

CORRESPONDENCE Feb. 11-28, 1953

165

Professor Norbert Wiener Massachusetts Institute of Technology Cambridge, Massachusetts.

Dear Professor Wiener:

Please find enclosed my curriculum vitae and my bibliography, which you asked me to send you in connection with the possibility of working with you for 1-2 years.

I also enclose a brief list of some of the problems I would like to investigate, and all of which pertain to the central problem of the logical structure of the psychoanalytic process about which I would like to write a book. Insofar as I am able to judge, many of these problems cannot be quantified. All of them should, however, be thought through in terms of the conceptual framework of mathematics.

In this connection I would like to stress once more something I already told you in person: I am not a "natural" or "born" mathematician. I have always liked mathematics, and around 1927 I knew quite a bit of higher mathematics, most of which I have forgotten. I am afraid you will have to be very patient with me.

As regards practical problems, one approach might be to seek a grant from the National Institute of Mental Health, or else from the Ford Foundation. I believe both of these organizations prefer to give the grant to an Institution rather than to an individual. A more remote though equally attractive possibility would be a position in the social science department of M.I.T., provided there is an opening, and provided that they care to have me.

I think I mentioned to you that, before my analysis, I had earned a reputation for excentricity. The fact that I stayed in Topeka 7 years, got repeatedly promoted and the fact that Topeka made great efforts to make me stay here should prove that my analysis was successful and that the reputation is no longer deserved. In fact, as you recall, I specifically asked that this plan should not be mentioned in Topeka, because they get very aggravated - and aggravating - whenever I talk of leaving.

I cannot close without thanking you for your interest and for the fruitful privilege of having had a chance to talk with you in Topeka, nor without expressing the hope that it will be possible to implement the tentative plan of my joining your group. With kindest personal regards,

Yours most sincerely ing Querene

George Devereux Director of Research Winter VA Hospital Topeka, Kansas.

P.S. The poem I mentioned is by Léon-Paul Fargue, and is to be found in his volume "Poésies" published by the Nouvelle Revue Française, Librairie Gallimard. It is the first poem in the volume.

Enclosures.

[and 3/25/53]

TIME & LIFE BUILDING ROCKEFELLER CENTER NEW YORK 20

LIFE

EDITORIAL OFFICES

February 11, 1953

Dr. Norbert Wiener Department of Mathematics Massachusetts Institute of Technology Cambridge 39, Massachussetts

Dear Dr. Wiener:

I am grateful to you for taking the time and trouble to write me as fully and candidly as you do in your letter of February 9.

I cannot argue against your pleas. I understand that it is a burden to cope with interviewers and that since you have so recently given very generously of your time to Mr. Wilson, you would not be inclined to undergo this again for us.

This is, of course, our loss and, I think, the loss of our readers.

Perhaps at some future date you may feel it possible to reconsider. It would certainly please us very much if you did. In any case, I hope that you will not object if I send you a simple query to this effect later on. You need not answer if your position is unchanged, or simply take the time to say no.

Thank you again for your forebearance and courtesy.

With best wishes,

Yours sincerely, am Jay Articles Editor

[and 2/3/53]

WJG:jf

RUTGERS UNIVERSITY The State University of New Jersey

DEAN OF MEN

February 12, 1953

NEW BRUNSWICK, NEW JERSEY

Dr. Norbert Weiner Department of Mathematics Massachusetts Institute of Technology Cambridge, Massachusetts

Dear Dr. Weiner:

In connection with our telephone conversation this afternoon, I am writing to inquire as to the possibility of postponing your appearance at Rutgers to one of the following dates: March 11th, -April 13th, April 20th, April 22nd, April 23rd, April 27th or April 30th.

We find that several other lectures are scheduled for Monday, March 9th and while the Student Council Lecture Series has a prior claim to the date, if it is convenient to you, we should like to adjust our schedule as one of the other lectures has already been twice rescheduled. If none of the above dates are satisfactory, we will continue plans for your March 9th appearance.

In any event we are hoping that you will be able to be our guest for dinner at 6:15 p.m. on the evening of your appearance on campus.

Will you please send your reply to me at the University so that I may make the necessary adjustment on the calendar.

Sincerely yours,

Howard J. Crosby Assistant Dean of Men

HJC:R

Cans 2/16/537

R.C. SEINE 239.575 B



UNITED STATES LINES



10, RUE AUBER, PARIS 9º

AMERICAN PIONEER LINE AMERICAN HAMPTON ROADS LINE

TEL ADDRESS SEAPOSTES

February I2, 1953

Dear Sir,

We have just received your letter informing us that you will do us the honor of contributing to our review.

We are glad to inform you that it will be quite all right if your article reaches us some time in March, as our publication will appear in May.

Though you do not mention in your letter, we assume that it is in order to include your name in the Comittee of Honor, and join the names of Prince Louis de Broglie, Gabriel Marcel, James J. Sweeney, Sir Herbert Read, Professeur Henri Mondor, Lionello Venturi, Lord Bertrand Russell, who have now officially accepted.

With our very sincere thanks, we beg to remain, Dear Sir,

Yours very respectfully, Georges A. Mathieu.

Norbert Wiener Esq. Professor at the Institute of Technology, Massachusetts.

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UNIVERSITY OF ILLINOIS CONTROL SYSTEMS LABORATORY URBANA, ILLINOIS

February 12, 1953

Louis D. Smullin Project Lincoln M.I.T. P.O. Box 390 Cambridge 39, Massachusetts

Dear Louis:

I looked at the billboard in question. The resemblance to Professor Wiener is remarkable. It is a sketch, and I would bet anything that the original really came from a sketch or photograph of Wiener. The advertisment is for a local paper, the Champaign-Urbana Courier. In the background is an equation which says $KE = -\frac{1}{2} I \omega^2$ along with some doodles that look like organic chemistry diagrams. The appeal is, I suppose, that intellectuals read the Courier. Are you an intellectual? Do you aspire to be an intellectual? Then you read the Courier like this distinguished looking professor sitting in the typical class-room chair.

If I get a chance I will take a photograph.

Best regards,

Cha St

CWS/bn

C. W. Sherwin

February 9, 1953

Dr. C. W. Sherwin University of Illinois Control Systems Laboratory Urbana, Illinois

Dear Chal,

Smuller.

Just a line to let you know we enjoyed your meeting very much and that you seemed to be doing a lot of good work. We are, of course, particularly interested in and want to be kept in touch with any new devel-

opments.

Wednet lay, on the way out to the airport from the campus, I thought I say something that I wish you would check for me. There is a billboard on the left-hand side of the road that appears to have a picture of Prof. Wiener. It was advertising a local newspaper, I believe.

We did not stop to go back to look and I would appreciate it greatly if sometime on your way out to the airport, if you would look at it and tell me whether I was dreaming or not.

Very truly yours,

Louis D. Smullin

LDS:r

Ears 2/9/53)



HOUGHTON MIFFLIN COMPANY 2 PARK STREET BOSTON 7

February 13, 1953.

Dr. Norbert Wiener, C/o Massachusetts Institute of Technology, Cambridge, Mass.

Dear Dr. Wiener:

This is to inform you that we have just received the signed contract covering the sale of the Japanese rights of THE HUMAN USE OF HUMAN BEINGS to Misuzu Shobo Publishing Company.

The terms are an advance of \$80.00 payable on the signing of the agreement; against a royalty of 5% of the published price on copies sold up to 5,000 copies; $7\frac{1}{2}\%$ to 10,000 copies; and 8% on all copies sold over and above that number.

Sincerely yours, Gertrude Rodenhiser

HOUGHTON MIFFLIN COMPANY

GR

LIFE BUILDING ROCKEFELLER CENTER NEW YORK 20

EDITORIAL OFFICES

13 Feb 53

Dear Professor Wiener:

In the effort to keep my research on automatic controls up to date, I am taking the liberty of writing for information which could be a measurable help in getting our story on the subject into publication.

In Thomas Whiteside's interview for This Week magazine, you are quoted as commenting that in at least one factory gauges are read and valves are turned by computing machines. Did you have a particular plant in mind?

Further down the page is the statement, "We're already coming to a stage at which automatic computing machinery can pretty well control certain kinds of assembly lines in such a way that, for example, a whole series of milling, cutting, welding, and screwdriving machines will furnish a product accurately and economically." Are you referring here to special purpose machinery like the automobile industry's multiple transfer machines? Or do you mean the general purpose machinery capable of varying their own movements over a range of end products and able to self-regulate the flow of products from one station to the next? These are the advances towards the automatic factory which are of greatest interest to me and my bosses. If you know the whereabouts of any computer regulated equipment being used in the step by step manufacturing process, I would be very grateful to hear details. A picture of such an assembly line would be just the boost needed to put our story into print.

Hoping to hear from you, Iam,

Sincerely Yours,

[ane 2/16/53]

ames A. Lebenthal

Mr. William Jay Gold Articles Editor, Life Time and Life Building Rockefeller Center New York 20, New York

Dear Mr. Gold:

I appreciate your courteous letter and your understanding of my position. I am frankly so loaded up with the ramifications of my work that I am shedding my responsibilities wherever I can because of the simple need to save my life.

I do not consider it at all out of the question that I can work with you people at a later date, but I must beg you to make every effort in advance that I need not spend again a critical week's time on activities bound to end in frustration. Any such contact between <u>Life</u> and myself must be settled in advance by people in authority on your staff so that I shall not be in the position of giving a large commitment of my time without some commitment from you.

Sincerely yours,

Norbert Wiener

Dr. T. Hatori Mathematical Institute University of Tokyo 8, Takehaya-cho, Bunkyo-ku Tokyo, Japan

Dear Dr. Hatori:

It is always good to hear from you. I should like to refer you to my friend and colleague, Dr. S. Ikehara, Department of Mathematics, Tokyo Institute of Technology, Oh-okayama, Meguro-Ku, Tokyo. Dr. Ikehara and I have worked together recently, and he will be able to direct you to literature in the field of Cybernetics. He has also been working on a translation of <u>The Human Use of</u> <u>Human Beings</u> into Japanese.

I hope Dr. Ikehara will be of help to you. Do keep in touch with me.

Sincerely yours,

Norbert Wiener

Mr. Henry Quastler University of Illinois Control Systems Laboratory Urbana, Illinois

Dear Mr. Quastler:

Thank you for your letter asking that I participate in in your summer seminar on Cybernetics. I must turn you down. I am simply so loaded up for the remainder of the spring, and for the summer, too, that I cannot add any engagement of any sort to my schedule.

I shall be glad to see you when you are in Cambridge on the 19th, but I must assure you in advance that I can take on nothing more for the coming summer.

Sincerely yours,

Norbert Wiener

Mr. Roy C. Spencer Chief, Antenna Laboratory Air Force Cambridge Research Center 230 Albany Street Cambridge 39, Mass.

Dear Mr. Spencer:

On further reflection, I find that I have accepted obligations running right up to the summer, and that during the summer I must run not one but two summer schools at M.I.T. on my theories. In view of this, I should like to be released from my understanding with you that I was to give a talk for you at Montreal. The fact simply is that when I am tired and already overloaded, I tend to let my schedule drift into a still further overload. And sconer or later I find I cannot get away with this and still keep my health. I shall be very grateful for your understanding in this matter, and wish you all success in your meetings.

Sincerely yours,

Norbert Wiener

Professor Alex Bavelas 52-254 A

Dear Bavelas:

This man sounds talented. Do you have any suggestions as to how he could be put to work here?

I haven't answered his letter, and I should be very grateful to you if you would do so.

Sincerely yours,

Norbert Wiener

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Ass. letter f om Manfred Kochen of N.Y.

The Carnegie Institute of Washington 1530 P St., N.W. Washington 5, D.C.

Dear Sir:

At the recent meeting of the American Physical Society in Cambridge, one of your representatives talked with me concerning some work I had done for a colleague in India, Dr. G. Ramaswamy of Calcutta, on the smoothing of mechanical survey data.

In accordance with my agreement with your representative, I am sending you a copy of this manuscript.

Sincerely yours,

Norbert Wiener

hb

Enc. is On the Elimination of Errors in a Grid Survey.

Mr. Howard J. Crosby, Dean of Men Rutgers University New Brunswick, New Jersey

Dear Mr. Crosby:

I am sorry that you have found yourselves with an overcrowded schedule for March 9th, and I wish that I were in a position to help you out. Unfortunately, however, my own schedule is suffering from overcrowding this spring to such an extent that none of your April dates is possible for me. I could meet your March 11th date, but I should much prefer not to, and hope very much that we can continue to plan for March 9th. I do indeed regret that I cannot be of more help to you.

I look forward to my Rutgers visit very much, and to the dinner which will precede the lecture.

Sincerely yours,

Norbert Wiener

Miss Lois Friedlander Simon and Schuster, Inc. 630 Fifth Avenue New York 20, New York

Dear Miss Friedlander:

Here is the list of Professor Wiener's spring lectures which you asked for last week.

Monday, March 9. Rutgers University. Sponsored by the student Lecture Series Committee.

Wednesday, March 25. Psychology Colloquium at Yale.

Thursday, April 9. City College of New York. Sponsored by the Alumni Association of the Department of Chemistry.

Wednesday, April 15. Sigma Xi initiation, University of Massachusetts, Amherst.

Thursday, April 23. Brandeis University. Sponsored by a course given to the senior class.

The Rutgers, City College, and Brandeis lectures will be to audiences of "broad, general" interest. Those at Yale and the Univ. of Massachusetts will be of a technical nature.

I'm sorry I couldn't get these to you earlier.

Sincerely yours,

Mrs. George Baldwin Secretary to Prof. Wiener

h

Mr. James A. Lebenthal Life Time and Life Building Rockefeller Center New York 20, New York

Dear Mr. Lebenthal:

With reference to your recent letter, factories do exist where gauges are read and valves turned by computing machines. The person who can give you most help on this subject is Dr. Donald P. Campbell, an Associate Professor of Electrical Engineering here at M.I.T. He is acquainted with the kind of details which you want, and I am not.

As to your second question, I am referring to general purpose machinery such as the machine tool that has been recently developed at M.I.T. This **isngrat**ral purpose in that the tool, by changing the tape only, is capable of machining a great variety of sums.

Call on me again if I can be of further help.

Sincerely yours,

Norbert Wiener

February 16, 1953

Mr. Keith H. Steinkraus Asst. Professor of Bacteriology N.Y.S. Ag. Exp. Station Geneva, New York

Dear Mr. Steinkraus:

Thank you for your recent request for a reprint of Professor Wiener's paper, "Time, Communication, and the Nervous System," which appeared in the <u>Annals of</u> the New York Academy of Science. Professor Wiener regrets that he has no reprint of this paper to send you.

I suggest that you write directly to the New York Academy of Science for whatever help they may be able to give you in securing a copy of this paper.

Sincerely yours,

Mrs. George Baldwin Secretary to Prof. Wiener



VETERANS ADMINISTRATION HOSPITAL TOPEKA, KANSAS

February 17, 1953

YOUR FILE REFERENCE:

IN REPLY REFER TO:

Dr. Norbert Wiener Department of Mathematics Massachusetts Institute of Technology Cambridge 39, Massachusetts

Dear Dr. Wiener:

I am sorry that you remember your visit here, which was so stimulating and thought-provoking for our staff, as unpleasant in at least two respects, the heaviness of the schedule, and the inadequacy of the compensation for your expenses.

I was concerned about the length of your professional day here. By the time that we had dinner, I could see that the succession of interviews and conferences had tired you very much. I regret that we allowed the schedule to pile up.

About your compensation, I wonder whether you have not made a mistake. My figures are as follows:

171.02 (tax included)
180.55
21.00
100.00

This amount, I am afraid, is the best we can do.

Our memory of your visit, as I have said, is most pleasurable. I wish that your associations with it could be equally pleasant.

Sincerely yours,

B. E. Boothe

B. E. BOOTHE Director of Professional Education

An inquiry by or concerning an ex-service man or woman should, if possible, give veteran's name and file number, whether C, XC, K, N, V, or H. If such file number is unknown, service or serial number should be given.

INDUSTRIAL COLLEGE OF THE ARMED FORCES OFFICE OF THE COMMANDANT WASHINGTON, D. C.

SAOIC 201

FEB 1 7 1953

Dear Dr. Wiener:

It is a pleasure to express not only my own appreciation but also that of the staff, faculty, and students of the Industrial College of the Armed Forces for your most stimulating lecture and discussion of "Automatic Control Techniques" on 10 February 1953.

I also want to express our most sincere appreciation to you for having remained with us and conducted the afternoon seminar. Your ready information and close association with the problems discussed were of great benefit to all present.

Your practical approach to this rather difficult technical subject was most enlightening to all of us. We are most appreciative of the time and effort you have contributed to the work we are doing here at the Industrial College.

Your interest in the activities of the Industrial College of the Armed Forces is highly valued and I hope that we may again be favored with your assistance.

Sincerely yours,

Brigadier General, USA Deputy Commandant

Professor Norbert Wiener Massachusetts Institute of Technology Cambridge 39, Massachusetts SAOIC 201

FEB 1 7 1953

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Sincerely yours,

L. J. GREELEY Brigadier General, USA Deputy Commandant

Professor Norbert Wiener Massachusetts Institute of Technology Cambridge 39, Massachusetts

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Miss Ruth F. Bryans, Publications Manager American Institute of Physics 57 East 55th Street New York 22, New York

Dear Miss Bryans:

Professor Wiener has asked me to return the enclosed abstract to you for publication in the Journal of the Optical Society, and to apologize to you for the delay you have suffered in receiving it.

With reference to the printer's directions which you inquired about, let me speak of the wavy line unver a letter () as a "tilde," and of a wiggly line under a letter () as a "wiggle." These symbols are to be interpreted as follows. A wiggle under a letter is a direction to the printer to use a bold face letter. A tilde over a letter should always be put in as such by the printer.

.

Sincerely yours,

Mrs. George B. Baldwin Secretary to Prof. Wiener

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Abstract of "Optics and the Theory of Stochastic Processes," for publication in the <u>Journal of the Optical Society</u>, by Norbert Wiener

The study of the wave phenomena of physical optics and of quantum mechanics must take into account the fact that experimental instruments operate <u>linearly</u> on the field of quantities, while all measured values depend only on their <u>mean squares</u>. The latter circumstance necessitates a statistical approach to these theories. Certain questions must be re-examined in the light of this fact. We analyze the most important of these, namely that of the limitations causality (the directedness of time in physical phenomena) imposes on the nature of the transformations an optical instrument can perform on the light admitted to it.

Feb. 17, 1953

Mr. E.H. Larson 25 Station Street Quincy 69, Mass.

Dear Mr. Larson:

The notes which you took on Professor Wiener's lectures in M451 are in Professor Wiener's office. Will you stop in soon and pick them up?

Thank you very much.

Sincerely yours,

Mrs. George Baldwin Secretary to Prof. Wiener

February 17, 1953

Miss Rita Reil International Press Alliance Corporation 235 East 45th Street New York 17, New York

Dear Miss Reil:

I am sorry that there has been such a delay in replying to your letter of January 8. The letter was mislaid, and it was just this morning that Professor Wiener asked me to reply to you for him.

Professor Wiener is unable, from the information you give him, to identify the article, "Is Man Here to Stay" by John O'Neill. Nor can he recall mentioning it in any article of his own. If you can give him fuller information, perhaps he can help you more.

Sincerely yours,

Mrs. George Baldwin Secretary to Prof. Wiener



THE DIOGENES CLUB

of New York

February 18, 1953.

Dr. Norbert Wiener Massachusetts Institute of Technology Cambridge 39, Mass.

Dear Dr. Wiener:

It is always very stimulating to receive a letter from you, especially with such an interesting viewpoint on the Dr. Challenger angle. I have also been fascinated by the thought that there exists in the oceans of the world the fossil fish, remnants of a long "lost world." That Doyle suspected their existence does not surprise me in the least. He had an almost unbelievable instinct and prophetic vision in many matters, e.g. prediction of the German submarine warfare to starve England, and his unswerving belief in the innocence of that poor chap who was falsely convicted of murder in Scotland. For these, and Sherlock Holmes, we can forgive him for shooting off on a tangent on Spiritualism.

But to get back to our book on Holmes: the idea of a pastiche in which Holmes and Dr. Challenger meet, appeals to me. But I am not yet prepared to say whether we could use a pastiche. Up to now we have rejected pastiches involving Holmes as one of the living characters, wherein the author copied the style of Doyle. I would prefer something from you in the form of a critical essay in which you can quote from the Canon all you please. My suggestion would be along the line of an essay on Dr. Moriarty, and how he came to go off the straight and narrow path of a mathematics professor to the ignominious road of crime. Perhaps he was chagrined when his pupil, Dr. Frank Morley, published his paper on the Analytic Function of a Complex Variable. Christopher Morley's brother Frank, who helped his father write his book on mathematics, seems to agree with me. Have you read Frank Morley's "My One Contribution to Chess"? It deals mostly with his experiences with his famous father and how they wrote their book. If you can't get a copy. I will try to get one for you.

I believe I once suggested that you glance thru Jay F. Christ's Irregular Index to Sherlock Holmes. As you do, you will see cross references to many subjects that would appeal to you; and all the pages of the stories are indicated. All time consuming research is thus eliminated. Ben Abramson (Argus Book Shop) Lake Mohegan, New York must have copies of it.

Office of the MYCROFT: Dr. Charles Goodman, 11 West 42nd Street, New York 18, N.Y.



THE DIOGENES CLUB

of New York

. 2 -

I have an appointment next week with a publisher and if we get a deadline I will let you know. At any rate I personally feel that such a book without your name in the table of contents would be a very sad one indeed. I may divide the book into sections for each scion society. Then the book could never go to press without you as a contributor from the Speckled Band.

I hope this little delightful chore won't take you away from more important work. But as Edgar Smith said in his introduction to the Franklin D. Roosevelt letters "A hobby is an escape from the world of realism to a world of fantasy from which returning, one comes back refreshed

With all my best wishes, I am

Sincerely yours.

to Godman

[and 3/25/53]

Charles Goodman D.D.S.

Office of the MYCROFT: Dr. Charles Goodman, 11 West 42nd Street, New York 18, N.Y.

MEMORANDUM

Conversation of Professors Mahalanobis, Martin, and Wiener, February 18, 1953.

Subject: Professor Mahalanobis' invitation to Professor Wiener to visit India.

Dates considered.

The period between December 20, 1953 and about October 1, 1954, was considered. This period is satisfactory to M.I.T. and to Dr. Mahalanobis. It would permit about 6-1/2 months of active work in India (Jan., Feb., Mar., 1/2 Apr., 1/2 July, Aug., and Sept.) and six weeks to two months of vacation (mid-April until mid-July). Most Indian universities are not in session between mid-April and mid-July, with the exact dates dependent on local climate conditions. Professor Wiener's time between mid-April and the end of April, and again between early July and mid-July could be utilized at those universities which are in session at that time, in locations whose climate was described as "more comfortable than Washington and Chicago in July and August."

Financial arrangements for travel and subsistence.

Dr. Mahalanobis states that money is available in India for the following uses:

1. Transportation (round trip by air) for Professor Wiener.

2. Full subsistence for Professor and Mrs. Wiener while in India. This provision would cover housing, food, day-today expenses (laundry, etc.), and hospitalization and medical care for both Professor and Mrs. Wiener.

Dr. Mahalanobis further states that money will probably be made available to cover Mrs. Wiener's transportation, since the visit will be of six months' duration. He will make inquires about this immediately after his return to India (about mid-March) and will be able to make a definite commitment about April 1.

Other financial arrangements.

Indian income tax law stipulates that anyone earning more than \$600 must pay income tax. Those of foreign nationality are taxed both on their earnings in India and on the earnings (capital, too?) elsewhere in the world. Under some conditions, Americans earning income abroad must pay an American income tax. Hence, to earn more than \$600 in India would probably require payment of a double income tax.

Dr. Mahalanobis felt that it was probably that he could pay Professor Wiener the tax-exempt \$600 (3000 rupees) and that he would be able to make a definite commitment on this matter about April 1.

Money which would be provided for Professor Wiener's expenses while he is in India will be tax-exempt. This matter should be verified, and the method of payment clarified to eliminate the possibility of embarrassment later on.

Dr. Mahalanobis suggests that the First Secretary of the Indian Embassy in Washington will be an appropriate erson to write to on tax matters if the information he is able to send from India is not clear.

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AMERICAN INSTITUTE OF PHYSICS

57 East 55 Street, New York 22, N. Y. • ELdorado 5-5850

February 19, 1953

Mrs. George B. Baldwin Secretary to Prof. Wiener Department of Mathematics Massachusetts Institute of Technology Cambridge 39, Mass.

Dear Mrs. Baldwin:

Thank you for your letter of February 17, enclosing an abstract for Dr. Wiener's article entitled "Optics and the Theory of Stochastic Processes".

Apparently I did not make myself clear concerning the notation difficulty. It was not the interpretation of the markings which bothered me but the fact that the printer does not have a boldface A with a tilden over it. It will therefore be necessary to make a substitution in the several places where they occur in order to avoid expensive hand work. I am enclosing a Style Manual of the American Institute of Physics in which a list of special characters available will be found, beginning on page 24.

I would appreciate hearing from you by return mail as the manuscript is already long past due at the printers.

Sincerely yours,

Rulto 7. Buyans

Ruth F. Bryans U Publication Manager

RFB-AW

Enclosure

cc. Dr. Wallace R. Brode

Fanz 2/24/53



ROCKEFELLER CENTER, 630 Fifth Avenue, New York 20 . CABLE ADDRESS Essandess . TELEPHONE Circle 5-6400

February 19, 1953

Dear Dr. Wiener:

I have just received the first bound copy of EX-PRODIGY, and your ten author's copies should be on their way to Massachusetts practically any minute now. I hope that you will agree that in its medallion-decorated jacket, it is a quite handsome book and well designed to catch the combination of intimate human interest and real dignity.

We have had 1,200 extra double-spread title pages printed, and I am sending them, along with a personal letter, to 1,200 college bookstores. Meantime, Miss Bourne has laid out a very attractive advertisement.

It is too early to predict confidently what the pre-publication sales are likely to be; but we feel, along with you, that the greatest interest will be shown in academic circles. Hence my letter to the bookstores.

We received a list of speaking engagements from your secretary, and our sales promotion department is planning to follow each of these up with the bookstore nearest the scene of action.

As ever,

Henry Simon

Dr. Norbert Wiener MIT Cambridge, Mass.

hws:lf

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A NON-PROFIT FOUNDATION DEDICATED TO THE CREATION OF A COOPERATIVE COMMONWEALTH

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February 19, 1953

Dr. Norbert Wiener Department of Mathematics Massachusetts Institute of Technology Cambridge 39, Mass.

Dear Dr. Wiener:

Thank you for your kind note of **Reb**ruary 9. I am sorry that you are not free to write the article for us at this time, and I do hope that you may find it possible to place it on your schedule in the not too distant future.

I have taken the liberty of placing your name on our subscription list. The issue of February 20 contains an article on automatism which includes a number of citations from "The Human Use of Human Beings."

Thanks again for your interest.

Very truly yours, Herman Singer

Associate Editor

February 19, 1953

Mr. William E. Jeney, Jr. Lecture Series Committee Rutgers University New Brunswick, New Jersey

Dear Mr. Jeney:

I have now determined the title of my lecture to you on March 9. I shall speak on the topic, "Causality and Information."

My wife and I are driving to New Brunswick on Monday from Bernardsville, N.J., and we will plan to come directly to the Faculty Dining Room of the University Commons in time for the 6:15 dinner there.

Since we judge that the lecture and question period will not be ended until quite late, I wonder if you will be kind enough to arrange for hotel accommodations for us for Monday night in New Brunwsick?

If any of these arrangements are difficult for you to make, do not hesitate to get in touch with me again. Let me say again how sorry I am that I could not accommodate you in your request for a change of date.

Sincerely yours,

Norbert Wiener

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D- When m. J 1. Feb 20- 53 Bostin many, Den Shr Have gen enaled the use of infra Red sound retaines i the making from affording to need aloud ? She un of the later 1 type of computer would reve to be helpful. Y Hy

125 Lexington Avenue New York 16, N. Y.

February 22, 1953

Professor Norbert Wiener Massachusetts Institute of Technology Boston, Massachusetts

My dear Professor Wiener:

Can you advise me if anything is being done along the lines of automatization of, specifically, food supermarkets. I write to you, of course, be-cause of the insight I received into this coming development through your The Human Use of Human Beings.

I realize that my question is too broadly stated, but what I am getting at is this:

Whenever I go into a supermarket (which, of course, is a great improvement "technicalwise" over oldfashioned grocery store) and see the traffic congestion occasioned by all those dear old ladies with their little hand carts, I wonder if it would not be a more human use of these human beings to simply let them push buttons and let the various articles be ass-embled, packaged, and delivered while she rests.

I realize there is nothing original in my idea. It is all implicition what you have described. But the point is: this is an immediate application, which need not wait for vastly complicated taping machines capable of running whole cities. Yet it is needed, and it's not being done, at least in any appreciable measure that I can see.

I'd like to prepare myelf for a job in such a project, but would like to become a minor specialist in it firgst. I would appreciate any ideas you care to send along.

Gratefully yours, Henry N. Baldwin Henry N. Baldwin

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STEPHEN B. MILES, JR.

BURBANK, CALIFORNIA

CHARLESTON 0-1762

BUSINESS COMMUNICATIONS

February 22, 1953

Dr. Norbert Wiener Department of Mathematics Cambridge 39, Massachusetts

Dear Dr. Wiener:

One of the most striking things in my experience is the much greater meaning some books take on with re-reading. It was so with "Human Use of Human Beings."

I read it the first time shortly after publication and after receiving your letter of April 25, 1950. During the intervening time, my experience has grown substantially, and upon re-reading it a little while ago I was amazed how so many, many passages had grown in importance!

In a number of cases I had become aware, in the time between the first and second reading, of the problems to which you were stating or suggesting the answers. Where the problem is not acutely realized it is hard to properly appreciate the answer. ... I would like to be able to formulate a general statement of how problems are realized. The process must be quite complex.

One of the passages that appeared most striking to me on second reading was the one in which you suggest that generalized changes in behavior-potentials may be due to substances in the blood rather than transmission through the nerves. You made the statement: "However, I have no evidence." Has any been accumulated since?

It would seem to me reasonable to suppose that the basic pattern of rhythm of the human organism is attributable to the circulation of the blood, and that it may be the blood (and the substances carried by it) that is responsible for the teleological integration of behavior. In a way, the function of the nervous system may be disruptive. I would like to have your comments on this point.

" aive .

's-Gravenhage, 23 February 1953

Prof. Norbert Wiener Department of Mathematics Massachusetts Institute of Technology Cambridge 39, Massachusetts

Dear Prof. Wiener:

Thank you very much for your letter of last October. Since then I have pushed my problem a good deal further, so that the ideas are now a bit more definitely formed. I took the liberty of sending you by sea post a memorandum which states the problem and indicates the proposed method of attack. The memorandum was sent some days ago, and it should arrive roughly the same time as this letter.

If you have the time to read the memorandum, and if you are interested in commenting on it, I shall be most grateful. Please do not regard it as a finished piece of work, however. It is but an interim report, and many of the ideas have not yet been thoroughly checked. Since the memorandum I have succeeded in showing that the A'-network does indeed equal the A"-network in the special case in which Gaussian noise is passed through a nonlinear device without energy storage.

The theory of nonlinear apparatus to which you refer in your letter sounds like the method which Singleton attributes to you (R.L.E. Technical Report No. 160) in reference to a seminar in nonlinear networks given at the Research Laboratory of Electronics in February 1949. Are they indeed the same, and is there any printed material obtainable from this seminar?

My almost complete ignorance of practical electronics deters me from attempting a thesis which requires, to quote from your letter, "a better technique of electrical signal multipliers than we possess at present." I am keeping my eyes open, though, as you suggest, and in the meantime am working ahead on the material described in the memo.

Sincerely yours,

Barce B. Barrow

(ans 3/25/55)

uce B. Barrow

MEMO RANDUM

TO: Prof. Ir J. L. van Soest FROM: B. B. Barrow DATE: 13 January 1953 SUBJECT: Statement of Research Problem and Preliminary Plan of Attack

1.0 The Problem

The first suggestions and early formulation of this proposed research problem came from Ir J. N. L. Janssen of Koninklijke Shell. His question was roughly this: What can we learn about the characteristics of a "black box" by examining the random process input(s) and output(s)? This question has been answered quite completely for linear networks, but not too much is yet known about the very practical case in which the "black box" is nonlinear. Dr. H. E. Singleton has done some interesting work (R.L.E. Technical Report 160). laying a reasonable foundation of definitions and then considering a mumber of problems largely concerned with pulse circuitry.

Pulse circuits. however, might be termed "very nonlinear" when compared, for instance, with conventional RLC networks in which the inductors saturate during a small portion of the time under normal use conditions. No practical physical network is precisely linear, but because the analysis and synthesis of linear systems is well understood and simple. When compared to the complexities of general nonlinear analysis, it is standard technique for the engineer to assume linearity wherever possible. This assumption has been pushed surprisingly far, and those systems for which it is valid might be loosely called "slightly nonlinear" or "quasi-linear" systems.

In engineering practice. of course, there are no linear systems, which is to say that no buildable circuit is precisely described by a linear mathematical model. For some electrical networks the linear model so closely describes the physical behavior that inaccuracies are truly negligible. For much control systems work the inaccuracies are gross; but there is heuristic value in working with Ward-Leonard systems and with hydraulic systems, for instance, as if they were linear. The chemical process control engineer is beginning to examine elements of the ehemical plant in linear terms, and it was precisely this sort of quasi-linear system of which Janssen was thinking.

With this background it is possible to state the problem a little more clearly. We are given a "black box" which we believe to be quasi-linear; that is to say, we believe a linear approximation to the black box exists and is of some value in the solution of an engineering problem. By studying the random process inputs and outputs we would like to answer such questions as these: What is the best linear approximation? How nonlinear is the system? Is there any noise being generated within the system?

In general it is to be assumed that we have no control over inputs to the system, for one of the strong values of the statistical communication theory is that it permits the determination of the transfer function from the random processes encountered in actual operation. Where one can insert test signals at will it would seem easiest to take the conventional sinusoidal response test. There is a possible advantage, however, in studying the quasi-linear system under random input. If an experiment is to be performed to determine a "best linear approximation," it would seem wiser to make that approximation using a random input of the type the system will receive in practice than to make a sinusoidal test and to ignore somehow or other the distortion produced by the nonlinearity.

1.1 Restrictions to be Assumed

Let it be assumed that the output of the quasi-linear system depends only upon a finite portion of the immediate past of the input. Further, let the input be limited in bandwidth, so that the input history of interest at any moment is contained in a finite, ordered set of numbers (2TW of them, the well known result from information theory). For each permissible input, let the output be uniquely determined, so that the output is a function of the 2TW numbers which describe the input. Thus we have what Singleton calls an invariant transducer. The quasi-linear systems generally met in control systems practice satisfy these assumptions, and so the practical problem is not really restricted.

For a first attack, however, we shall further wish to assume that there is only one input and one output to be considered. Thus we do not permit the possibility of having noise generated insude the "black box." This is a real limitation, for simple superposition of inputs is not valid in the consideration of non-linear systems, and later we shall wish to consider multi-input, quasilinear systems. In the analysis of linear systems, incidentally, the question of extraneous noise is easily answered, for extraneous additive noise has precisely the same effect as an additional input, and to say that there is noise generated "inside the black box" is to postulate the existence of an additional input which can not be isolated. Whether or not such a signal exists can usually be determined by calculating the transfer function of the linear network first from

 $\mathbf{\Phi}_{yy}(\mathbf{f}) = |\mathbf{H}(\mathbf{f})|^2 \mathbf{\Phi}_{yx}(\mathbf{f})$

1.101

and then from

$$F_{xy}(f) = H(f) \Phi_{xx}(f).$$
 1.102

If the results are inconsistent, there is "extraneous noise," and the converse is generally true. For the quasi-linear system results ere not so simple, because in the first place, no extraneous signal will be strictly additive in its effect at the output. But to keep the problem uncluttered in the beginning, we restrict ourselves to one input and one output.

Another practical limitation comes in the use of statistical functions. We must keep in mind that we're not likely to be doing any experimenting with anything more complicated than the simple auto- and cross-correlation functions.

1.2 The Optimum Linear Approximating Network

The first step in this study of the quasi-linear network would seem to be the precise definition of the optimum linear approximating network (hereafter abbreviated "A-network"). Such a network is, after all, an end result in itself, for the A-network is desired to replace the quasi-linear network in system analysis and synthesis. In addition, the A-network provides a logical quantitative definition of the amount of nonlinearity present in the quasilinear system. Let the quasi-linear system be compared with its A-network as below.



Then the nonlinearity can be defined in terms of the power in e(t) compared, for instance. to the power in y(t), or to the power in $y_A(t)$, if there is some precise and unique way of defining the A-network. Experimental work, and application in engineering practice, should provide the control systems engineer with a feel for

3

the physical significance of this quantitative definition of nonlinearity. That is to say, that with experience an engineer ought to be able to predict that, for instance, a 20% nonlinear network, i.e. one in which

 $\frac{e^2(t)}{y^2(t)} = 0.20$

can probably be treated as a linear network for purposes of feedback compensation, whereas a 40% nonlinear network, for instance, should be handled as a special nonlinear problem. There is nothing crude about this sort of thinking, for engineering practice, especially in new fields, always depends on such criteria applied with the judgment that comes from experience. In control systems practice particularly, the feedback loop is always closed around a more or less distant relative of the mathematical model, and the design engineer can not ask for much more than understanding guidance from the theoretician.

There is some crudity, perhaps, in that the above quantitative definition does nothing to indicate the type of nonlinearity present, whatever that means. For this sort of speculation the correlation functions of e(t) should provide a guide, after the engineer has learned enough to ask meaningful questions about the quality of the nonlinearity.

1.21 The Least R.M.S. A-network

There appear to be at least two ways of approaching the precise definition of the A-network. The first of these is merely to develop that linear network which makes the power in e(t) a minimum. This is a least mean square error criterion, and we call the particular approximating network which satisfies this criterion an A'-network. It is not difficult to indicate intuitively that at least one A'-network exists for a given problem. A linear network is described by the following input-output relation

 $y(t) = \sum_{n=0}^{N-1} A_n x(t-np),$ 1.211

where the N values of the input x(t) are the finite ordered set of numbers assumed in section 1.1 to describe the input. At any given time this set of numbers determines a point in multi-dimensional N-space, and the output y(t) is given by the projection of this point onto a line in N-space whose direction cosines are given by the coefficients A_n .

1.202

Thus the series of points in N-space such that

$$y(t) = a constant$$

form a hyperplane, and the series of hyperplanes corresponding to

$$y(t) = 1, 2, 3, ...$$

are parallel and equally spaced. This geometrical interpretation contains the necessary and sufficient conditions that the network be linear.

For the quasi-linear network, however, the series of surfaces denoted by

$$y(t) = 1, 2, 3, ...$$

will not be parallel equally spaced hyperplanes. The development of the A'-network fits to these surfaces the best set of parallel equidistant hyperplanes, using the statistical average of the square of the error as a criterion. (Statistical average, because each point in N-space is weighted by the probability that the corresponding input occur.) This geometric argument seems to indicate the existence of an A'-network, but of course, the postulate remains to be proved.

It should be noted that the A-network, however it is determined, will depend not only upon the quasi-linear network, but also upon the form of the input x(t). This, of course, is to be expected in the study of systems in which superposition does not hold.

1.22 The Least Correlation A-network

The A4network has the disadvantage that there seems to be no practical experimental method for its determination. We can, however, define another network, the A"-network, by applying the relationship

$$\Phi_{xy}(f) = H(f) \Phi_{xx}$$
 1.102

just as if the quasi-linear network were linear, and then building the A"-network with the H(f) so determined. In practice equation 1.102 will specify a gain and phase characteristic for H(f) over a finite frequency band only, and in theory the corresponding A"-network can be built. If this network is put into figure 1.201, we obtain a situation in which

$$\Psi_{xy_A}(\tau) = \Psi_{xy}(\tau).$$
 1.22]

Since

$$e(t) = y(t) - y_A(t),$$

$$\varphi_{\mathrm{xe}}(\boldsymbol{\tau}) = \varphi_{\mathrm{xy}}(\boldsymbol{\tau}) - \varphi_{\mathrm{xyA}}(\boldsymbol{\tau}) = 0.$$

This result is most interesting, for it indicates directly an experimental criterion for the construction of an A-network. The A-network actually built can never be precisely the A"-network desired. so that $\P_{xe}(\tau)$ will not be identically zero in practice. Then e(t) is made up of a "removable portion" that could be reduced by building a better A-network, and an "irremovable portion" which results from the comparison of a quesi-linear network with the A-network.

1.222

An important possibility, which I present as a postulate for further study, is that the A"-network and the A'-network are the same. This speculation, while perhaps bold, is not idle. The A'-network uses a criterion which is well established, but there is no obvious and simple way to build an A'-network. There should, it seems, be a way to apply the least mean square error criterion without using anything more than correlation functions, and if the A"-network is not the answer, then maybe a study of the postulate above will nevertheless point the way.

1.3 For Immediate Study

The first important question to be examined is the possible relationship between the A'-network and the A"-network. Perhaps it would be worth a little time to look for a counterexample among those nonlinear problems which have already been solved. The more optimistic approach would be to examine immediately the general properties of the quasi-linear network in order to develop a proof. The nonlinear system is described by a series much more general than that of 1.211, a series which combines all possible powers of the Statistical study demands higher order correlation functions, and these just can't be obtained practically. It may, however, be quite reasonable to use them in the proof of theorems.

1 Hunters Lane Feb 23, 1953

President Killian, M.I.T.

Dear Sir: Re:"Project East Hiver"

This is to congratulate you on the participation of our Institute in the above survey. You may recall that I expressed an interest in such a survey at the Class of 1926 Reunion at Groton a couple of years ago. The subject seemed to be so big, and an individual's contributions too insignificant for notice, so I didn't write you, as you invited me to do.

Although I have not yet seen the report, 1 am assuming that there is quite a gap between the theory that cities should be decentralized and the practical execution of any such plan. I have been trying to study how such action would work out locally. The local home owners and merchants seem to have a strangle hold on the zoning boards, and the latter seem to have full authority as to who does what with new construction. All parties are temorous about industrial "encroachment" with the worries about melodorous fumes and undesireable personnel, and they are justifledly concerned about providing school facilities for new arrivals. For instance, a mere addition to an elementary school, with the frills of gymnasium and special-study rooms, now costs almost a million dollars.

It is the closing of this analytical and financial gap between theory and real reduction of vulnerability which may constitute the greatest gain in society during the next decade.

I have written President Disennower that the clearing of land for better through highways should be made a matter for patriotic effort; that new legal principles should be established, to the effect that the State has always has a natural right to all rightsof-way needed for optimum safety, and that eneroachments must be dissolved with minimum expense both to the State and to the parties using the land. (Due credit was given Dr. Weiner and W.I.T. for your previous publications and by-the-way I contributed analogous ideas to the N.Y.State civilian defense and to the national authorities as early as July 1950).

If I can help let me know. Will any of these ideas be included in the Special Summer Program course on City and Regional Planning by Prof. Louis B. Wetmore?

6

	Privat Fast River	Respectivily		
dc	Dr. Wiener & Associates	P.U. Carlisle	VI-C	192

DIRECTOR OF ARCHIVES: JACOB R. MARCUS, PH. D. Adolph S. Ochs Professor of Jewish History, Hebrew Union College-Jewish Institute of Religion

IEWISH ARCHIVES AMERICAN

ARCHIVIST: SELMA STERN-TAEUBLER, PH. D.

CLIFTON AVENUE · CINCINNATI 20, OHIO

February 24, 1953

Professor Norbert Wiener Massachusetts Institute of Technology Cambridge, Massachusetts

Dear Professor Wiener:

I understand from some mutual friends that you are writing your autobiography.

I have also been told that the earlier chapters will deal with your father and the nature of his work.

We here, at the American Jewish Archives, publish a scientific magazine, a copy of which is enclosed. It will give you some idea of the type of thing that we do.

If you are writing such a biography and have the material which I have described, we would very much like to see the material with a view to possible publication. OUnfortunately, we are not in a position to pay honoraria, but we do supply extra copies of the magazine for our writers.

I would be delighted to hear from you.

With all good wishes, I am,

Very cordially yours,

Jan Rungers Jacob R. Marcus

JRM:SG * OF the first chapter or two .



Three Hundredth Anniversary of Jewish Settlement in America [ans 3/25/53] C 12



ROCKEFELLER CENTER, 630 Fifth Avenue, New York 20 . TELEPHONE Circle 5-6400

February 24, 1953

Dear Dr. Wiener:

Here is a copy of our first pre-publication ad, scheduled for the next issue of <u>Publishers</u>' Weekly.

Cordially,

Henry Simon

Dr. Norbert Wiener MIT Cambridge, Mass.

hws:lf



About a great writer, a great pro, an ex-prodigy, a happy marriage, and the good earth.

F Here are some Essandess spring books which we think have the good old lapel quality. Each will make a large number of readers (1) stop (2) read, and (3) do what we are about to do-tell their friends.

a great writer

One of the most exciting publishing adventures in which Simon and Schuster has ever been involved is the case of Nikos Kazantzakis. As of this spring his name is likely to be as familiar, important (and inevitably mispronounced: emphasis should be on



-a

the 3rd syllable) in America as it now is throughout Europe. Abroad, Albert Schweitzer and Thomas Mann have paid tribute and homage to him. Recently the Norwegians nominated for the Nobel Prize

in Literature not one of their own nationals but leading Greek man of letters, wordless and breathless.) Nikos Kazantzakis.

A long term publishing arrangement with Nikos Kazantzakis has just been concluded. The first of his novels, It is the nature of a trade publisher's list ZORBA THE GREEK (April 15th, that, scarcely stopping for breath, it goes

price \$3.50), has already received ecstatic reviews from the normally reserved British critics:

Even the conservative Times Literary Supplement called Zorba "one of the great characters in modern fiction."

- The revered Manchester Guardian melted "under the spell of Zorba's tongue and his wonderful impromptu delinquencies."
- The Observer's distinguished and usually restrained critic said, "I enjoyed it so much that I wish I could define it; not being a Greek, I have no word for it."

Reading copies will go out to booksellers shortly. Please watch for yours. (Note: the translation of Mr. Kazantzakis' next novel, The Greek Passion, is about to come in and our high anticipation leaves us, like the London Observer,

a great pro

from a literary event to a note about how many strokes off any golfer's game as to play golf. All we can say to make the the famous in-person lessons. transition easier is, in a word, "Fore!"

and who should write it?

moment four golfers ranging from a de- It is in book form for the first time. pendable 89 to a hopeful 98. As one man they answered: Tommy Armour. All The Time at \$2.95 will be an in-If we could get him.

We got him.

friends will tell you) are the talk of the color jacket. sports world. He is Mr. Golf Pro – a Scotsman, of course, and winner of just about every major championship in cluding the U.S. Open and British Open.

He is the one teacher that every duffer in America would go to if he could afford it. It being round trip fare to Florida, plus hotel, plus the \$50 a lesson that the master charges for sitting comfortably under a big garden umbrella on the practice tee of the fabulous Boca Raton Club, and saying a few simple and golfwise-magical words to the student who stands in the broiling sun demonstrating his stroke.



It follows the basic Armour method About a year ago at a promotion of instruction: simplicity. No confusing meeting, one of our salesmen said it was details to black out in the middle of a about time to publish a new golf book, swing. Armour shows his pupils how to save strokes by using their brains. His There happened to be present at that method is unique, effective, expensive. Buying How To Play Your Best Golf vestment that you can wholeheartedly recommend to your customers. Coming Armour's lessons (as your golfing in March for immediate release. Four-

an ex-prodigy

On March 26 we're publishing a book that is being looked forward to not only by people but, we should imagine, by some of America's most prominent and distinguished thinking machines and robots-since it is by and about the man but for whom Univac might never have been able to give us the election returns over television: Norbert Wiener of the Massachusetts Institute of Technology, the world-renowned originator of Cybernetics*. Forty-five years ago, he

* Dr. Wiener was asked to give a Poor Man's Definition of Cybernetics, with a forinstance. Here it is: Cybernetics is the study of organizing and controlling the sending of messages in both the human brain and the machine. (Note: a message-sending machine, such as the telephone system of a large city, can be overtaxed with extra responsibilities it is unused to, and thus develop a ''nervous breakdown'' similar to an overtaxed publisher's. Data on machines can help human brains and vice versa.)

was equally famous as what might now be called a supertot. **EX-PRODIGY**, by Norbert Wiener, (\$3.95), tells first professor of Slavonic languages) deliberately set out to develop him into a genius; how he got along with his schoolfellows; how he made peace with himself.

who have child prodigies among their charge accounts (or at home) we have tra well with it by virtue of the esteem compiled a partial list of the books that Norbert Wiener read at various ages:

Age 31/2: Mother read him Kipling's Jungle Book. He read Wood's Natural History himself.

Age 41/2: Arabian Nights, Alice in Wonderland.

Age 7 (see picture in locket) : Treasure Island, scientific works by Thomas Henry Huxley. Started algebra and learned the truth about Santa Claus.

Age 9: Black Beauty, Cicero in Latin, Janet (Freud's predecessor) on psychiatry. A year later he wrote and delivered an oration on The Theory of Ignorance.

Age 11: Iliad in Greek, Heine in German, Horatio Alger in English.

Age 58: Favorite current reading includes Simenon, Dorothy Sayers, J. B. S. Haldane, C. J. Darwin, Max Beerbohm, Edmund Gosse's Father and Son.

a happy marriage

scheduled for April: the story of a wonderful marriage and two distinguished careers. The **TWO LIVES** of its title are love with their work) long

(1) Lucy Sprague Mitchell, the famous educator and author whose writings on educational subjects are basic in their what it felt like to be a Wunderkind in field, and whose Here and Now Story New England, an 11-year-old Freshman Book revolutionized children's literaat Tufts, a Harvard graduate student at ture and is the ancestor of every Little 14; how his brilliant father (Harvard's Golden that deals with the child's own world, and (2) her late husband Wesley Clair Mitchell, dean of American economists.

Readers in search of a genuine, moving love story which really turned out As a special service to booksellers happily ever after will find it in Two Lives. College bookstores should do exand affection in which the protagonists are held in academic circles. Illustrated with photographs. Coming April 17th. \$5

the good earth

Next is a book we particularly recommend to every bookseller who - while checking inventory, seeing a salesman, and at the same time helping a customer find something suitable for a 14-year-old numismatist-has ever dreamt of tossing up the whole thing for a quiet life in the country.

MY LIFE ON EARTH by Edward

Harris Heth is the true story of a suc-

cessful, hurried, tense city man who was sent by his doctor, figuratively kicking and screaming, back to the sticks.

In the Wisconsin hills Another unusual autobiography is the author found the serenity that so many of us (even those who are in

for. His report back to the folks he left behind in the city is as flavorsome as a country spice chest. The reader unwinds, the gritted teeth ungrit, as Mr. Heth evokes the changing seasons, and the slow flowering of friendships in the country where you not only Meet Such Interesting People but have time to get to know them. People like the maiden Litten sisters who live down the road and have a disturbing habit of bidding grand slams in Canasta - and making them.

The book also contains a cocker who, according to Simon and Schuster's staff dog expert (a tense, successful city man who currently owns 1 golden retriever,

1 Irish terrier, 1 beagle, and 1 mixed dog) is a standout among book dogs.

My Life On Earth may remind booksellers who remember as far back as 1938 of Bertha Damon's

Grandma Called It Carnal. It has the kind of freshness and humor and real feeling for the country that made Grandma successful. And it has some entrancing pictures by Edwin Schmidt. Coming April 30th. \$4

Prediction: If you read chapter 8 you, too, will have a dill crock in your kitchen before the year's end.



SIMON AND SCHUSTER PUBLISHERS Rockefeller Center, New York

3 perennials brought up-to-date for Spring 1953

1. AN INFORMAL GUIDE TO PUBLIC SPEAKING by William Freeman

In 1941 the New York Herald Tribune "At least eight feet of shelf said: space can be saved by throwing out the professional manuals on the art of public speaking and installing this informal, solid, and sprightly guide." We have now completely revised and then retitled Hear, Hear (published in 1941), leaving in, of course, Gluyas Williams' wonderful pictures. (Aside to Washington booksellers: sell it to new Washingtonians who haven't done any public speaking in 20 years.) March 16th. \$2.95

2. THE PLEASURES **OF PHILOSOPHY** by Will Durant

Ever since Mansions of Philosophy (originally published in 1929, remember?) went out of print some ten years ago, we have received persistent, sometimes even clamorous, requests for its republication. Here it is, a revised edition of the book Dr. Durant has described as "an attempt at a consistent philosophy of life." March 30th. \$5

And this might be a good time to check your stock on Will Duran's full Story of Civilization Series—The Age of Faith, Cae-sar and Christ, The Life of Greece, and Out Oriental Heritage, to put them in historical perspective and reverse chronological order.

3. THE VICTOR BOOK OF OPERAS by Louis Biancolli and Robert Bagar

Amahl and the Night Visitors, The Consul, and 6 other important operas appear for the first time in this third revised edition of what is probably the hardiest of all music best-sellers. Also for the first time: a detailed listing of all the 331/3 and 45 RPM opera records on RCA Victor's list. April. \$5

OK? > Plus MASSACHUSETTS INSTITUTE OF TECHNOLOGY j110w Memo to 2. Ky Room ert machin intar real addi Flerwards ? 6-N IC D 12 Room 7-52-250M MURAN 833478

February 24, 1953

Miss Ruth F. Bryans, Publication Manager American Institute of Physics 57 East 55th Street New York 22, New York

Dear Miss Bryans:

Please accept my apology for further inconvenience about Dr. Wiener's manuscript.

Thank you for sending along your style manual. I shall return it with this letter. With reference to the problem of notation, here is a substitution suggested by Dr. Wiener's assistant: For A put A⁺, i.e. where tilde and asterisk appear in the manuscript, use a dagger superscript.

I hope this will take care of the problem.

Sincerely yours,

Mrs. George Baldwin Secretary to Prof. Wiener

hb

<u>Title</u> of Professor Wiener's talk to Seminar on Computing Machine Methods, February 24, 1953:

The Nature of Programming.

Abstract:

The advantage of the high speed computing machine over the human computer lies not primarily in the complexity of the tasks which the computer can carry out -- for the computer is a much less complicated instrument than the human brain -- but in the speed with which it can carry out its tasks. This made it obvious from the beginning that computing machines would have to be used in a manner forbidding any human operations on the data while the machine was in action. That is, the programming of the machine must be done at high speed, and the machine becomes not only a numberical machine working with digits 1 and 0, but a logical machine working with affirmations and denials. This aspect of the machine as a logical machine is what has made it available for other programming processes than those of computation, and is what in fact made it clear at the very start of the programming of high speed computing machines that they must lead necessarily to the automatic factory.

To Prof. Rubinow, Feb. 13, 1953.

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

SEMINAR ON

COMPUTING MACHINE METHODS

Tuesday afternoon, February 24 at 4 P. M.

Room 4-231

All Interested Persons Welcome

Title: The Nature Of Programming

Speaker: Professor Norbert Wiener

Abstract

The advantage of the high speed computing machine over the human computer lies not primarily in the complexity of the tasks which the computer can carry out -for the computer is a much less complicated instrument than the human brain--but in the speed with which it can carry out its tasks. This made it obvious from the beginning that computing machines would have to be used in a manner forbidding any human operations on the data while the machine was in action. That is, the programming of the machine must be done at high speed, and the machine becomes not only a numerical machine working with digits 1 and 0, but a logical machine working with affirmations and denials. This aspect of the machine as a logical machine is what has made it available for other programming processes than those of computation, and is what in fact made it clear at the very start of the programming of high speed computing machines that they must lead necessarily to the automatic factory.

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

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SEMINAR ON

Sourt

COMPUTING MACHINE METHODS

Tuesday afternoon, February 17 at 4 P. M.

Room 4-231

All Interested Persons Welcome

Title: Operations Research

Speaker: Professor Philip M. Morse

Abstract

Operations Research is the application of methodology of physical science to problems of management of large scale operations, industrial, governmental or military. Machine computation has been used in many of these problems in the gathering of data and in the solution of the problem. Examples will be given. LAWRENCE S. KUBIE, M. D. 7½ EAST BIST STREET NEW YORK 28, N. Y.

BUTTERFIELD 8-5230

February 25, 1953

Dr. Norbert Wiener Massachusetts Institute of Technology Cambridge, Massachusetts

Dear Wiener:

I enclose a copy of a note to Stevens; and presently I will send you a few reprints on the chance that you may have further interest in the topic.

Cordially,

Currence S. Kubi

Lawrence S. Kubie, M.D.

LSK:elw Enclosure For Dr. Norbert Wiener From L. S. Kubie, M.D. Date Feb. 25, 1953

6-01

February 25, 1953

Professor Stanley S. Stevens 10 Forest Street Cambridge, Massachusetts

My dear Professor Stevens:

I am sorry that in the hubbub at the end of the meeting on February 16, I failed to say goodbye to you and to the others, and also failed to thank you personally for your hospitality at dinner.

I enjoyed the frank give-and-take, although at times I felt a bit like Robin Hood or Friar Tuck. As my remarks indicated, my only real regret was that so much of the discussion was on so elementary a level. I do not like to think of this as an index of the maturity of the critique to which Harvard undergraduates (and even graduate students) are exposed. Our discussion never got beyond the correction of quite naive misconceptions, and never brought mature consideration to the real issue: to wit, where each psychological discipline has difficulties in measuring up to minimal scientific standards, and where and how it might be helped by the techniques of the others. A discussion on what each discipline could contribute to the scientific techniques of the other would make a less entertaining cat and dog fight; but as you may have gathered from my irritation at academic humor (God save the mark) I am not impressed either by public caterwauling nor by wisecracking as devices to seduer the immature mind instead of informing it. Perhaps some day someone will hold a quite different type of panel discussion, which would fall naturally into two parts. As I indicated above, it would involve first a clear exposition of how the procedures peculiar to each discipline meet and fail to meet scientific standards; and second, ways in which each discipline could help the other.

If you have further interest in this topic, you may find that in addition to the Hixon Fund Lectures there may be something of value in the group of lectures on the position of psychoanalysis among the sciences which will appear soon in a volume celebrating the 20th Anniversary of the founding of the Chicago Psychoanalytic Institute. My own talk on the sixteenth was in essence little more than a headlong summary of the chapter headings of my contribution to that symposium. I will presently send you a few relevant reprints, with my cordial greetings.

Again my thanks.

INDUSTRIAL COLLEGE OF THE ARMED FORCES OFFICE OF THE COMMANDANT WASHINGTON, D. C.

RESTRICTED

SAOIC 201

Dear Dr. Wiener:

There is inclosed for your review the transcript of your recent lecture given at the College. It will be appreciated if you will make such changes and corrections as you may deem desirable, and return the edited lecture to us at your earliest convenience.

If you have no objections, we would like to have the lecture reproduced, in order that our student body may have copies for reference reading and to provide interested Defense agencies with a limited number of copies.

Your visit to the College was of great value to both the faculty and students.

Sincerely yours,

[aus=/4/53]

2 Incl

1. Transcript (L53-94)

2. Envelope

For. L. J. GREELEY Brigadier General, USA Deputy Commandant

Dr. Norbert Wiener Massachusetts Institute of Technology Cambridge 39, Massachusetts SAOIC 201

FEB 2 5 1959

Dear Dr. Wiener:

There is inclosed for your review the transcript of your recent lecture given at the College. It will be appreciated if you will make such changes and corrections as you may deem desirable, and return the edited lecture to us at your earliest convenience.

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RESTRICTED

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Your visit to the College was of great value to both the faculty and students.

Sincerely yours,

2 Incl

1. Transcript (L53-94) 2. Envelope L. J. GREELEY Brigadier General, USA Deputy Commandant

Dr. Norbert Wiener Massachusetts Institute of Technology Cambridge 39, Massachusetts

RUTGERS UNIVERSITY The State University of New Jersey

February 25, 1953

NEW BRUNSWICK, NEW JERSEY

DEAN OF MEN

Dr. Norbert Wiener Massachusetts Institute of Technology Department of Mathematics Cambridge 39, Massachusetts

Dear Dr. Wiener:

We are very grateful to you for your cooperation with regards to our March 9th date and have scheduled your lecture for Kirkpatrick Chapel at 4:15 p.m. In several respects this new hour may be fortunate as it will also afford an opportunity to many of our commuting students to hear you.

I am looking forward to meeting you on March 9th.

Sincerely yours,

Howard J. Crosby Assistant Dean of Men

HJC:IR

SIMON AND SCHUSTER, INC. publishers

ROCKEFELLER CENTER, 630 Fifth Avenue, New York 20 . CABLE ADDRESS Essandess . TELEPHONE Circle 5-6400

February 25, 1953

Dear Dr. Wiener:

This letter comes to you from Henry Simon's brother. I met you for a moment or two in Max Schuster's office the day you talked with Victor Gollancz.

And now I want to tell you that I finally had a chance to start <u>Ex-Prodigy</u>. At the moment, I am onequarter of the way through the book and I must tell you how completely delighted I am with what you have written. It is not only a good book and a readable one, but, equally, it is an important book.

A few nights ago I saw Sloan Wilson who told me what a splendid time he had with you when he was in Boston. He gave me an account of his publishing experience with his story. It's a pity, of course, that LIFE didn't see it his way, but it is good to know that a story about you is now in the safe hands of Norman Cousins and "The Saturday Review".

Congratulations again on a fine job!

Sincerely yours,

Richard L. Simon

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

BURDEN NEUROLOGICAL INSTITUTE.

TELEPHONE: FISHPONDS 53221.

STOKE LANE, STAPLETON,

BRISTOL.

Professor Norbert Wiener, Instituto de Cardiologia, Avenida Cauhtemoc No. 300, MEXICO, D.F. S. America.

25th February 1953.

Dear Norbert,

I see from McCulloch's chairman's address to the final Macy Conference that you are "happily immersed in the clear and serene domain of relativity." I hope this does not mean that you have rotated yourself entirely out of our phase space since I am hoping very much to be able to see you in April when I plan to come to the States for the final Cybernetics Conference. I am writing immediately in the hope that you will be in Boston at the end of April, and not too inaccessible from Flatland.

I have just come back from London where I was deputising for you in addressing the Institute of Education on Social Implications of Cybernetics. If your ears burned on Wednesday last, that was the source of the irritation.

All good wishes.

Yours.

Greyballe.

February 25, 1953

Professor Benjamin Harrow Department of Chemistry The City College Convent Avenue and 139th Street New York 31, New York

Dear Professor Harrow:

Professor Wiener has asked me to explain to you that the pressure of his work during the past two weeks has been so heavy that he has not hadnan opportunity to answer your letter, and he regrets that the delay made it necessary for you to telephone this afternoon.

The title of Professor Wiener's talk at City College on April 9 will be, "From the Computing Machine to the Automatic Factory." He has begun the preparation of a summary of the talk, and you may expect to receive it by early next week.

Sincerely yours,

Mrs. George Baldwin Secretary to Prof. Wiener

hb

February 25, 1953

Mr. William E. Jeney, Jr. Lecture Series Committee Rutgers University New Brunswick, New Jersey

Dear Mr. Jeney:

I must apologize to you at the outset: your letter to me at the end of last week has been mislaid, and I dare not trust my memory of its contents as the basis for my plans for my Rutgers trip.

My recollection is that the hour of my lecture has been changed, from 8:00 p.m. to 4:00 p.m. If this is true, hotel accommodations will not be necessary for Monday night, March 9. But I should like to know whether you will expect me for dinner.

I should like to hear from you again as soon as possible, and I regret that I must trouble you for another letter.

Sincerely yours,

Norbert Wiener

hb
February 25, 1953

Mr. Henry Simon Simon and Schuster, Inc. 630 Fifth Avenue New York 20, New York

Dear Mr. Simon:

Your letter and the book are at hand. I want to thank you and congratulate you on the book in all respects, typography, binding, cover, front and back material, and blurb. You have handled the book with discretion and dignity, and I feel very proud to have had the book come out under your auspices.

I agree with you very definitely that the main market will be among academic people, although I think it will slop over considerably into other groups. Wherever I have given talks recently, I have mentioned the book and found that many auditors have signified their intention to buy it. I like your project of approaching academic book stores, although I hope and believe that you will not confine yourselves to that market. My secretary has furnished you with a list of my lectures for the rest of the academic year. We should not forget, either, two summer schools which I will be teaching this summer, and which might be very good times to see that the stores at Harvard and Tech are sufficiently stocked.

It begins to look likely that some time around next Christmas I shall go to India for ten months. The matter is not yet certain enough to play it up in the publicity; but the invitation is a direct one from the Indian Science Congress, and when it comes through in hard dollars and cents I shall let you know. There will be a limited market for the book in India, which will not compare, of course, with the book's market here.

You know that I have spread a little ground bait around for possible translator nibbles in France, Germany, and Japan, and I should be interested in being kept informed of how they are proceeding. My wife has been reading the "Epistle to Timothy." She likes it very much, although she senses in it a certain preciosity for which she does not altogether care. I think it is rather interesting that you have published in such short succession two very different books giving different aspects of the problem of the transitional milieu of the Jew.

With best regards from my wife and me,

Sincerely yours,

Norbert Wiener

hb

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

February 26, 19 53

Room

Room 2-155 Professor Norbert Wiener Memo to You may recall the day we talked about what might happen if a polymer were formed in a strong field. I believe that the result would be something like an "electret". However, I think the possibilities may be considerably greater. The "electret" is formed by cooling a wax in a field and the possibility of causing an orientation then can come only in the fully formed molecule. Whereas, the possibility of setting up some sort of a pattern in the molecule as it forms might give rise to arrangements of chain molecules with crisscross connections or special shapes even though the molecular weight stays the same. I am exploring with the Research Division at Wilmington in the hope that something may lie here that will further the micro-instrument field. Thanks for the suggestion.

D. P. Campbell

......

MURAN BOSTON

THE OHIO STATE UNIVERSITY

To whom ?

HOWARD L. BEVIS, President
COLUMBUS 10

J. MILO ANDERSON Administrator

THE MEDICAL CENTER CHARLES A. DOAN, M.D. Medical Director RICHARD L. MEILING, M.D. Associate Medical Director

February 26, 1953

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

Dear Sir:

Through discussions with a friend who is mostly interested in nuclear physics and engineering, I have learned that some of your work || with Dr. Rosenblueth of Mexico may have application to improving efficiency and safety of patients under anesthesia.

Your work with cybernetic controls might very possibly have important practical application to improving the safety of patients during operation. For this reason I would greatly appreciate your sending me not only your own reprint but any references you might have on file with regard to anesthesiologic applications of this type of work.

Sincerely. Lac

May Jacoby, M.D. Director of Anesthesia

JJ:rl

[ans 3/24/53]

February 26, 1953

Professor Alex Bavelas 54-254A

Dear Professor Bavelas:

Professor Wiener and Professor Lee (of the Dept. of Electrical Engineering) are to give a course on "Mathematical Problems of Communication Theory" during July at M.I.T. An announcement of the course is enclosed.

The Summer Session office is trying to draw up a mailing list for the course which will be as inclusive as possible, and it occurs to Professor Wiener that you may know some psychologists who would be interested in receiving an announcement of the course. If you do, would you ask your secretary to send their names to me, and I shall then pass them along to the Summer Sessions office.

I should appreciate it, too, if you would return the announcement of the course because it's the only one I have.

Sincerely yours,

Mrs. George Baldwin Secretary to Prof. Wiener

h

HARPER & BROTHERS

PUBLISHERS SINCE 1817



49 East 33rd Street, New York 16, N.Y.

February 27,1953

Dr. Norbert Weiner Massachusetts Institute of Technology Cambridge, Mass.

Dear Dr. Weiner:

It has occurred to me that you may find stimulating a rather unusual book which we are about to publish.

I am accordingly sending you under separate cover advance bound sheets of THE HIERARCHY OF HEAVEN AND EARTH by D. E. Harding.

We should be honored to have any statement --- good or bad --- you may care to make about the book

Sincerely yours, men 5. Best

James S. Best

JSB: cmn

THE INTERNATIONAL COUNCIL FOR EXCEPTIONAL CHILDREN

February 27, 1953.

Dear Friend of I.C.E.C:

The 31st Annual Convention of The International Council for Exceptional Children willbbe held at the Hotel Statler, Boston, Massachusetts, April 6-11, 1953.

After our New England Sectional Meeting on November 15, 1952, I was asked to make recommendations for participants in the section meetings, workshops, and symposia. Because of your position, experience, and interest in this area, I submitted your name to the Program Chairman, Mr. Ivan K.Garrison, 516 Jordan Street, Jacksonville, Illinois.

Final selection for the Convention program was the duty of Mr. Garrison.

I hope you will attend the Convention and participate in the Convention activities. Convention topics include: cardiac; visually, physically, and orthopedically handicapped; deaf; mental health and retardation; parent and professional problems; school psychologists; teacher education; music; cleft palate; remedial reading; home teaching; rural areas; socially maladjusted; epilepsy; gifted; hospitalized; pre-school; nursery; physical education; safety; total school responsibility to the exceptional child; and other topics.

Cordially yours,

FREDERICK J. GILLIS

Co-Chairman, Convention Local Arrangements Committee

Frederick J. Gillis, Ph.D. Assistant Superintendent, Boston Public Schools 15 Beacon Street Boston 8, Massachusetts THE MENNINGER FOUNDATION TOPEKA, KANSAS FOR PSYCHIATRIC TREATMENT, ...EDUCATION, AND RESEARCH

February 27, 1953

Dr. Norbert Weiner Department of Mathematics Massachusetts Institute of Technology Cambridge 39, Mass.

Dear Doctor Weiner:

The editors of the Bulletin have all read your paper and wish to publish it in the Bulletin. Doctor Plaut of Winter VA Hospital kindly sent the original copy of your paper to us.

Your paper has not yet been scheduled, but you will receive galley proof of your article at which time you will also be given an opportunity to order reprints at cost. You will receive ten complimentary copies of the issue in which your article appears.

Sincerely yours,

BULLETIN OF THE MENNINGER CLINIC

Mary D. Lee

By: (Mrs.) Mary Douglas Lee



The AMERICAN COLLEGE DICTIONARY



Trade Edition, RANDOM HOUSE, INC. 457 Madison Avenue, New York 22, N. Y. Text Edition, HARPER & BROTHERS 49 East 33d Street, New York 16, N.Y.

February 27, 1953

Professor Norbert Wiener Massachusetts Institute of Technology Cambridge 39, Massachusetts

Dear Professor Wiener:

Some time ago, you were kind enough to approve the definition of <u>cybernetics</u> which we intended to enter into the AMERICAN COLLEGE DICTIONARY. The word now appears in our dictionary and I am taking the liberty of sending a complimentary copy to you.

Sincerely yours,

Jess Stein Random House, Inc.

JS:lc