[ca. Jan. 1937]

UNIVERSITY OF LONDON, UNIVERSITY COLLEGE

GOWER STREET, LONDON, W.C.1

Telephone : Euston 4400
Reference :

DEPARTMENT OF ZOOLOGY
(Entrance by Malet Place, or Gower Street)

Dear Wiener

Thanks for all you have done. I just got an offer from Veblen of $5,000 for two semesters. I might accept if I can make a bit more by lecturing elsewhere. But I cant fix anything for the following reason. I am just off to Spain to do anti-gas work for the government. I may add that my stepson Ronnie is already fighting there.

As people do not always come back from wars, there is little point in fixing anything till my return, which I hope will be in a month or so. But perhaps something will be done then. The whole thing may fall thro, because it is possible that a job will be arranged for me in London, and if so I couldn't leave it in its first year.

By the way, if I don't come back I hope you will be able to get the diver problem published, even if not completely solved. You will find an account of it ~~by~~ my father in the Journal of Hygiene round 1905, or in his book on

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Respiration (Silliman lectures).

You will probably think I am a fool to go out to Spain, but (a) I think we shall be having the same thing here within 2 years, if not next year, and (b) I consider it desirable to constitute such a pattern in space-time as might gratify an observer (even a timeless one, should such exist). And neglect to assist large numbers of human beings in great danger might spoil such a pattern, whilst a lowering of the upper bound in t would not necessarily do so.

Note on a problem posed by R. A. Fisher at the Harvard show. An area has a function (soil fertility) defined for every point in it and for each value of a parameter (height of the Nile) which can vary continuously, say $F(x, y, \theta)$, where x and y are Cartesian, and θ the Nile height. I suppose F continuous in all the variables (forgive the word) but not necessarily analytical. Fisher asks (in effect) whether we can always divide up the area into n portions such that the yield $\int F(x, y, \theta)\,dx\,dy$ is the equal in all n parts for all values of θ.

I say no. For let the area be circular, with unit diameter, and let x be

the

UNIVERSITY OF LONDON, UNIVERSITY COLLEGE

GOWER STREET, LONDON, W.C.1

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distance from a particular tangent. Over a certain range $\theta_1 < \theta < \theta_2$ let $F(x, y, \theta) = a + b x^\theta$. Then if $f_1(x)$, $f_2(x)$ are the lengths of the intercepts made by a parallel to the tangent at distance x from it in any two portions $\int_0 f_1(x)(a + b x^\theta)\,dx = \int_0 f_2(x)(a + b x^\theta)\,dx$ for all values of θ where $\theta_1 \leq \theta \leq \theta_2$. Presumably these values need not be continuous if there are an infinity of them. Hence $f_1(x) \equiv f_2(x)$. I.e. the intercepts of each portion made by a parallel to the tangent at P_1 (say) are equal. But we can choose F so that this is true for lines parallel to tangents at P_1, P_2, P_3 etc. I am sure this is impossible, though I haven't proved it unless each portion is closed. It can be done in special cases, e.g. if P_1, P_2 are ends of perpendicular diameters, and $n = 2$.

How annoying that we cannot perpetually sit on the grass either here or in Elysium, discussing such matters. Give my kindest regards to your wife and daughters. I wrote to Veblen.

Yrs sincerely

JBS Haldane

COLGATE UNIVERSITY
HAMILTON, N. Y.

1/15/37.

DEPARTMENT OF MATHEMATICS

Dear Dr. Wiener. Your letter and the photographs duly received. I regret that a misunderstanding about the meetings made me a bit over cupid as to the return of the pictures. For your efforts we are deeply grateful, whatever be the outcome.

Will you remember me kindly to Mrs Wiener?

With sincere regards to yourself -

Arthur Smith.

January 16, 1937

Professor J. R. Kline
University of Pennsylvania
Philadelphia, Pennsylvania

Dear Kline:

This letter is to introduce Dr. H. L. Turrittin, who has been listening in on my Fourier Series course and has been spending the year at the Institute.

Dr. Turrittin has what amounts to an offer of a job at the Drexel Institute and would like to get all advice possible as to the desirability of the position, both from people on the inside and from neighbors like yourself. Dr. Turrittin is from the University of Wisconsin, and is very eager to get into a community where the distances between mathematicians are somewhat less than in the West.

I can highly recommend him as an addition to ~~yher~~ scientific community, and in particular in view of his work in my course I think he can make some very good tie-ups with Rademacher. Please help him in every possible way.

With best wishes from house to house, and with hopes to see you very soon in the mountains, I remain

Very sincerely yours

Norbert Wiener

NW:cs

January 18, 1937

The China Foundation for the Promotion of
Education and Culture
22 Nan Chang Chieh
Peiping, China

Gentlemen:

Mr. Tsun-tsing Chang, a graduate student at the Massachusetts Institute of Technology and the holder of one of your fellowships, is interested in obtaining a renewal of the fellowship to carry on research

a) On the Theory of wave filters

b) On Varying parameter circuits with one degree of freedom.

Mr. Chang has shown me some of the research he has already done and has discussed with me the problems already completed, and wishes me to take charge of his further research. I am decidedly of the opinion that the problems are worthwhile and that Mr. Chang is competent to carry out research along these lines. I should be delighted to supervise such research and have a very favorable impression of Mr. Chang and his progress.

Respectfully yours

Norbert Wiener

Professor of Mathematics
Massachusetts Institute of
Technology

NW:cs

January 18, 1937

Professor J. J. Gergen
Department of Mathematics
Duke University
Durham, North Carolina

Dear Gergen:

Enclosed find the manuscript of Martin and myself. This is No. 1 in a series of at least two articles. The second one will involve the problem within a finite circle of convergence, and will contain applications to the problem of partitions. There may be a No. 3 involving the Riemann zeta functions with applications to the distribution of round numbers.

With most pleasant memories of our Christmas visit to Duke, I remain

Very sincerely yours

NW:cs

Norbert Wiener

January 20, 1937

Professor William C. Graustein
Department of Mathematics
Harvard University
Cambridge, Massachusetts

Dear Graustein:

Many thanks for the courtesy of your invitation to me for Friday the 12th. I shall certainly be there.

As to the matter of a few remarks, I am prepared to turn them on or off as may best suit the gathering. In any case, I think you may depend on it that anything I say will have at least the advantage of ending quickly.

With best wishes to Mrs. Graustein and yourself, and to the Harvard Department, I remain

Very sincerely yours

Norbert Wiener

NW:cs

CORNELL UNIVERSITY
DEPARTMENT OF CHEMISTRY

ITHACA, N. Y.

January 26, 1937

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

Dear Professor Wiener:

I am writing to you for information about the possibility of a position for Dr. S. Warchauski at the Institute. Dr. Warchauski is a German exile who has been living in this country for the past few years. At present he is helping Professor Malti of the electrical engineering department at Cornell in the preparation of a book on the Heaviside operational calculus. I have had occasion to consult him on problems of applied mathematics and have found him very helpful and coöperative. I understand from his colleagues that he is also an able mathematician in the strict sense of the word.

While I realize that is probably no job for him in the mathematics department, it occurs to me that Busch or Gardiner might find him a very useful person to have at the Institute. Since I know them only very slightly, I have taken the liberty of writing to you instead. I would greatly appreciate any information you might be able to give me in this matter.

Sincerely yours,

John G. Kirkwood

J. G. Kirkwood

JGK/P

January 29, 1937

Professor W. C. Graustein
Department of Mathematics
Harvard University
Cambridge, Massachusetts

Dear Graustein:

I just received a note from Mr. Bernard Friedman, one of our Ph. D.'s, now teaching at New York University, indicating his intention of applying for a Benjamin Pierce Instructorship at Harvard, and asking me to support his application.

Mr. Friedman shares with Mr. Levinson the honor of being one of the two best graduate students and Ph. D.'s we have ever had. Professor Hardy, you will remember, spoke in very high terms of the reception he had had at New York University, and of the discussion his work met. We found out, in asking him in more detail, that it was really Mr. Friedman's discussion he was praising so highly. Friedman is a remarkable man, and deserves everything that can be done for him.

Very sincerely yours

Norbert Wiener

NW:cs

January 29, 1937

R. H. Simpson, Esq.
Commonwealth Fund Fellowships
35, Portman Square
London, W.1, England

Dear Sir:

I have recently received an inquiry from you concerning Mr. Joseph Gillis, who has given me as a reference to support his application for a Commonwealth Fellowship in Mathematics for the year 1937 - 1938 to be held at the Massachusetts Institute of Technology under me. Mr. Gillis is known to me from the fact that he attended a course of lectures which I gave at Cambridge in the Lent term of 1931 - 1932 on thettopic of the Fourier Integral.

Mr. Gillis is a serious and able student, and has been engaged for a period of years in work under Mr. Besicovitch at Trinity College. The work that he has been doing with Mr. Besicovitch ties up very closely with the forther work that he proposes to do with me, and I consider him well qualified to undertake research in fields allied to the Theory of the Fourier Series and Fourier Integral.

My personal impression of Mr. Gillis is decidedly favorable, and I should be very glad to have him work with me. Next year I am conducting a seminar on topics in the analytic theory of numbers treated by methods from the Fourier Integral. This will be an attempt to apply new methods to a systematic exploration of the fairly wide field of mathematics, and we intend to incorporate the results in book form. We should very much appreciate Mr. Gillis as a member of our group.

Very sincerely yours

NW:cs

Norbert Wiener

January 29, 1937

Professor Oswald Veblen
Institute for Advanced Study
Princeton, New Jersey

Dear Professor Veblen:

Mr. Bernard Friedman, one of our Ph. D.'s and now at New York University, has asked me to support an application of his for a fellowship or other position at the Institute for Advanced Study.

Mr. Friedman most certainly deserves that support. He is one of the two best students we have ever had in mathematics, the other one being Mr. Levinson, who, as you know, is now placed with us. When Professor Hardy looked us up just before his return to England he commented on the high quality of the discussions which he met at New York University. On going into details with him, it turned out that the one person whose discussion had so much impressed him was Mr. Friedman. I think Mr. Friedman deserves anything that can be done for him.

Sincerely yours

Norbert Wiener

NW:cs

ROBERTS, CUSHMAN & WOODBERRY

ODIN ROBERTS 1891 - 1934
ROBERT CUSHMAN
CHARLES D. WOODBERRY
CHARLES S. GROVER
HERMAN T. GAMMONS
RICHARD F. WALKER
WILLIAM GATES, JR.

HAROLD R. SAVAGE
RAYMOND L. CARR
CLARENCE S. WALKER
CLARENCE H. PORTER
ROBERT J. KEATING
ROBERT L. THOMPSON
RUDOLF AMANN

CABLE "STREBOR" BOSTON

31 MILK STREET
BOSTON

February 3, 1937

Professor Norbert Wiener
Massachusetts Institute of Technology
Cambridge, Massachusetts

Dear Professor Wiener:

Case 12,744

Responsive to your recent
* request, I enclose herewith two copies of
the specification of your application,
* together with two sets of the drawings.

Yours very truly,

Herman T. Gammons

HTG:RCF
* Encs.

BELL TELEPHONE LABORATORIES
INCORPORATED
463 WEST STREET NEW YORK
CHELSEA 3-1000

J. G. ROBERTS
GENERAL PATENT ATTORNEY

FEB 10 1937

PROFESSOR NORBERT WIENER
Department of Mathematics
Massachussets Institute of Technology
Cambridge, Mass.

Dear Professor Wiener:

As the result of a careful consideration of your joint patent application with Dr. Lee for Electrical Network Systems, our engineers have reached the conclusion that there is little or no likelihood that they will wish to make use of the invention either now or in the near future. However, they recognise the interesting character of the new idea and the possibility that with changing conditions occasion might arise where the new circuits would provide acceptable alternatives to the filters we now use.

Because of these facts, the value to us of rights under the forthcoming patent becomes a matter of speculation. If you wish to make a definite offer at this time, we would be glad to determine whether our speculative interest in the invention would warrant our acceptance of the offer. Alternatively, you may wish to await the issuance of the patent and bring the matter again to our attention at that time. In either event we shall be glad to hear from you.

Yours very truly,

J. G. Roberts
General Patent Attorney

GHS:EM-1

75a - Hudson St

International Standard Electric Corporation

PATENT DEPARTMENT
CONNAUGHT HOUSE
63 ALDWYCH
LONDON, W.C.2

TELEGRAPHIC ADDRESS:
INSTANELCO, ESTRAND, LONDON
CABLE ADDRESS:
INSTANELCO, LONDON
TELEPHONE:
HOLBORN 8765

OUR REF. ...RJB/WGS.....

YOUR REF. .....

13th February, 1937.

Professor Norbert Wiener,
Massachusetts Institute of Technology,
Cambridge,
Massachusetts,
U.S.A.

Dear Sir,

J.3933.
Filter patents.

We are in receipt of your letter of January 10th, from which we note that the American Telephone and Telegraph Company have decided not to purchase the foreign rights under your inventions.

The copy of your American patent application does not appear to have been enclosed in your letter, and if you will forward this to us by return, we will give the matter our further consideration.

Yours faithfully,

E.B. ROBINSON.
European General Patent Attorney.

Trinity College
Cambridge
14/2/1937

Dear Wiener

I have a very good pupil called Pitt, who has written a very impressive thesis for the Smith's Prize competition. He is applying for a Commonwealth Fund fellowship (which he ought certainly to get), and hopes to get to Camb. (Mass): either Harvard or M.I.T. I told him that I thought that, so far as getting some guidance from you or Levinson, it probably would make very little difference. There is no 'T' in him at all, though!

Incidentally, soon after I got back to C. in Jan., he showed me the theorems enclosed. I told him that I thought that Vijayaraghavan had told me

that you had proved just the same thing. I can't remember, however, whether the Tauberian conditions on $A(y)$ were just the same.

But in any case you will see that he can get things out-

He has a general class of functions which he calls T which to a considerable extent includes the theory — e.g. it includes all Schmidt functions and all step functions of 'high index' type. Anyhow, I think you will be impressed by him if he comes to you. The whole of his thesis is dominated by your ideas, and he seems to have both system and power.

I find Hua extremely nice personally, but not so very impressive as a mathematician (and that feeling is shared, I know, by

the younger people here such as Heilbronn & Davenport. He is very competent, and has immense industry, and is no doubt much the best man in China at his game — so that I can support him all right in continuation of his studentship: but he does not seem to me at all in Ramanujan's class — he does not do unexpected things.

Kindest regards to you both

Yours ever

G. H. Hardy

UNIVERSITY OF MINNESOTA
COLLEGE OF SCIENCE, LITERATURE, AND THE ARTS
MINNEAPOLIS

DEPARTMENT OF MATHEMATICS

Feb 18 1937

Dear Professor Wiener,

I am writing to inquire about a teaching position for 1937-8, and wish that if you are not directly concerned with this matter you will give this letter to the proper person.

I am a Harvard Ph. D. with two and one half years' teaching experience. This has been at New York University and the University of Minnesota.

I have submitted two papers to the Annals on the subject of my thesis, which was the linear homogeneous group. My field was algebra, and I studied considerable analysis and geometry.

Yours most cordially,

J. L. Brenner

February 23, 1937

Dr. J. L. Brenner
Department of Mathematics
University of Minnesota
Minneapolis, Minnesota

Dear Dr. Brenner:

I have received your letter of the 18th and regret to say that there does not seem to be anything available here that will meet your requirements.

Very sincerely yours

Norbert Wiener

NW:cs

February 24, 1937

Professor G. H. Hardy
Trinity College
Cambridge, England

Dear Hardy:

As you can easily guess, we should be more than delighted to have Mr. Pitt here next year. I am certain that we can find a place for him at our graduate dormitories, which are more or less of a new undertaking since Paley, and make staying here much more pleasant. Of course there will be no difficulty in securing an arrangement with the Harvard authorities which will allow him research privileges.

I suppose you know that Gillis has also applied for a Commonwealth and gave me as a reference. I have backed him with a letter which at least ought not to hurt his chances. I should be delighted to have either or both the young men work with me.

Levinson is here and has taken hold excellently. He gave a talk on his joint work with you on that inequality. We were much impressed. Levinson has already been of great value to me in criticising projects which I have under way. In this connection I have been very much interested in seeing what I could do with Tauberian theorems concerning functions of rapid growth, and have obtained the general Tauberian theorem for functions which behave like e and even more rapidly growing functions. With the aid of these it was possible to give a simple Tauberian proof of all the results except the most accurate type which you and Ramanujan obtained for the theory of partitions. This has led me to the hope that a general method in analytic number theory could be developed which should use Tauberian methods rather than the Cauchy integral theorem. The trick of the thing is to render a power series, one with positive coefficients by squaring the absolute values of the coefficients, which amounts to considering the behavior of the integral of the square of the modulus of the function as it approaches the circle of convergence along concentric circles.

I also would like to apply methods of this sort to Waring's problem, if they are applicable. I had a false hope the other day

of being able to do something when I got a proof of a theorem which I discovered later to be included in the Besicovitch Khintchine theorem, to the effect that if a set of integers have a positive density every integer can be represented as the sum of at most a finite number of them. Of course, this is the easy side of Waring's theorem, and the real difficulties come in establishing the existence of a density. I still have hopes that we may find something pretty in this direction.

I am much impressed by the way in which Levinson has closed practically all the problems that Paley and I left open. I was just reading in your obituary notice of Paley what you say about the sensation almost of fear which one has in the presence of a brilliant young man at the peak of his abilities. I can very well concur with you in that feeling.

Can you give me any data about the Haldane family? I know Haldane was on his way to Spain to assist the government in anti-gas work, and I have heard a rumor that he had come back to England but I do not know whether he has returned to Spain or not. Also, he told me that his stepson was fighting in the government forces. Have you any information as to how his stepson has come out? If you see Haldane it would be good to tell him that it might be in order to give Veblen or some one of us information as to whether he intends to accept the offers made in this country, as the time of year is approaching when a decision may have to be made.

Very sincerely yours

Norbert Wiener

NW:cs

February 25, 1937

Professor G. H. Hardy
Trinity College
Cambridge, England

Dear Hardy:

Since writing my last letter to you concerning Mr. Pitt I have been thinking over in more detail the question of his being accredited to Technology or Harvard. Of course you know that in any case I should be willing to give him my time, but from my point of view it is not a matter of complete indifference to which place he is accredited. There is always the tendency when two institutions are in the same town for the older and richer to overshadow the other, and this has serious consequences of prestige, and even of financial importance. If Mr. Pitt comes to work with me but is accredited to Harvard my school and myself will get a smaller amount of the very great kudos inseparable from such appointments than is our due. In my mind the most desirable thing would be to have all fellowships in mathematics and related subjects tenable after the degree jointly accredited to Harvard and M.I.T., and I have taken up the matter of doing this as a general policy with President Compton, who will discuss it with Dean Birkhoff. That would completely solve all difficulties. However, it would not be by any means pleasing to us if a man accredited solely to Harvard should do his main work with Levinson or myself.

You will understand that I am not doing this simply out of pique. The fact of the matter is that we need as a school and as individuals every bit of prestige in American mathematics which rightly belongs to us. For example, a little more prestige of this sort would contribute greatly to our ability to attract graduate students from this country, and to the status of analysis of your type in America.

With many thanks for your sending Mr. Pitt here, I remain

Very sincerely yours

NW:cs

Norbert Wiener

March 3, 1937

Professor Donald H. Andrews, Chairman
Committee on National Fellowships
Johns Hopkins University
Department of Chemistry
Baltimore, Maryland

Dear Professor Andrews:

I shall be delighted to accept your invitation to give one of the Dohme lectures at Johns Hopkins University on April 23rd next. I should like a little time to decide on the precise title of the lecture. A subject which I am now prepared on would be "Tauberian Theorems and Their Uses." However, I am at present engaged in some research on analytic theory of numbers, which has already yielded results of some importance, and which promises to be rather striking. Therefore, in case my work is sufficiently far along by that time I would like to reserve the possibility of talking about this new material.

With many thanks for the courtesy of your invitation, and with much appreciation of the honor which it confers upon me, I remain

Sincerely yours

Norbert Wiener

NW:cs

March 3, 1937

Professor O. Zariski
Department of Mathematics
Johns Hopkins University
Baltimore, Maryland

Dear Professor Zariski:

I have just written a letter of acceptance of the Dohme lectureship to Professor Andrews, and I wish to thank you people for having thought of me in this connection. I appreciate very much the high honor that you are conferring upon me. I shall be delighted to be down in April and shall probably come with my wife, as this is about the season of the National Academy meeting.

As to the topic of my lecture, I am prepared either
(a) To talk on Tauberian theorems and their applications
or
(b) To present some new work which is still under way on analytic theory of numbers, but in which I have already obtained some striking results. I should like to leave the subject open as long as it is convenient for you in order that my work shall have a chance to ripen.

With all compliments to yourself and your Johns Hopkins College, I sign myself

Very sincerely yours

Norbert Wiener

NW:cs

[illegible], 1937

Professor Oscar Zariski
Johns Hopkins University
Baltimore, Maryland

Dear Professor Zariski:

Thanks for your letter of the 9th. I see the point as to the topic of my proposed Dohme lecture. Perhaps a better subject and title would be "Randomness". I propose to discuss the nature of random motion in physics, the fundamental use of averages in statistical mechanics, and on the other side, the recent analytical technique in which functions are proved to exist with certain properties by showing that almost all functions have those properties. For a popular lecture this can be done without any detailed proof, and with only the exposition of ideas accessible to everybody.

If this does not meet your approval please let me know and I shall try again.

Sincerely yours

NW:cs

Norbert Wiener

JOHN H. TAYLOR, M. D.
37 MARLBOROUGH STREET
BOSTON, MASS.

March 13, 1937.

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

Dear Norbert:-

Contrary to my expectations, there is as yet no vacancy in my schedule that would be worth your while taking. As you know, I do not think it worth while for you to begin unless we can have at least four hours a week. I will let you know at the very first opportunity when such an opportunity arises. I hope you have not been discouraged by the long wait thus far.

When you have a chance, would you please write me approximately what your summer plans are to be? There will be some changes in my schedule about the first of June, and there will undoubtedly be a place for you next fall. There would of course be no use in starting early in the summer if you plan to be away for quite a part of it. I, myself, shall probably take my vacation for parts of August and September, though I do not yet know for just how long.

Sincerely yours,

John Taylor.

THE ECONOMETRIC SOCIETY

An International Society for the Advancement of Economic Theory in its Relation to Statistics and Mathematics

March 19, 1937

Professor Norbert Wiener
Massachusetts Institute of Technology
Cambridge, Massachusetts

Dear Professor Wiener:

Thank you for your check in payment of your dues to the Econometric Society for the years 1935 and 1936. We regret very much that you find it necessary to resign your membership in the Econometric Society.

Very truly yours,

Alfred Cowles 3rd

Alfred Cowles 3rd
Treasurer

AC:KW

March 23, 1937

Professor E. U. Condon
Department of Physics
Princeton University
Princeton, New Jersey

Dear Professor Condon:

I have just read with interest your paper on "Immersion of the Fourier Transform in a continuous Group of Functional Transformations." In that you do me the honor of referring to my book on the Fourier Integral. It seems to have escaped you, however, that that book contains a whole chapter devoted to the results which are presented in your paper, and uses them in the deduction of the theorem which you quote. You will find there references to even earlier papers of mine devoted to this theme, and furthermore, either in my book or the previous papers you will find references to still earlier work of Weil in this direction.

Yours very truly

Norbert Wiener

NW:cs

BELL TELEPHONE LABORATORIES
INCORPORATED
463 WEST STREET NEW YORK
CHELSEA 3-1000

MAR 24 1937

E. W. ADAMS
GENERAL PATENT ATTORNEY

PROFESSOR NORBERT WIENER
Department of Mathematics
Massachusetts Institute of Technology
Cambridge, Mass.

Dear Professor Wiener:

In your letter of February 11, 1937 to Mr. Roberts you indicate that, in view of the difficulty of estimating the value of your wave filter invention, you would prefer that we state a price at which we would be willing to purchase the rights to the forthcoming patent. If it is satisfactory to you and to Dr. Lee, we would be willing to recommend to the American Telephone and Telegraph Company, by whom the purchase would be made, that they offer a price of $5,000. for the assignment of the patent rights in the United States and Canada.

Should the above proposition be unsatisfactory to you we will be glad to give the matter further consideration when the patent shall have issued. At that time we may be in a better position to determine whether the invention is of interest to us and, if so, how large that interest is.

Very truly yours,

E. W. Adams

General Patent Attorney

GHS:EJ-1

THE INSTITUTE FOR ADVANCED STUDY
PRINCETON, NEW JERSEY

March 28., 1937.

Dear Wiener,

I am writing to tell you again, how glad we will be, if you and Mrs. Wiener can stay with us between April 19 and 23. I hope, that you will find it possible to stay several days.

Please let me know, when you expect to come.

Looking forward to see you

and with the best

greetings

Cordially Yours

John von Neumann

March 31, 1937

Mr. W. E. Beatty
United Research Corp. of Delaware
321 West 44th Street
New York, New York

Dear Mr. Beatty:

RE: Application of Wiener and Lee,
Serial No. 560, 716

While I was in China last year Dr. Lee and I made a new invention, of which we are sending you the specification and drawings. This invention is now in the hands of the United States Patent Office as an application. We believe it comes under our agreement with you as far as a non-exclusive non-transferable license is concerned, but we consider it quite possible that you may desire to require further rights in connection with it. If you so wish, we should like to receive an offer from you.

I may remark that we are already in receipt of an offer from the Bell Telephone Company for its purchase, and would be disposed to deal with them, unless we can receive a fairly substantial sum elsewhere. This is particularly true in view of the fact that we have intended to continue work in this field and will naturally regard the Bell Telephone people as our chief potential customers in the future. The least sum which would be of interest as a competing offer would be $10,000.

Very truly yours

NW:cs

Norbert Wiener

March 31, 1937

Professor D. R. Curtiss
Northwestern University
Evanston, Illinois

Dear Professor Curtiss:

I received the enclosed paper of Okada for refereeing for the Bulletin. The theorem is interesting and the paper definitely worth publishing. I do not consider that an auxiliary hypothesis of the type of (2) really leaves a theory compared with the Hardy-Littlewood theorem, but on the other hand some work by Levinson as yet unpublished has convinced me that it is hopeless to look for a theorem without a similar hypothesis. It is therefore quite possible that Okada's work comes reasonably close to a best possible theorem, and it certainly merits Bulletin publication.

Very sincerely yours

Norbert Wiener

NW:cs

March 31, 1937

Mr. E. B. Robinson
Patent Department
International Standard Electric Corporation
83 Aldwych
London, W.C.2, England

Re. J. 3933.
Filter patents.

Dear Mr. Robinson:

I noticed my omission of the specifications and the drawings on my invention but I held up the matter for a few weeks in order to find out what course of action the Bell Telephone people wished to take. They have finally decided to make us an offer for the American and Canadian rights of our invention, and we shall in all probability accept this. However, the English and other foreign rights remain undisposed of. We should like to forward the accompanying copy of our specification and drawings for your inspection.

We should be obliged if we could hear at your earliest convenience whether you care to make an offer, and I shall acquaint my partner as soon as possible of whatever decision you make.

Yours truly

Norbert Wiener

NW:cs

March 31, 1937

The Home Secretary
National Academy of Sciences
2101 Constitution Ave.
Washington, D. C.

Dear Sir:

I intend to be present at the meeting of the 26th and 27th of April, and if it is not too late to put a paper on the program I should like to announce a piece of research done jointly by Dr. Levinson and myself on random Waring's problems. In this paper we establish the fact that a Waring theorem holds almost always for a set of numbers picked at random over ranges running from zero to n^k, and as far as the number corresponding to the Hardy-Littlewood G is concerned, our results give k+1, which is the best[1] possible value.

Very truly yours

NW:cs

Norbert Wiener

69 Massachusetts Avenue
Cambridge, Mass.
April 1, 1937

Home Secretary
National Academy of Sciences
2101 Constitution Avenue
Washington, D. C.

Dear Sir:

I am enclosing an abstract of my paper for the April meeting of the Academy. There is no illustration, and I shall not need more than about fifteen minutes of time.

Very truly yours,

Norbert Wiener

NW:bg

Enc.

THE UNIVERSITY OF WISCONSIN
MADISON

DEPARTMENT OF MATHEMATICS

April 3, 1937.

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

Dear Professor Wiener:

Dr. Morris L. Kales has written to me applying for an instructorship at the University of Wisconsin. He has forwarded to me a copy of your letter of February 23. I wonder, however, if you would be willing to write to me more personally your opinion of his work and his probable success both as an investigator and as a teacher.

Sincerely,

Mark H. Ingraham

Mark H. Ingraham
Chairman

i;d

LYMAN K. CLARK
COUNSELLOR-AT-LAW
1154 OLD SOUTH BUILDING
294 WASHINGTON STREET

TELEPHONE LIBERTY 1578

BOSTON, MASS. April 7, 1937

Prof. Norbert Wiener,

Belmont, Massachusetts.

Dear Norbert:

A Massachusetts text-book on probate law (Newhall) contains the following statement as to the manner of executing wills:-

> "§155. Attesting Witnesses.- The law requires that the will be attested and subscribed in the presence of the testator by three or more competent witnesses. These witnesses need not necessarily sign in each other's presence, although it is preferable that they should do so; but it is absolutely necessary that they sign in the testator's presence." (page 371)

I believe this a correct statement of the law relating to Massachusetts wills.

Very truly yours,

Lyman K. Clark

CABLE ADDRESS
"WANEWAR"

TELEPHONE
HOLLYWOOD 1251

WARNER BROS.
PICTURES, INC.
WEST COAST STUDIOS
BURBANK, CALIFORNIA

April 5th, 1937

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

RE: Purchase of Application of
Wiener and Lee, S.N. 560,716

Dear Dr. Wiener:

This will acknowledge receipt of your letter dated March 31st enclosing a copy of the specification and drawings for the above case.

As requested, we shall look into the matter and let you know whether we are interested in acquiring further rights.

With full appreciation of the opportunity you have offered us to look into the matter, I am

Yours very truly,

W. B. BEATTY.

WEB:am

CABLE ADDRESS
"WANEWAR"

TELEPHONE
HOLLYWOOD 1251

WARNER BROS.
PICTURES, INC.
WEST COAST STUDIOS
BURBANK, CALIFORNIA

April 6th, 1937

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

RE: Application of Wiener & Lee
Serial No. 560,716

Dear Dr. Wiener:

In further reply to your letter dated March 31st, 1937, we have studied your application and have reached the conclusion that we are not interested in acquiring further rights under it.

I wish to thank you for giving us an opportunity of considering the matter and regret that I cannot give you a more favorable reply.

Yours very truly,

W. E. BEATTY.

WEB:am

April 6, 1937

Professor H. W. Tyler
744 Jackson Place
Washington, D. C.

Dear Professor Tyler:

My wife and I will be down to Washington at the time of the Academy meeting, and should very much like to attend the dinner of the Tech alumni. Do you happen to know that Professor Vallarta, although not a member of the Academy, will be down to present a paper, as will also Professor Van de Graaff? I suggest that you also write to these gentlemen.

We are counting very much on seeing you again at the meeting.

Very sincerely yours

NW:cs

Norbert Wiener

April 7, 1937

Professor J.B.S. Haldane
University College
Cambridge, England

Dear Professor Haldane:

I was much touched by the letter that you wrote before you left for Spain. I did not answer it because I was waiting for a reply from you concerning the M.I.T. and Princeton situation. I decidedly feel that the time has come when you should let us know about your plans in this regard, as it is getting rather late in the academic year, and positive or negative action must be taken rather soon. In this connection I am having Professor R.G.D. Richardson, the secretary of the American Mathematical Society, enclose this letter, together with the invitation to give the Gibbs lectureship of the American Mathematical Society, an invitation which I cordially hope you will find it possible to accept.

I have been delighted to read of your safe return to England, and of the excellent work you have been doing for the cause of democracy. It is, of course, painful to ask, but I would like to know if Ronnie is still safe. If I were in a position to contribute anything of any service in this matter I would certainly have done what Ronnie and you have done. Please give my regards to Mrs. Haldane and accept the best wishes of our whole family.

Sincerely yours

NW:cs

Norbert Wiener

April 7, 1937

Professor Oscar Zariski
1829 Chilton Street
Baltimore, Maryland

Dear Professor Zariski:

Many thanks for your letter of the 6th. As to other biographical data concerning myself, the only really important things are that the Bowdoin prize was awarded to me for a philosophical paper which I have now completely forgotten in the course of the many years that have elapsed, and that my visit to China was as visiting professor of mathematics and electrical engineering at Tsing Hua University.

As to the Bohme lecture, I propose to take up the notion of randomness in statistical mechanics and in mathematics to show how on the one hand statistical mechanics has been dependent on the same ideas as those of the Lebesgue integral, and on the other hand, that the use of a technique analogous to that of statistical mechanics is one of the most powerful sources of existence proofs in analysis and the number theory. I particularly wish to take up the recent work of Cramer and to mention my own work on Waring's theorem. In these connections I shall not attempt anything rigorous in the way of proof, and shall emphasize particularly the parallelism between mathematical and physical developments which have arison from very different sides.

If there is anything more that I can tell you I shall be very glad.

Sincerely yours

NW:cs

Norbert Wiener

April 8, 1937

Professor R.G.D. Richardson
Brown University
Providence, Rhode Island

Dear Professor Richardson:

I have just received your note of April 7 concerning the invitation to the Mathematical Society from Göttingen. It seems to me that as Göttingen is now under an entirely new management which has evicted the old by a procedure which, while perhaps technically legal, is certainly not equitable, there is no particular reason why the customers should consent to the transference of their good will to the gang in possession. This is certainly a situation which often occurs commercially. We have recently witnessed in this country several old established firms which the fortunes of the depression have thrown into the hands of a lot of shysters. I need not specify instances, but we all know, for example, that certain well established brands of chocolate have retained nothing but the name of the essence of the original firm. Under such circumstances I think intelligent customers would do well to transfer their trade elsewhere. The situation in Göttingen is exactly analogous. I can see no reason whatever why we should encourage the group that has been responsible for the destruction of everything that Göttingen really has stood for by giving them the credit of any real continuity with Göttingen's past.

Well, you see from this letter, notwithstanding its facetiousness, just what my sentiments are. I think the reply, if any, which we send to Göttingen should not merely be perfunctory, but should display its perfunctoriness within the utmost limits allowed by secretarial courtesy. I think you will agree with me personally.

Sincerely yours

NW:cs

Norbert Wiener

THE INSTITUTE FOR ADVANCED STUDY
PRINCETON, NEW JERSEY

April 9., 1937.

Dear Wiener,

We are all so glad that we will have You here from Monday, April 19, on. I am looking forward quite particularly to have another mathematical conversation with You.

Please, let me know with which train You expect to arrive.

With best regards from all of us

John von Neumann

April 12, 1937

Professor R.G.D. Richardson
Brown University
Providence, Rhode Island

Dear Professor Richardson:

I received today your letter of the 11th in which you invite me to give an address on analysis at the semi-centennial of the founding of the American Mathematical Society. Of course I accept, and I am fully cognizant and grateful for the high honor you are conferring upon me.

As to the topic, I suggest that I wait until I hear who the other speaker in analysis is going to be, and that we then plan our addresses more or less jointly, in order that we may cover as wide a field of analysis as possible, or at least that we may present ideas from as wide a field of analysis as possible. I therefore would be very grateful if I should know my opposite number at the earliest possible opportunity, and I shall work with him to see that we get as good a program as possible.

Very sincerely yours

NW:cs

Norbert Wiener

PRINCETON UNIVERSITY
PRINCETON NEW JERSEY

Department of
MATHEMATICS

April 15, 1937.

Dear Wiener:

I have just noticed the abstract of your joint paper with Levinson to be presented at the Academy meetings. It seems like splendid stuff and I want to say that if you would care to offer it to the Annals of Mathematics, we should be very delighted to have it.

Cordially yours,

S. Lefschetz.

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

האוניברסיטה העברית
THE HEBREW UNIVERSITY

Jerusalem, 14. 4. 1937, ירושלים

Prof. N. Wiener, Massachusetts

Dear Sir,

in connection with my investigations I need the following of your publications: (on the transf. diameter)

Certain notions in potential theory
J. of Math. Massachus. Ins. of Techn.
(1924)

I would be very much obliged to you, if you could send me a separatum of this work (and other ones , on the same topics).

On this occasion I send you separata of some of my recent and more ancient works (connected with the problems in question)

Yours sincerly

M. Fekete

(Prof. M. Fekete.)

um eine rein persönliche Angelegenheit, in der mir Comptons Bescheid wertvoll war.

Wir würden uns sehr freuen, wenn Sie uns einmal schreiben würden, was alles in Cambridge, besonders am M.I.T los ist. Wir vermissen ja sehr den persönlichen Kontakt mit den alten Freunden von drüben. Wir bekommen immer noch den „New Yorker" von drüben, den wir ja vor der Abreise noch voraus bestellt hatten. Wir amüsieren uns mächtig über die guten Witze.

Bitte grüßen Sie alle alten Bekannten von drüben herzlichst.

Mit herzlichsten Grüßen

Ihr Eberhard Hopf.

P.S. Liebe Frau Wiener! Herzlichsten Dank für die beiden Sunday times's. Sie waren wochenlange Lektüre für uns. Ilse hatte selbst geschrieben, aber sie liegt schon im Bett. Wir schicken demnächst Bilder von Bärbel. Leider konnten wir im Winter nicht photographieren, da hier die Sonne 10 Grad tiefer steht wie drüben. Daher mussten wir bis jetzt warten.

P.S. Lieber Herr Wiener! ΣΞ will meinen Mitgliedsbeitrag haben. Bitte sagen Sie doch Seatchard, dass sie sich gedulden müssen, bis ich Devisen dafür bekommen kann. Ebenso AMS.

Leipzig, den 15.4.37.

Lieber Herr Wiener!

Hoffentlich sind Sie und die anderen amerikanischen Freunde mir nicht böse, daß ich auch nichts von mir hören ließ. Ich komme erst so spät zum Schreiben, da ich mächtig in der Arbeit stecke. Ich will auch bald ausführlich an Tamarkin schreiben, demgegenüber ich auch schlechtes Gewissen habe. Die geringe Lehrverpflichtung läßt mir eine Unmenge Zeit für meine eigene Arbeiten. Die Probleme haben sich derart angehäuft, daß ich sobald nicht aus intensiver Arbeit herauskomme. Vieles ist noch in den ersten Ansätzen und erfordert viel Nachdenken. Mein Heft „Ergodentheorie" ist übrigens auch fast beendet. Ich habe gerade Ihren Satz über die Gleichverteilung der Energie im Spektrum des linearen Resonators (mit zufälligen Impulseinwirkungen) als Spezialfall mit hineingebracht. Das Turbulenzproblem habe ich noch nicht aufgegeben.

Ich mache auch Versuche, in Heisenbergs Seminar etwas von Quantenmechanik zu lernen. Wir treiben gerade statistische Mechanik.

Douglas wird es interessieren, dass in v. d. Waerdens und meinem Seminar das Plateausche Problem behandelt wird. v. d. Waerden bewundere ich in gleicher Weise als glänzenden Mathematiker und prachtvollen Menschen. Wir verkehren sehr viel miteinander. Koebe hat menschlich manche Schwächen, er ist die deutsche Auflage von Birkhoff. Man muss einen genau wie den anderen behandeln, um mit ihnen friedlich auszukommen. Sonst haben wir hier eine Menge interessanter Persönlichkeiten angetroffen.

Die durch nichts eingedämmte geistige Regsamkeit in der hiesigen wissenschaftlichen Forschung tröstet uns über die häßliche Umgebung von Leipzig hinweg. Wir vermissen sehr die schöne Landschaft von New England und besonders die White Mts. Man muss hier mindestens 40 Meilen fahren, um in schöne Gegenden zu kommen. Wir haben uns einen Liliput-Ford zugelegt, der uns dabei behilflich ist. Das Erzgebirge hat sich als wunderschön herausgestellt.

Bärbel gedeiht zusehends. Nur meiner Frau geht es nicht besonders gut. Sie hat dauernd durch verschleppten Stirnhöhlenkatarrh zu leiden und ist schon seit 2 Monaten in Behandlung. Das Bostoner Klima ist ihr viel besser wie das Leipziger bekommen. Wir wollen im Sommer drei Monate an der See verbringen, damit sie sich gründlich auskurieren kann. Im Herbst bin ich zu einem Kongress nach Genf eingeladen. Dann sehen wir wenigstens was von den Alpen.

Wahrscheinlich wissen Sie, dass ich vor kurzem an Compton geschrieben und um eine Bestätigung unserer Unterredung im letzten September gebeten habe. Es handelte sich

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Return to Prof Norbert Wiener
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MASSACHUSETTS.

April 16, 1937

Professor Jovan Karamata
The University
Belgrade, Jugoslavia

Dear Professor Karamata:

I have been reading your recent articles with great interest, particularly as far as concerns that in the Hamburg Journal.

I am afraid that I have been rather negligent as far as work on Tauberian theorems goes this year. However, as soon as I get the proofs of a new article in the Duke Mathematical Journal I shall send them to you. In this article I handle problems in the field in which you have also worked; namely, that of Tauberian theorems for series with more rapidly growing coefficients than is usual, and I think I have got about best possible results.

Sincerely

NW:cs

Norbert Wiener

April 16, 1937

Professor John Von Neumann
Princeton University
Princeton, New Jersey

Dear Von Neumann:

Many thanks for your letter. We shall arrive in our own car some time Monday. We shall call you up either when we arrive at Princeton, or if possible, from a sufficient distance so that you can have good warning that we are coming.

Sincerely

NW:cs

Norbert Wiener

April 16, 1937

Professor S. Mandelbrojt
University of Clermont-Ferrand
France

Dear Professor Mandelbrojt:

Dr. Levinson is now with us at the Massachusetts Institute of Technology and has a large amount of material on gap theorems, particularly on Tauberian gap theorems. He is able to generalize the result which I got in China probably almost to the fullest possible extent. I shall see that you get a copy of his manuscript as soon as it is ready.

Levinson thinks that we should go rather slow in the preparation of the book, since we want to make it definitive. He also feels that a good deal of our recent work on non-harmonic Fourier series ought to go in. Levinson had a paper in a recent number of the Annals of Mathematics, which you must have already seen.

I looked at your results which you sent me, and it seems to me that they can be obtained by the use of the methods of our note. I have also sent off several months ago my manuscript to the Congress. I shall see that you get a copy of the proofs when they come.

Sincerely

NW:cs

Norbert Wiener

April 17, 1937

Dear Saslaw:

I am leaving tomorrow, Sunday, for my trip south and will not be back until the 29th or 30th. Will you see Professor Phillips about helping out with my classes during part or all of the period that I am away?

In addition, will you get my papers together that I have left in the room, and in particular get ready for me all papers concerning the Lee-Wiener patent of more recent date than the beginning of the academic year?

Sincerely

NW:cs

Norbert Wiener

COPY

HARVARD UNIVERSITY
CAMBRIDGE, MASS.

DIVISION OF
MATHEMATICS

April 21, 1937

Professor Norbert Wiener
Massachusetts Institute
of Technology
Cambridge, Massachusetts

Dear Professor Wiener:

It gives me great pleasure, on behalf of the Division, to invite you to give a William Lowell Putnam Memorial Lecture with an honorarium of fifty dollars.

Inasmuch as the college year is drawing to a close, it will probably be more convenient for you, as it will be for us, to arrange to have the lecture in the fall. The day on which we should ordinarily open the Colloquium would seem to be a particularly fortunate date and we trust that this choice will be agreeable to you.

Cordially yours,

William C. Graustein

April 24, 1937

Professor E. C. Titchmarsh
New College
Oxford, England

Dear Professor Titchmarsh:

Since I have got back to this country I have found myself so busy with work that I have not spent as much time as I should in organizing material for a book. At present the notes on my course on Fourier series are far enough advanced so that they may be of some use to you in this direction. I am sending this memorandum with a set of notes as far as they are to date. As soon as the notes are completed I shall see that you get the rest.

Sincerely yours

Norbert Wiener

NW:cs

P.S. There are a good many more notes which have not yet been mimeographed. Several more pages will be forwarded to you within a few days.

THE INSTITUTE FOR ADVANCED STUDY
PRINCETON, NEW JERSEY

Fine Hall, April 29, 1937

Dear Wiener:

Many thanks for your telegram, quite particularly since you were the first man from whom I learned the simple fact.

We are still thinking of the pleasant time we had when you were with us.

Cordial greetings from house to house,

John von Neumann.

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

ARMOUR
INSTITUTE OF TECHNOLOGY
CHICAGO.

May 4
1937

Professor N. Wiener
Massachusetts Institute of Technology
Cambridge, Massachusetts

Dear Professor Wiener:

I am sending you under separate cover a report of my work on matrices which it was necessary for me to write up recently, and in which I thought you might be interested. I am also sending you a recent reprint.

Next year I will be in the east at the Institute for Advanced Study, and hope to come to Cambridge for a visit, at which time I shall drop in at your office and say "Guten Tag".

Trusting you are having a very pleasant year,
I am

Very sincerely yours,

R. Oldenburger.

R. Oldenburger

RO:NL

May 4, 1937

President Mai
Tsing Hua University
Peiping West, China

Dear President Mai:

This is nearly the anniversary of my departure from China, so it is perhaps a fitting time to write to you again concerning the events of the last year.

In the first place, we have all been tremendously gratified at the new strength of China. Dr. Lee has written me already how little disturbance there has been this year, and after the pressure of last year this is extremely gratifying to read.

As far as we are concerned, things have been going along very smoothly. I have a good lot of students and a good deal of research under way, and I hear from Professor Hardy present reports of Mr. Hua. I also see a good deal of Mr. Su in our Chemistry Department.

There is one matter I should particularly like to take up with you. Among the most brilliant mathematicians in the world is Professor John Von Neumann of the Institute for Advanced Study at Princeton. His work has been largely in fields of mathematics closely associated with atomic physics and as a matter of fact, he is responsible to a great degree for the logic back of the present quantum theory. His association with more directly applied sciences goes back to his early training as a chemist. He is a young man of about 33 with a very pleasant personality and an extraordinary gift of getting in contact with students from all countries, as Mr. Tsung will tell you.

When I was visiting the Von Neumann's last week I naturally told them a great deal about our extremely pleasant stay in China, and I made them almost green with envy. It strikes me that this is very fortunate for you people because I cannot think of any

imported scholar who would be more valuable to you in the physical sciences. There are certainly only two or three mathematicians in the world of his rank. Mr. Neumann is quite wealthy, both from family resources in Hungary and from a large salary at Princeton, so that it ought to be possible for Tsing Hua, if it sees fit, to get him for a sum merely sufficient to reimburse the actual expenses of his trip and his stay. His family consists of a very charming wife,and a young daughter who would probably be left with relatives in the event of anything so extensive as a trip to the Orient.

You will pardon me, I hope, for my liberty in taking up this matter with you. The fact is that I am so enthusiastic about Tsing Hua and China on the one hand, and so enthusiastic about Dr. Von Neumann, both personally and scientifically, on the other, that I feel strongly impelled to put in a word to bring you together. I am writing a separate letter to Professor Hiong, and am letting my good friend, Dr. Lee, also know something about the personal side of the Von Neumann's.

Please remember us to your wife and children, and to all our good friends in and about Tsing Hua. We have been delighted to hear how happy the Wildes find themselves on the campus, and indeed we envy their opportunity to be with you.

Very sincerely yours

NW:cs

Norbert Wiener

May 4, 1937

Dr. Y. W. Lee
Tsing Hua University
Peiping West, China

Dear Lee:

We got your letter concerning Tsing Hua the other day and have answered with a Chinese letter to Wildes. I am afraid there are several mistakes. I got the character for "male" mixed up with the character for "female", and there were one or two other difficulties that occurred to me later. At any rate, I am informed on proper authority that the letter is readable, and I shall be amused to see what Wildes can do in deciphering.

I have not received up to this time any message from you on the Bell offer. I am awaiting that day by day, and I am also awaiting news from International Standard Electric in London as to whether they can make any offer for the European rights.

I am writing to you about another matter of some importance for your school. You know how enthusiastic I am about China and Tsing Hua, and you must have heard from Wildes how I boost the place on every occasion. Last week I was down at Princeton as the guest of Professor and Mrs. Von Neumann, and Margaret and I started our usual line. I may say that we got more than a nibble from them, and that they seemed interested in seeing China some time in the future. Now this is a marvelous opportunity. Neumann is one of the two or three top mathematicians in the world, is totally without national or race prejudice, and has an enormously great gift for inspiring younger men and getting them to do research. I have written to Professor Hiong and President Mai about the interest that Neumann showed in a possible visit to China, and wonder whether it wouldn't be in order to work up a call from Tsing Hua for the not too distant future. In this connection I have talked the matter over with Chao, who is down at Princeton, and when he returns in the middle of the summer he will give a more definite account of how matters stand.

The Neumann's are quite wealthy. They have money in Hungary and I believe his Institute for Advanced Study salary is around $12,500. Therefore, if he comes to China it will not be to save any money, although he would hope that the salary would meet expenses.

The Neumann's rather like to hit the high spots socially. You know Princeton life is a bit fast and "cocktail partyish". On the other hand, Neumann is not high-hat in any way, and is most accessible to young students. If he came to Tsing Hua I think the best thing for him to do would be to live in town, but I think you could also be confident that he would spend a very large fraction of his time on the campus. Mrs. Von Neumann is a very good natured person, with her husbands party tastes. They have a little girl whom they probably would not bring over to China.

I don't think it's necessary to send the authorities at Tsing Hua a list of Neumann's scientific publications, as they are so easily available in the journals, particularly the Annals of Mathematics. If you should need such a list, however, and can get hold of a recent number of Scripta Mathematica, you will find one there.

Please remember us to the Wildes and to other friends. As to Betty and yourself, we are assuming that you will be in this country year after next, and are also assuming that you will spend a large part of the summer with us on the farm, and of the ensuing year at M.I.T. We are counting on this very much, and hope the time in between passes as quickly as possible.

Sincerely

NW:cs

Norbert Wiener

May 4, 1937

Professor Hiong
Department of Mathematics
Tsing Hua University
Peiping West, China

Dear Professor Hiong:

It is now about a year since you saw us off at the Chen Men railway station, and in the time between we have thought very much about Tsing Hua and our friends in China. We have been delighted to hear how much less outside pressure there has been in North China this year, and are full of optomism for the future. We actually feel homesick at times for some of our Tsing Hua friends, and so always regard last year as one of the highlights in our life.

In this connection we are never tired of telling our friends of the charm of China and Tsing Hua. My wife and I were down last week to visit the Von Neumann's at Princeton, and I know they became positively envious of our experiences of last year.

Would it not be possible at some time within a few years to invite Professor Von Neumann to give a series of lectures at Tsing Hua on much the same basis as I did? As you know, there is no young mathematician in the world who has any claim to be considered superior to Von Neumann. He is also a man of great personal charm and great ability to impart his ideas to students and to inspire them to independent investigations. He is a true cosmopolitan - at home with people of any nationality - and completely devoid of that provincialism which can work so much harm in China. He is 33 years old, at the very peak of his ability and influence. He is a wealthy man, both from his family fortune in Hungary and from his very handsome salary at the Institute for Advanced Study, so that if you should get him to China his interest in China and in furthering mathematics throughout the world would be the sole reason for his coming. I am quite certain that he could be got

for enough money to cover his traveling and living expenses without there being a question of any savings.

You will excuse me, I hope, for the liberty I am taking in making this suggestion. I have already talked with Dr. Chao at Princeton, and he seemed to think that it might not be regarded as too impertinent on my part if I should send you this letter. I am so enthusiastic about the future of mathematics in China, and so desirous to help, that I may go a little beyond the bounds of propriety in this respect.

My wife and I wish to be remembered to your charming wife and your children. We were tremendously impressed by the artistic skill of your two boys, and by the charm of your domestic circle. We sincerely hope that we have not met for the last time.

Very sincerely yours

Norbert Wiener

NW:cs

May 6, 1937

Professor Kolmorgoroff
University of Moscow
Moscow, U.S.S.R.

Dear Professor Kolmorgoroff:

I have recently been informed by Professor Wintner of Johns Hopkins University that you have in view a treatise on the theory of probabilities from the point of view of the notion of randomness. He also told me that your book would probably appear in Russian, and so be somewhat less accessible to the mathematicians of western Europe and America.

I am very much interested in knowing what your intentions are and what the present state of your project is because the literature on this subject is at present in a somewhat chaotic and inaccessible state, and is divided into parts of interest primarily to mathematicians in such diverse fields that there is no easy access to the subject on the part of the beginner. If it would not in any way conflict with your project, I should like to work on a similar one in the English language. Some of the topics which I should like to discuss are:

(1) The Daniell integral, including the general theory of "boxing in", and the integral in a discrete infinity of dimensions, both for finite choices in each dimension and for continuous choices.

(2) The Steinhaus, Radamacher, and Borel theories of denumerable probabilities, together with your own work and that of Paley and Zygmund in applying these methods to functional analysis.

(3) The recent work of Cramer and others on probability in the theory of numbers, together with investigations of my own on the random Waring problem.

(4) The work of Jessen and Wintner on Dirichlet series with arbitrary choices of signs. In particular I should like to emphasize the work they have done on the Riemann zeta function.

(5) My own work on the Brownian motion and differential space, together with the appropriate spectrum theorem.

(6) Some new work based on researches of Von Neumann concerning the random distribution of points in a measurable manifold. This research has direct application to a study of Schroteffekt and to the constitution of polychrystalline aggregates.

(7) The ergodic theorem, both for its own sake and for the sake of its applications to further work in number theory.

(8) Dependent probabilities and Markoff chains.

(9) Random theory in connection with quantum theory.

If these topics too closely coincide with those of your own book it may be as well for me not to carry out this scheme, but personally I feel that the subject is so important that a multiplicity of treatises is to be welcomed. I am in no hurry whatever in carrying out my plans, and should like at every step to keep in touch with you and your colleagues.

Very sincerely yours

NW:cs

Norbert Wiener

May 9, 1938

Professor A. Cohen
Department of Mathematics
Johns Hopkins University
Baltimore, Maryland

Dear Professor Cohen:

Professor Wintner and I have just developed a paper on a topic in the theory of infinite convolutions which we would like to submit to the American Journal of Mathematics for publication. However, we realize that on account of the Hill volume you are pretty well tied up for the present. Our paper will be some ten pages in length, and we wonder about how soon we could reasonably expect publication.

With pleasant memories of my last visit to Johns Hopkins, I remain

Sincerely yours

NW:cs

Norbert Wiener

May 11, 1937

Professor William C. Graustein
Division of Mathematics
Harvard University
Cambridge, Massachusetts

Dear Professor Graustein:

It is with great pleasure that I accept your invitation to give a William Lowell Putnam Memorial Lecture. I am very appreciative of the honor you are conferring upon me, and shall be delighted to lecture at the first meeting of the Colloquium next fall.

As to the topic, I have some work that is shaping up in a very interesting way on random sets of points in one or more dimensions, and in particular concerning the statistical distribution of quantities connected with polycrystalline aggregates. The material has a considerable amount of pure mathematical interest as it ties up with a rather interesting use of Lebesgue integration, and on the other hand, it leads directly to physical applications in a field which has been peculiarly inaccessible.

Of course, if you want something which is more specifically

pure mathematics in the sense of not having any applications I can do that too, but I really think the subject I am mentioning is the best I have to offer.

Cordially yours

NW:cs

Norbert Wiener

May 13, 1937

Professor P. A. Smith, Associate Editor
American Mathematical Society
531 West 116th Street
New York, New York

Dear Professor Smith:

I enclose the paper of Hardy and Levinson, which is an excellent piece of difficult analytical work, and should appear as written.

I don't remember whether you still are treasurer of the Mathematical Society, but I do remember that I haven't paid my year's dues and assessment. I have mislaid my bill and would like a duplicate in order to put myself right with the society at the first possible moment.

Sincerely yours

NW:cs

Norbert Wiener

paper = "Inequalities satisfied by a certain definite integral"

May 24, 1937

Mr. E. W. Adams
Bell Telephone Laboratories
463 West Street
New York, New York

Dear Mr. Adams:

I have just received today a letter from Dr. Y. W. Lee dated the 25th of April, in which he expresses his willingness to accept the offer of $5,000 which you have expressed yourself ready to make for the purchase of our new invention.

I should therefore be obliged if the matter could be pushed through as soon as possible. I have to reply to the first patent office action by the 24th of June, and I believe it will be desirable from your point of view if that should be done by your force rather than by us.

Very truly yours

NW:cs

Norbert Wiener

UNIVERSITY OF CALIFORNIA
DEPARTMENT OF MATHEMATICS
BERKELEY

May 25, 1937

Professor Norbert Wiener
Massachusetts Institute of Technology
Cambridge, Massachusetts

Dear Professor Wiener:

I understand that you and I are sharing the task of analysing analysis for the American Mathematical Society in September, 1938. Professor Richardson suggested that we might arrange between us what topics we should cover. So far I have no ideas on the subject but will let you know as soon as I get any. If you have any topics which you would like to reserve, please let me know as you think of them.

Very sincerely yours,
Griffith C Evans

GCE:sh

UNIVERSITY OF LONDON, UNIVERSITY COLLEGE

GOWER STREET, LONDON, W.C.1

Telephone : Euston 4400
Reference :

DEPARTMENT OF ZOOLOGY
(Entrance by Malet Place, or Gower Street)

May 24 [1937]

Dear Wiener

I am definitely stuck here. I am just being appointed to a new chair of biometry, and cannot leave in my first year even if I wanted to. I should however find it hard to get away in any case, owing to this war. Charlotte would certainly not come to the U.S.A. as long as Ronnie is in Spain. He was wounded in the fighting in February, and was very well when I saw him in Spain in April, back at work, but not in the fighting line.

I have had to learn about statistical theory. As you I can only learn a thing by working at I enclose my first amusing theorem, which is a device for approximately normalizing funny distributions. I was led to it by considering the distribution of mice in litters. As you can see I am ~~on the verge of~~ really using a Fourier transform. Possibly the theorem is familiar in its Fourier form (with c t for t). The proof is a matter of elementary but tedious algebra. (I haven't checked the numerical coefficients) But clearly of ~~the distn~~

UNIVERSITY OF LONDON, UNIVERSITY COLLEGE

GOWER STREET, LONDON, W.C.1

Telephone : Euston 4400
Reference :

DEPARTMENT OF ZOOLOGY
(Entrance by Malet Place, or Gower Street)

$$\eta = \left[y - 1 + \frac{h(1-h)K_2}{2g^2} + O(x^{-2}) \right] \left[\frac{g}{h K_2^{\frac{1}{2}}} + O(x^{-2}) \right]$$

is much nearer ~~being its own Fourier transform~~ having a frequency distribution which is its own Fourier transform than

$\xi = \frac{x - K_1}{K_2^{\frac{1}{2}}}$. I am publishing in Biometrika, which is now being resuscitated. I have got a number more theorems, but the ones which I got in Madrid don't so obviously involve the Fourier transform. It is curious that the logarithm of the Fourier transform should be so much more useful in a large section of statistical theory than the transform itself.

Meanwhile I have taken to oratory, which I find as good a recreation as golf. War is also quite interesting. I was in one episode which the official communiqué called a battle, but it didn't seem very like one in the front line, though rather noisy. However

"Danger no refuge holds, and war no peace
For those who hear $\int_{-\infty}^{\infty} e^{itx} u(x)\,dx$ sing and never cease."

Give my kindest regards to Mrs. Wiener

Yrs sincerely
JBS Haldane

[ca. June, 1937]

北平國立清華大學

NATIONAL TSING HUA UNIVERSITY

PEIPING, CHINA

To continue the Chinese letter: I intended to write more in Chinese but Huang Hsien Seng covered the whole page with my first paragraph. Our experiences have been every bit as good as you indicated and we are having the time of our lives.

Last evening we were at a reception to Dr. Bohr who is now on the last lap of his round the world tour. I have missed his lectures as he is just beginning them here where I am leaving for Shanghai where he has already lectured. I sat with Dr. Bohr, Dr. Hu Shih, Dr Mei and Dr Chang (Pres. of Peking University). We had chung kuo fan and Dr. Bohr seemed to take to it very well. My favorite dishes are

bamboo shoots, birds nest soup, velvet chicken — Well the list of the things I like is so long that I could fill the page.

I shall be in Shanghai ten days (Mrs will stay here as she can visit on the way home) and then spend three days in Nanking. I am to return there for one month of consultation and research and hope to be in Newton Centre early in September.

Please excuse the liberties the boy has taken with the Chinese letter. He did not say exactly what I told him to, and he has his own way of wishing you health.

Mrs Wilder joins me in sending best wishes to you and Mrs. Weier.

Sincerely yours.

Rand L. Wilder.

Duke University
DURHAM
NORTH CAROLINA

DEPARTMENT OF MATHEMATICS

June 4, 1937

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

Dear Professor Wiener,

Thank you for your reference to me in your paper with Martin.

There has been no direct progress in my research on the Waring problem. The material in Chapter V of your Colloquium book has so intrigued me that I have spent my time working on this. In addition, I have given your general Tauberian theorem to my class on Fourier series. Hence you can see that I have made at least some progress in your general direction.

We shall be in Cambridge about July 1st. If you so desire I should be delighted to see you. I sincerely hope that my shooting off on a tangent this way will not interfere with the plans you mentioned at Christmas.

Very truly yours,

J J Gergen

P.O. Box 4771
Duke University Station
Durham, N. C.

471 Widener Library
Harvard University
Cambridge, Mass.

BULLETIN
OF THE
American Mathematical Society
BUSINESS ADDRESS: 531 WEST 116TH STREET, NEW YORK, N. Y.
EDITORIAL ADDRESS: NORTHWESTERN UNIV., EVANSTON, ILL.

EVANSTON, ILLINOIS
NORTHWESTERN UNIVERSITY

June 10, 1937

Professor Norbert Wiener
Massachusetts Institute of Technology
Cambridge, Mass.

Dear Professor Wiener:

Thank you very much for your recent report on a paper by Hardy and Levinson. Of course, we have accepted it in accordance with your recommendation.

Sincerely yours,

D. R. Curtiss

D. R. Curtiss

DRC:MC

June 17, 1937

Mr. J. Gillis
Thornbeck
Thornhill Park
Sunderland, England

Dear Mr. Gillis:

I am sorry to have delayed answering your letter for so long. I wanted to see how the Commonwealth Fellowships had come out in general before taking up your case. I see that no Commonwealth Fellowship has been appointed in mathematics. I don't understand the reason for this, but it seems to me very regretable.

I would be delighted to have you with me next year, but I do not see any source of funds which we can tap for that purpose. If you could manage to attend to the matter somehow from the other side, I should still be delighted to have you come and work.

I have the most pleasant memories of our meeting in Cambridge five years ago.

Very sincerely yours

NW:cs

Norbert Wiener

June 17, 1937

Professor R.G.D. Richardson
Brown University
Providence, Rhode Island

Dear Professor Richardson:

I have recently received a letter from Professor Haldane stating that he will not be able to be in this country for the next academic year, and gratefully declining the honor of the Gibb lectures. It seems they made a new position for him in London, and he does not feel able to come over here while his soneis serving with the Loyalist army in Spain.

I am sorry that we haven't been able to get him, but I hope it will turn out otherwise in the future.

Sincerely

Norbert Wiener

NW:cs

June 17, 1937

Professor Oswald Veblen
Institute for Advanced Study
Princeton, New Jersey

Dear Professor Veblen:

I suppose you have heard by this time from Haldane. It appears that his job has been replaced by a better one in London, and that he will not be available in this country next year. For our sakes I wish it had turned out otherwise.

I enjoyed my Princeton visit very much. I suppose we shall see one another at the summer meeting.

Sincerely

NW:cs

Norbert Wiener

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

June 18, 1937

Dear Professor Wiener:

This is to acknowledge receipt of your note of yesterday to Professor Veblen. I am at once forwarding your letter to him at the University of Washington in Seattle, where he is giving a course of lectures. Whether he will be able to reach the summer meeting I do not know.

Sincerely yours,

Secretary to Professor Veblen

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

TELEPHONE PENNSYLVANIA 6-9220
CABLE ADDRESS, CEAS, NEW YORK

AMERICAN SOCIETY OF CIVIL ENGINEERS FOUNDED 1852

THIRTY-THREE WEST THIRTY-NINTH STREET
NEW YORK

CONFIDENTIAL

June 18, 1937

PROF. NORBERT WIENER
Department of Mathematics
Massachusetts Institute of Technology
Cambridge, Mass.

Dear Professor Wiener:

Professor Tsai of the National Tsing Hua University, Peiping, China, was in my office the other day and suggested that you might be able to help me on a problem, out of your experience in teaching at that University last year.

The Committee on Membership Qualifications of the American Society of Civil Engineers is trying to arrive at some kind of a conclusion as to how well the National Tsing Hua University graduates stack up against graduates of similar courses in the United States. I am getting in touch with the deans of some of the engineering schools in the United States that have had graduate students from that institution in China but I would like very much to have the benefit of any first hand observations you might care to make.

Apparently, the curriculum in Civil Engineering is comparable to that in this country. Are its teachers as able as those in America?

We have been informed that some of the Chinese universities find it difficult to grade their students accurately for fear of their losing face, especially if the students come from a prominent family.

Do you think that the Civil Engineering curriculum at Tsing Hua has been free of such a possibility?

From your experience or knowledge have the graduates of that school done well in practice?

Any information you can give me that would help in evaluating the work of Tsing Hua University will be greatly appreciated. We are not attempting to accredit it but do find that we need information of the sort indicated above.

Your reply will be treated confidentially by the Committee on Membership Qualifications which, I may say in advance, will greatly appreciate any assistance you can give it.

Very truly yours,

George T. Seabury

GEORGE T. SEABURY
Secretary

TELEPHONE PENNSYLVANIA 6-9220
CABLE ADDRESS, CEAS, NEW YORK

AMERICAN SOCIETY OF CIVIL ENGINEERS FOUNDED 1852

THIRTY-THREE WEST THIRTY-NINTH STREET
NEW YORK

June 28, 1937

PROF. NORBERT WIENER
South Tamworth
N. H.

Dear Professor Wiener:

Thank you very much indeed for your letter of June 22, with its report on the National Tsing Hua University of Peiping, China. The information you have given me is exactly what I wanted and will be most helpful to our Committee in arriving at its decisions.

Yours very truly

George T. Seabury

GEORGE T. SEABURY
Secretary

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~~11600~~

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11600
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35295
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28,420
34,800
29,680
82900

282
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564
1974
564
77704

273