be hampered by indifferent library facilities. Moreover, his salary would gradually go ahead, depending on his productivity and teaching qualities.

We shall see if we can arrange for your visit to us early next year.

Yours faithfully,

S Deatty.



# HARVARD MATHEMATICAL CLUB

*Harvard University*  
CAMBRIDGE, MASSACHUSETTS

Kirkland House B-52  
Cambridge, Mass.  
Nov. 9, 1938.

Prof. Norbert Wiener  
Massachusetts Institute of Technology  
Cambridge, Mass.

Dear Professor Wiener:

I have your letter acknowledging the invitation of the Harvard Mathematical Club. "The Fundamental Theorem of the Calculus" will be a very fine topic, as it is of interest to many strata of mathematical thought.

We hope that changing the date from December 6 to November 22nd will not inconvenience you, and we appreciate your graciousness in permitting us to make the change.

We will be happy to have one of our members call for you at your home the night of the lecture, and we will send you a memorandum shortly before that time.

Yours very truly,  
*Edwin Hewitt*  
Edwin Hewitt, Secretary.

November 10, 1938

Grant H. Code, Editor  
Brooklyn Museums  
Central Museum  
Eastern Parkway  
Brooklyn, New York

Dear Mr. Code:

Under separate cover, I am sending  
you a copy of the reprint of "Homogeneous Chaos".  
Thanks for reminding me of the old days in Royce's  
Seminar!

Very truly yours,

W/s

Norbert Wiener



Dr. H. C. Code, Editor  
Brooklyn Museum  
Central Museum  
Eastern Parkway  
Brooklyn, N. Y.

11/14/38

November 10, 1938

John Collins, Asst. Unit Mgr.  
PUBLIC INFORMATION SECTION  
U. S. Works Progress Administration  
70 Columbus Avenue  
New York, N. Y.

Dear Mr. Collins:

I am at present unable to think of tabular work which will be particularly possible to do, but suggest that you get in touch with H. T. Davis at Northwestern University, who is our chief expert in this country on work of that sort.

It is also quite possible that some of the work that I am doing now will aid your need of tabulation of mathematical tables in the near future and if it should be of sufficiently general interest to fit in with your scheme, I shall let you know.

Very truly yours,

W/s

Norbert Wiener



November 10, 1938

Dr. Tomlinson Fort  
Lehigh University  
Bethlehem, Penna.

Dear Dr. Fort:

I shall be very glad to write a review  
of Churchill's "Introduction to Fourier Series  
and Boundary Value Problems".

Very truly yours,

W/s

Norbert Wiener

November 10, 1938

Edwin Hewitt, Secretary  
Harvard Mathematical Club  
Harvard University  
Cambridge, Massachusetts

Dear Mr. Hewitt:

Changing the date from December 6 to  
November 22 has not inconvenienced me at all, but  
would you be so kind as to send me a final memorandum  
on account of my tendency to forget?

Thank you,

Very truly yours,

W/s

Norbert Wiener



November 10, 1938

Mr. Edward Minsky  
Chairman Educational Committee  
Dorchester Hebrew Helping Hand Assoc., Inc.  
Norfolk Hall  
328 Washington St.  
Dorchester, Mass.

Dear Mr. Minsky:

I accept with pleasure your invitation  
to speak at the Educational Forum. Either November  
the 27th or December the 11th will be convenient  
for me.

Very truly yours,

W/s

Norbert Wiener

GREATER BOSTON BRANCH  
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November 11, 1938

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Mrs. Donald Ogden Stewart  
Maxwell Stewart  
Rev. William N. Spofford  
Katherine Terrill  
Chu Tong  
Rabbi Stephen S. Wise  
Dr. Max Yergen

Dear Professor Wiener:

The meeting of the party committees is to be held at Mrs. Tormey's home on Monday night, November 14. If possible, will you get in touch with the Medical Committee for China and the Church Committee to ask for their cooperation. We should like to have at the meeting a representative from each of these groups who can help us with the actual routine work.

Yours very truly,

*Hannah Cauman*

I enclose the rough draft of the invitation to the dance, so that we may have your revisions by Monday night



P. O. BOX 333  
WESTERNPORT  
MARYLAND

(2)  
Nov 11-38

Dr Norbett Wiener  
Prof. of Math, M.I.T.  
Cambridge, Mass

Sir:

Kindly let me know where  
I can get a reprint of your  
paper on "<sup>Homogeneous</sup> Chaos" presented  
before the Fourth Inter. Congress  
for Applied Mechanics and reported  
by the New York Times of Sept  
14th.

Thanking you in advance  
for this, I remain

Yours Truly

Chas W. Hughes

copy sent 11/14/38

COMMONWEALTH  
4142

M. RALPH KAUFMAN, M. D.  
82 MARLBOROUGH STREET  
BOSTON, MASS.

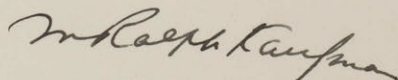
November 12, 1938

Dear Dr. Wiener: For the past two years a small group of men from various fields, interested in psychiatry, has been meeting in my office the second Wednesday of each month as a sort of discussion group. We have all felt that it has been an extremely successful venture, and decided at our last meeting to enlarge the group somewhat.

Our program for next year will concern itself with the methodology of psychiatry, and knowing of your interest in scientific methodology and psychiatry, we would be very pleased if you would consent to become a member of our group.

With kindest regards, I am

Sincerely yours,



M. Ralph Kaufman

Dr. Norbert Wiener  
Massachusetts Institute of Technology  
Cambridge, Massachusetts



DUKE MATHEMATICAL JOURNAL

EDITED BY

L. CARLITZ, DUKE UNIVERSITY

D. V. WIDDER, HARVARD UNIVERSITY

J. M. THOMAS, DUKE UNIVERSITY

November 12, 1938

Professor Norbert Wiener  
Department of Mathematics  
Massachusetts Institute of Technology  
Cambridge, Mass.

Dear Wiener:

When the manuscript of your paper is ready, will you please turn it over to Widder, who will be interested in seeing it before sending it on to me.

With best wishes,

Sincerely yours,

*J. M. Thomas*

J. M. Thomas

AO

BROWN UNIVERSITY  
Mathematics Colloquium

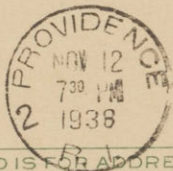
Friday      November 18, 1938      4:45 p.m.      Wilson 26

Professor H. P. Manning  
of Brown University

"A geometry based on direction at a point  
and the equality of segments"

Nov. 25, No colloquium.





THIS SIDE OF CARD IS FOR ADDRESS



Professor Norbert Wiener  
Department of Mathematics  
Massachusetts Institute of Technology  
Cambridge, Mass.

November 14, 1938

Dr. Charles M:son Gewertz:  
Chulalongkorn University  
Bangkok, Siam

Dear Dr. Gewertz:

I am considerably annoyed at your procedure in setting before me a dictated letter of recommendation to sign. I prefer to give my own recommendation a la carte and not table d'hote! In the future, it will probably save you a considerable amount of postage and annoyance to erase me from your list of references.

Very truly yours,

W/s

Norbert Wiener



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 SOOCHOW UNIVERSITY  
 WEST CHINA UNION UNIVERSITY  
 YENCHING UNIVERSITY  
 150 FIFTH AVENUE  
 NEW YORK

# National Emergency Committee for Christian Colleges in China

November 14, 1938

Dear Professor and Mrs. Wiener:

A year ago we came to you on behalf of the Christian Colleges of China, which had just been caught in the midst of a conflict of major proportions. Chinese territory had been invaded and destruction had been widespread, but the heroic resistance of the Chinese people had aroused the world's admiration and hope for a constructive ultimate outcome.

From the first days of the crisis, the leadership of the Christian Colleges was courageous and forward-looking. The Colleges began their work within a few days of the usual date, and carried on throughout a year which daily brought disturbing elements. Graduation ceremonies last June marked a triumphant completion of the year's schedule. At every turn of events faculty and students have merited our pride and loyalty.

Now at the beginning of a second year, we bring to you the thirteen Colleges as they face even heavier burdens for the nation's educational future. They have made adjustments of location to give greater assurance of freedom from attack during the next eight months. Most of the centers of academic work lie at a distance from present military objectives. But 70 per cent of the students are enrolled in two great cooperative university communities, where conditions involve physical hardship and demand a high quality of fortitude.

We sent you, in the October issue of THE CHINA COLLEGES, a picture of the closing events of 1937-38 and of the relation of the Colleges to war-time conditions. The accompanying November issue gives the facts of the opening days of 1938-39, together with details of immediate problems.

The struggle in the Far East will have consequences far beyond the borders of China and Japan. We ask with increased earnestness for your prompt response to the needs set forth. An Emergency Fund of \$330,000 will cover only the barest maintenance budgets of the Colleges. We need from you a contribution worthy of your most generous impulse and of the close relation between these institutions and the high morale of a heroic sister republic.

Very sincerely yours,

*Paul D. Cravath*  
 National Chairman



In our fold you will find, Friendship, Security and Protection

## Dorchester Hebrew Helping Hand Association, Inc.

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92 WOOLSON STREET  
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328 WASHINGTON STREET  
DORCHESTER, MASS.

Consulting Physicians  
FRED FINKLE  
37 COLUMBIA ROAD  
DOR. MASS.  
MAURICE LUGITCH  
853 BLUE HILL AVENUE  
DOR. MASS.

November 14, 1938.

Professor Norbert Wiener,  
150 Oakley Road, Belmont, Massachusetts.

Dear Sir:

I wish to thank you in behalf of this organization for your kind acceptance to speak before our members. The dates you mention, however, that of November 27 or December 11, have already been filled. I have, therefore, set aside for your convenience the next available date of January 22, 1939. Please, advise me as soon as possible if this date is satisfactory to you, or a subsequent date will be assigned.

Thanking you again for your cooperation, I am  
very sincerely yours,

*Edward Minsky*

Chairman Educational Committee.

69 Homestead Street, Roxbury, Mass.



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NEW YORK CITY November 14, 1938

Prof. N. Wiener,  
Mass. Institute of Technology,  
Boston, Mass.

Dear Prof. Wiener:

I am very anxious that you see some proofs that I have of you!

The reason for my wanting you to see these proofs is that while going through my files, I discovered some specially fine negatives which were taken of you by us. Looking them over carefully I said to myself, "Here's a splendid portrait--something really worthwhile to present to one's family, business associates and close friends."

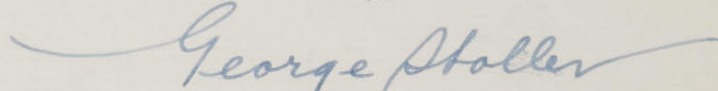
I know that you'll agree with me when I say your autographed portrait will make an excellent Christmas gift to anyone. The one gift that would be thoroughly appreciated and cherished--the one gift that will be everlasting.

Let me send these proofs to you NOW! Select the one or ones you like best and we shall prepare quality Blank & Stoller portraits of yourself at a special low pre-Christmas price. This, provided you send your order before we are deluged with the usual Christmas rush.

Remember, you will get Blank & Stoller portraits of the finest quality in photography; portraits with character and unusual tone value.

I suggest that you mail the enclosed proof request to me if you want to get quick action in this matter.

Sincerely,



Portrait Division

GS:DW  
Enc.

*Founded over third of a century*

November 14, 1938

Professor G. C. Evans  
University of California  
Berkeley, California

Dear Professor Evans:

As you know, I have been appointed Head of the Conference Committee in Probability and the Theory of Integration and you are a member of the Committee. Will you send me any suggestions in the matter of foreign or American speakers:

a) For general meetings of the Congress as coming from the Conference and

b) For reading or discussing papers at the Conference.

I should like any list you have to contain an order of preference and any remarks that seem suitable. I have already gotten in touch with Mr. Tamarkin as geographically, he is the nearest of the members and we have a list of names which seems promising, but before sending it to you, I would like independent suggestions to enable me to make a union list. After that we shall vote on specific names.

Very truly yours,

W/s

Norbert Wiener



November 14, 1938

Professor J. von Neuman  
Mathematics Department  
Princeton University  
Princeton, New Jersey

Dear Professor von Neuman:

As you know, I have been appointed Head of the Conference Committee in Probability and the Theory of Integration and you are a member of the Committee. Will you send me any suggestions in the matter of foreign or American speakers:

a) For general meetings of the Congress as coming from the Conference and

b) For reading or discussing papers at the Conference.

I should like any list you have to contain an order of preference and any remarks that seem suitable. I have already gotten in touch with Mr. Tamarkin, as geographically he is the nearest of the members, and we have a list of names which seems promising, but before sending it to you, I would like independent suggestions to enable me to make a union list. After that, we shall vote on specific names.

Very truly yours,

W/s

Norbert Wiener

November 14, 1938

Professor Hermann Weyl  
The Institute For Advanced Study  
School of Mathematics, Fine Hall  
Princeton, New Jersey

Dear Professor Weyl:

Thank you for your manuscript; I shall look  
it over as soon as possible, and meanwhile try to get  
a copy of my own to forward to you. My only copy, at  
present, is in the hands of the American Journal of  
Mathematics.

Very sincerely yours,

W/s

Norbert Wiener

*manuscript attached to  
paper underneath*



LEHIGH UNIVERSITY  
BETHLEHEM, PA.  
MATHEMATICS AND ASTRONOMY

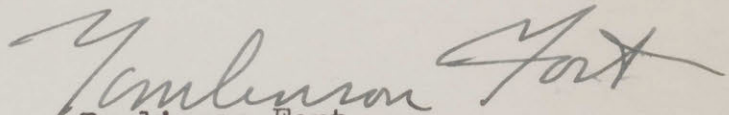
November 15, 1938.

Professor Norbert Wiener  
Massachusetts Institute of Technology  
Cambridge, Massachusetts

Dear Wiener:

I enclose herewith some material just received from Churchill. If you have not already received the copy of his book from the office of the Society you will do so shortly.

Cordially yours,

  
Tomlinson Fort

Dr. G. G. Wiener.

Do not bother to return.  
UNIVERSITY OF MICHIGAN  
ANN ARBOR  
DEPARTMENT OF MATHEMATICS

Nov. 9, 1938

Professor Tomlinson Fort,  
Editor of Reviews, Bulletin A. M. S.,  
Lehigh University  
Bethlehem, Pa.

Dear Professor Fort:

I am enclosing an "Errata" sheet for my book,  
"Introduction to Fourier Series and Boundary Value Problems".  
If you have the reviewer's copy at this time or if you  
can conveniently forward this to the reviewer for insertion  
in the book, I should very much appreciate it.

All copies of the book will contain this correction  
sheet, including the copies already sent out. The errors are  
all of minor character but I want to have them corrected.

Very truly yours,

R. V. Churchill



ERRATA

- Page 3. Line 10: Replace  $u$  by  $y$ . Line 28: Replace the second  $u$  by  $u_n$ .
9. Lines 2 and 4 from below: Replace  $4 \frac{xy}{r^3}$  by  $\frac{2xy}{r^4}$ .
  14. Line 7: Replace  $\delta$  by  $\rho$ .
  18. Line 15: Remove the exponent 2 on  $\sin$ . Line 20: Read  $\frac{8h}{\pi^2}$  instead of  $\frac{8h}{\pi}$ .
  20. Line 2 from below: Delete "and are bounded as  $t$  becomes infinite."
  22. Line 22: Replace  $(\varphi_2, \varphi_2)$  by  $(\varphi_2, \varphi_1)$  and  $(\varphi_3, \varphi_3)$  by  $(\varphi_3, \varphi_1)$ . Equation (9): Replace  $f_2$  by  $f$ .
  23. Throughout Equation (1) replace  $f$  by  $g$ .
  27. Line 11: "Lebesgue" is misspelled.
  28. Line 17 from below:  $n = 1$ , not  $n + 1$ . Lines 2 and 3 from below, also p. 38 l. 7, "Hermitian" is misspelled.
  31. Line 3: In the second equation replace "a" by "b". Line 4: Delete "such that  $\alpha_1\beta_2 - \alpha_2\beta_1 \neq 0$ ."
  34. Ans. to Ex. 2: Replace  $(-1)$  by  $(-1)^n$ .
  35. Line 4 from below: Replace 2 by  $2\pi$ .
  37. Ans. (a) to Ex. 7: Change the first + to -.
  39. Ex. 3: Insert a factor  $\frac{4}{\pi}$  before the answer.
  40. Line 6: Read  $|F(x)|$  instead of  $F(x)$ .
  42. Line 11 from below: Replace the last 2 by -.
  45. Line 9 from below: Interchange "former" and "latter."
  46. Ex. 8: Replace  $L/2$  by  $2/L$ .
  51. Line 9: Replace the last  $dx'$  by  $d\alpha$ . Line 10: Replace the last  $d\alpha$  by  $dx'$ . Line 21: Replace  $e^x$  by  $e^{-x}$ .
  64. Equation (1): Read  $0 < x < x_0$ .
  68. Ans. to Ex. 6: Replace "a" by "c".
  73. Line 20: Insert  $\Gamma$  before  $(n + 1/2)$  in the denominator. Line 22: Insert  $\theta$  after  $\sin^{2n}$  in the first integral.
  74. Line 5: Insert  $\Gamma$  before  $(n + 1/2)$ . Equation (7): Insert  $\theta$  after  $\cos 2n$ , and replace the final "cos" by "sin."
  75. Line 25: Read  $\lambda = 2j - 1 - \mu$ , and  $\lambda = 2j - 1 + \mu$ .
  76. Line 2: Replace  $x_m$  by  $x_{m+1}$ .
  78. Equation 6: Throughout the right-hand member replace  $x$  by  $c$ .
  92. Ex. 3: Read "of radius 1."
  93. Line 24: Replace  $\frac{r}{c}$  by  $\frac{r^4}{c^4}$ . Line 30: Read  $r < c$ .