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Jason Epstein, EDITOR

April 9, 1959

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

Dear Norbert:

Many thanks for your letter. I am glad to hear about the reactions of your colleagues at M.I.T. You should really have no doubts about the book at all, although it is only natural that you do. As your colleagues say, it is very good of its kind, I mean it is a very good novel for you to have written and although it certainly is not classifiable with any of the usual kinds of fiction we have these days, it has merits of its own which discerning readers will not fail to recognize.

I am afraid though that I do not like the picture on the cover of Der Spiegel. Perhaps it is the glasses that obscure so much of your expression. I like the picture that appeared in Esquire better and I shall try to get a copy of it.

Yours as ever,

Jason Epstein

P.S. I am returning the copy of Der Spiegel to you.

REVEREND PETER McCORMACK
2801 TURK STREET
SAN FRANCISCO, CALIFORNIA

April 1959

Some weeks ago I joined with a group of fellow citizens in inviting you to participate on a Commission of Inquiry into a case which has troubled many thoughtful persons. I refer to the Rosenberg-Sobell trial. The other signers were Malcolm P. Sharp, Harold C. Urey, Francis D. Wormuth, Horace M. Kallen, Bernard D. Davis, and Paul L. Holmer.

In view of the questions raised in many of the replies I have received, I feel it would not be amiss to answer some of the questions that I know have arisen in the minds of many recipients of our February letter.

Our February letter was sent to nearly 400 eminent Americans. To our knowledge, the majority of these people have not studied, have not been spoken to, and have expressed no public opinion in reference to the case.

While I and the other signers of the February letter do have an opinion that justice was not done in the case, (with the exception of Bernard Davis who was unable to study the merits of the case, but did feel that an inquiry was necessary and therefore signed the letter) we do not want to have an Inquiry Commission which starts with such views. We who would like to see Sobell freed would gain nothing from a favorable report from such a group. We are seeking a truly independent and fairminded Commission which will dig deep into the many aspects of this case.

Why do we propose this Commission? (1) A nagging doubt is in the minds of many people throughout the world about certain aspects of the Rosenberg-Sobell case. (2) We, and you, believe in the inherent justice of the institutions making up our form of government and do not wish them suspect. (3) The United States Supreme Court never expressed itself on the merits of this case. (4) The truth, as history shows, is not always attained by the criminal trial. (5) Finally, in the ideological battle which will develop in the Commission with some of the best minds in the country participating, truth will come out victorious.

In some of the replies to our letter I have been asked what the Commission will do, how it will function. I do not know and I will have no say in it. But I will give you my ideas--for what they are worth.

I do not view the Commission's work as a second trial, though I do believe the trial transcript should be summarized and analyzed. Nor do I see it as a lawyer's job. As to the qualifications of non-lawyers for the job, I would suggest that (1) our legal system is built upon the competence of jurors to decide matters within the legal sphere, and (2) the Inquiry only starts from, but is far from limited by, the narrow confines of the trial transcript.

The Commission might examine the case from a number of points of view. To name a few: the historical and sociological; a psychological evaluation; the moral aspect of the case. Such a plan would permit each member to work in that field in which he is most interested or competent. If the Commission were to divide its work up, this would be helpful for those who are concerned about the amount of time the Commission will take from their already busy lives.

Finally, I offer the suggestion that everything important that has been written or said on the case be gathered for examination. The Commission might ask some people or organizations to present their views on the case, pro and con.

I am sure that the members of the Commission will have many ideas on how best to proceed. The important thing here is that prospective members should understand clearly that it is they who will decide the procedure, scope, amount of work, plan of work, and all such matters.

If you think the work of the Commission would be worthwhile but you, yourself cannot serve, would you suggest someone who might serve, as it were, in your place?

I do recognize that many of the recipients of this letter might be willing to serve if they know the names of the other members of the Commission. I, therefore, solicit a definite answer that you will serve, on the condition that you approve the other members. We will then furnish you with the names of others, who, like yourself, have a given conditional approval. You may then give me your final answer.

I shall look forward to hearing from you.

Sincerely,

Peter McCormack

Peter McCormack

P.S. Since writing you originally, a statement on the Sobell portion of the case by a group of distinguished Americans has come to my attention. I am enclosing a copy for your information.

[ca April, 1959]

Library Journal

Over seventy-five years of library leadership

62 WEST 45TH STREET · NEW YORK 36 · N·Y· MU 2-0150

To: New Novelists

Your publisher has informed us that your first novel has been accepted for publication and will appear during the coming year. Congratulations and best wishes for its success.

We should very much appreciate your co-operation in a unique Library Journal feature: our three-times-a-year article on new novelists. For many years Lj has been publishing this feature; at first it consisted in biographical sketches based on information forwarded to us from the publisher (which tended to result in a warmed-over version of the jacket copy); but recently it has been changed to a single full-length article derived from direct communication with the authors, via the enclosed questionnaire. We feel that with this format we have been able to slant the tone away from the merely biographical and offer new writers the chance to speak seriously to their audience about their books and writing in general.

I am aware that many writers don't like to talk about "what they were trying to do" in their book, or "what the book is about" or any of the other questions that can be answered by an honest reading of the book itself. However, this feature will be read, in every case, before publication of the book. It will be read primarily by librarians, who are sincerely interested in fiction of all kinds, and who are particularly glad to know something about a new writer's aims, as a guide to more intelligent appraisal and selection.

One more thing: the questionnaire is really just a guide to what we want to know. If you don't want to follow its form, we'd be just as happy if you would write us a letter. If there is any particular aspect of your novel you would like to talk about, that would also be most welcome. An example of this occurred awhile ago, when the author of a good novel incorporating almost unprecedented violence and brutality wrote us a letter explaining why he felt this technique was necessary to his novel. We included this material in his biographical sketch, and thus, we hope, smoothed the way for the book's acceptance by some small-town librarians.

Whether you fill in the questionnaire or write a letter, I must ask for your reply within two weeks of your receiving this letter, as I work within quite rigid deadlines.

Again, my very best wishes.

Sincerely,

Judith Serebnick

Judith Serebnick
New Books Appraised

[and 4/14/59]

COLLEGE OF SAINT FRANCIS
JOLIET, ILLINOIS

April 1, 1959

Dear Dr. Wiener,

I am a sophomore majoring in Math at the College of St. Francis. I am working on a paper for Kappa Mu Epsilon, a Math honor society and would like to write my paper on the work that present-day mathematicans are doing. I feel that I will benefit by such knowledge, and in presenting this paper, I can introduce our modern men to our Math Club members.

I am writing to you because I, along with Sister Alfred Marie, O.S.F., feel you could either give me some information or suggest another source. If you could help me, I would appreciate information about the men's lives, what they have accomplished, and what they are now doing. By all means, include anything of interest or importance concerning yourself.

Thank you for any help you can give me.

Sincerely,
Mary Ward

[ans 9/15/59]

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

PUBLIC HEALTH SERVICE . BETHESDA 14, MD.

NATIONAL INSTITUTES OF HEALTH
OLiver 6-4000

April 1, 1959

In reply refer
to: B-2187

Dr. N. Wiener
Massachusetts Institute
of Technology
77 Massachusetts Avenue
Cambridge 39, Massachusetts

Dear Dr. Wiener:

We received an application for a Public Health Service Research Grant from Dr. Eduardo R. Caianiello of the University of Naples, Italy. In the application, he offered your name as a reference.

The application is to be reviewed by the Neurology Study Section April 19-20, 1959 at San Francisco. Although the time is short, we would appreciate very much any remarks you may wish to make in regard to Dr. Caianiello.

Sincerely yours,

Nellie Wilson

Nellie Wilson
Secretary to
Thomas E. O'Brien, M.D.
Executive Secretary
Neurology Study Section

[ans 4/6/59]

April 1, 1959

Professor Edwin Hewitt
Department of Mathematics
University of Washington
Seattle, Washington

Dear Professor Hewitt:

At the request of Professor Akutowicz, Professor Wiener is pleased to send you a copy of their reprint of "A Factorization of Positive Hermitian Matrices," which appeared in the Journal of Mathematics and Mechanics, Vol. 8, No. 1, January, 1959.

Sincerely yours,

Margaret M. Kruger (Mrs.)
Secretary to
Professor Wiener

Enclosure

cc: Professor Edwin J. Akutowicz

April 1, 1959

Mr. Winston R. Hindle
Industrial Liaison Officer
Room 3-235

Dear Mr. Hindle:

I hereby grant permission to the Industrial Liaison Office to distribute copies of the reprint of my article "Time and the Science of Organization" which appeared in the September, 1958, issue of Scientia.

Sincerely yours,

Norbert Wiener

NW:mmk

April 1, 1959

Mr. Marcel Marantz
c/o Professor Leontief
Department of Economics
Harvard University
Cambridge, Mass.

Dear Mr. Marantz:

Professor Wiener would be happy to meet with you during your stay in Cambridge. Upon your arrival would you please call M.I.T. and arrange an appointment. The telephone number is UNiversity 4-6900, Extension 198.

Sincerely yours,

Margaret M. Kruger (Mrs.)
Secretary to
Professor Wiener

April 1, 1959

Professor Dean L. Robb
Department of Mathematics
Baldwin-Wallace College
Berea, Ohio

Dear Professor Robb:

Thank you very much for your letter of March 26th and your kind invitation to lecture at your summer institute from June 23 to July 30, 1959. However, I have found it necessary to cut my speaking engagements to the bone in order to conserve my strength for my research. I am going to need the latter part of June for rest and so must regretfully decline your invitation.

Sincerely yours,

Norbert Wiener

:mmk

April 2, 1960
110 Pond Street
Essex, Massachusetts

Professor Norbert Wiener
Massachusetts Institute of Technology

Dear Professor Wiener:

I think that the following will interest a certain cybernetician.

The arithmetic section of electronic computers "does all the work" and print-out is confined to answers (of additions, subtractions, multiplications, divisions, square root taking, factoring, and other compound operations). The speed and accuracy of print-out is wonderful.

The like is true of the egregious human "calculating prodigy" computers.

In striking contrast is the conventional, 1959, programming for other human computers: there is much non-answer print-out. For example, the total print-out for a single long division problem may amount to several times that required for the answer alone.

Recently, the late Jakow Trachtenberg devised programs well within the capacity of the arithmetic section of the human computer and requiring answer only print-out. Thus, his programs are much more analogous to programs for the electronic computer than are the conventional ones. His pupils and those of Mrs. Trachtenberg have demonstrated convincingly that, correspondingly, the new programs result in markedly faster answer print-out. For example, it is not rare for a human computer, previously stalled by reckoning, to become able to print-out the answer for the multiplication of a 10-digit integer by another 10-digit integer in about 70 seconds (time which compares reasonably well with that required by "calculating prodigy" computers).

At a time when "everybody" is reexamining our educational practices, it seems most paradoxical that we do not provide these Trachtenberg programs for the young humans.

Sincerely,

Lambert Lyons Montgomery

Lambert Lyons Montgomery

(PS. There is an horrendously inhuman use of human beings story behind these now available programs ---- Trachtenberg developed them, as conditions allowed, while he was incarcerated in nazi concentration camps.)

Mrs. Alice Trachtenberg
Verlag, Hochstrasse 36,
Zurich 44, Switzerland.

April 2, 1959

Mr. Donald G. Brennan
316 Westgate West
Cambridge 39, Massachusetts

Dear Mr. Brennan:

Professor Calderon is to replace Professor Nash on your thesis committee.

Sincerely yours,

C. B. Thomas, Jr.
Graduate Registration Officer

GBT:pr
cc: Professor Wiener
Professor McKean
Professor Calderon

Canberra University College
POST OFFICE BOX No. 197
Canberra City, 4S, A.C.T.
TELEGRAMS:
UNICOL, CANBERRA
TELEPHONE: J1811 Dept. of Statistics.

3rd April, 1959

Prof. N. Wiener,
Harvard University,
Cambridge, 38, Mass. U.S.A.

Dear Professor Wiener,

I should be very much obliged if you could send me reprints of your papers:

The prediction theory of multivariate stochastic processes, Part I. Acta Math. 98 (1957).
and Part II. Acta Math. 99 (1958).

Yours sincerely,

E.J. Hannan
Professor of Statistics

(I hope that you won't hold it against this Australian that an Australian University was once mad enough to fail to appoint you when you applied for a chair. We don't get Acta Mathematica at the College so that the reprints would be more than ordinarily useful to me. If I could I also have a copy of your paper "On the factorization of matrices" Comment. Math. Helv. 29 (1955) 97-111. This journal is not available in Canberra at all)

[ans 4/9/59]

To open cut at top

BY AIR MAIL

AEROGRAM

25 Shattuck St.
Boston

Professor N. Wiener,
Harvard University,
~~Cambridge~~ 38, MASS.
U.S.A.

Approved by Postmaster-General
for acceptance as Aerogramme No. 2

First Fold Here

Second Fold Here

Dept. of Statistics

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Saint Willibrordsabbey

Holland

Doetinchem,
3 - IV - 1959

Dear Sir,

Allow me to trouble you with the following. For some time past I have been charged to found the library of our recently built monastery.

By reasons of economy the community has had to build the abbey in a period of four years with its own hands. But what is possible for the construction of the buildings, is not possible,alas, for a library.

Since in our monastery a course of philosophy is given and a course of theology is prepared, I have been asked to provide classical and modern works of philosophy, theology, etc. But however necessary they may be we cannot purchase them because of our little resources.

That is why I venture to turn to you, dear Sir, in great confidence, with the request to help us, if possible, by presenting us your books: CYBERNETICS and THE HUMAN USE OF HUMAN BEINGS, with which you would oblige us very much. They will be of great use in our studies.

I hope you will excuse the frankness of our demand to which the poverty of our monastery has obliged me to do so.

Thanking you in anticipation for all the trouble I am causing you and hoping you will be favorable to our request, I beg you to accept our thankfullness,

Yours respectfully,

Dom Gerard Helwig O.S.B.

Dom Gerard Helwig, O.S.B.

AEROGRAMME

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U.S.A.

Prof. Norbert W I E N E R

c.o. Massachusetts Institue of
Technology,

B o s t o n .

U.S.A.

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EXPÉDITEUR/AFZENDER

Dom G.Helwig, O.S.B.

Sint Willibrordus Abdij - Doetinchem

The Netherlands - EUROPE

NIETS INSLUITEN!

INDIEN ZULKS TOCH GESCHIEDT, DAN WORDT DEZE BRIEF PER BOOT / TREIN VERZONDEN

OUVRIR ICI / HIER OPENEN

Polite refusal was given to the undersigned.

4-244
April 3, 1959

Prof. Norbert Wiener
2-276

Dear Prof. Wiener:

The M.I.T. Orthodox Christian Fellowship would like you to speak on its panel, "Motivation for Learning", on May 4 in the evening. We would be interested to have you contribute your views on inner motivation and creativity. Dean Fassett, our moderator, suggested this as an interest of yours. Details of the panel are on accompanying sheets. If May 4 is impossible but May 6 is possible, please tell us. Thank you.

Sincerely yours,
Emmanuel P. Papadakis

M.I.T. ORTHODOX CHRISTIAN FELLOWSHIP
SECRETARIAT, INSTITUTE COMMITTEE
WALKER MEMORIAL, M.I.T.

April 2, 1959

Again this spring the M.I.T. Orthodox Christian Fellowship is planning a panel discussion in its Motivation Series on topics of vital interest to the M.I.T. student body. The title for this year is "Motivation for Learning". Last year at this time the topic was the Sussmann Report under the panel title, "Motivation of Students".

In the panel we hope to explore those forces influencing students for or against learning, and we wish to find out the approach to motivation taken by the various fields of learning and endeavor represented in our culture. Specifically, we want the views of the professional educator, the self-motivated investigator, the psychiatrist, the director of personnel, and the philosopher concerning the motivation that students experience toward study.

The panel is planned for Monday evening, May 4, at 7:00 although Wednesday evening, May 6, may be possible. If either night is impossible, please indicate. Dean Fassett will be the moderator. Speakers being invited appear on the next page with their field of interest outlined in general terms. Each speaker is of course invited to expand upon the topic of motivation from his own wealth of experience. The place of the panel will be either the Library Lounge or the Little Theater.

SPEAKERS BEING INVITED FOR "MOTIVATION FOR LEARNING" PANEL

1. Prof. Peter T. Demos — VIII

   Science teaching: how to present science to evoke motivation in students.

2. Prof. Norbert Wiener — XVIII

   Internal motivation and creativity.

3. Dr. Herbert I. Harris — Med. Dept.

   The conditioning of motivation from the unconscious.

4. Prof. Huston C. Smith — XXI

   The philosophical implications of manipulating people in a depersonalized fashion.

5. Dean Edward P. Brooks — XV

   Planned eliciting and amassing of motivations to operate society in a creative, productive, and satisfying way.

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LLOYD RAMSEY, PRESIDENT, LIFE MEMBER MILLION DOLLAR ROUND TABLE

April 3, 1959

Mrs. Margaret M. Kruger
% Professor Norbert Weiner
Massachusetts Institute of Technology
Cambridge 39, Massachusetts

Dear Mrs. Kruger:

Thank you for relaying Professor Weiner's recommendations.

His statement concerning Thinking By Machine had influenced me to purchase it shortly after its publication. The suggestion on Cybernetica was appreciated and will be pursued.

It may be that eventually I will have something significant to say on the subject of human, and more especially person-to-person, communications. Of the concepts uncovered to date, Professor Weiner's views on patterns and his definition of control have influenced the direction of my work in communications more than any other single factor.

Very truly yours,

Lloyd Ramsey

Lloyd Ramsey

lr/dc

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LLOYD RAMSEY, PRESIDENT, LIFE MEMBER MILLION DOLLAR ROUND TABLE

April 3, 1959

International Association of Cybernetics
13 rue Basse Marcelle
Namur, Belgium

Gentlemen:

Professor Norbert Weiner recommended that I write you.

I am very much interested in publications, studies and research pertaining to the development of adequate theories for the semantic and behavioral portions of messages.

In order that you might have some knowledge as to some of the works with which I am familiar, the following list might prove to be helpful: Weiner's Cybernetics and The Human Use of Human Beings; Shannon's The Mathematical Theory of Information and Studies in Automata (editor, 1956); De Latil's Thinking By Machines; Ashby's Design for a Brain; J. Z. Young's Doubt and Certainty in Science; Brilloun's Science and Information Theory; McKay's The Place of Meaning in the Theory of Information; Carnap's and Bar Hillel's An Outline of A Theory of Semantic Information; and Heilprin's unpublished paper Toward A Theory of Semantic Communication.

Any suggestions or recommendations would be deeply appreciated including information on your own Cybernetica.

Very truly yours,

Lloyd Ramsey

Lloyd Ramsey

lr/dc

HEMLOCK 4-5500

Keeney Research Division, Inc.

SUBSIDIARY OF J. H. KEENEY & CO., INC.
2600 WEST FIFTIETH STREET
CHICAGO 32, ILLINOIS

ALBERT G. HAYNES, B.S., E.E. AND M.E.
REGISTERED ENGINEER
DIRECTOR

April 6, 1960

Professor Norbert Weiner
Massachusetts Institute of Technology
Cambridge, Massachusetts

Good Morning Doc,

Do you know our very good mutual friend, Dr. Hermann Wagner, he is in Columbus Memorial Hospital here, following a stroke Saturday night, April 2, 1960 ?

Might send him a card or a note, huh? He is still under sedation and can have no visitors.

Thought you'd like to know.

Thank you,

Albert G. Haynes

AGH/cj

Columbus Memorial Hospital
2520 North Lakeview Avenue
Chicago, Illinois

accepted by phone on
April 8, 1959. Appt.
made for Wed. April 15th.

Challenge
THE MAGAZINE OF ECONOMIC AFFAIRS
475 FIFTH AVENUE, NEW YORK 17, N. Y. MURRAY HILL 5-4971

April 6, 1959

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

Dear Professor Wiener:

The Institute of Economic Affairs of this University publishes a national monthly magazine, CHALLENGE, aimed at a literate, nonspecialist readership. While our main interest is in economic affairs, we define this broadly to include all scientific, social and political developments which have some bearing on the economic scene. I enclose a recent issue. You may find it of some interest.

We would consider it a great honor if you could grant us an interview on some of the potential economic and social implications of the "human use of human beings."

The following are some of the points which we should like to discuss with you:

(1) When your book came out in 1950, many of the economic "experts" on automation thought that your warnings of labor displacement were wildly exaggerated. Recent trends in manufacturing employment, however, seem to confirm your predictions. To what extent will the increasing substitution of the traditional production assembly line by automatic systems tend to accentuate this trend? Given our present knowledge, what degree of labor displacement is already theoretically possible?

(2) Even more important, how will the assumption of what were thought to be peculiarly human functions by

machines affect our whole conception of productive work? On the other hand, what special abilities will be required? Will this pose a problem for a considerable portion of our population which does not possess these abilities? Will these be able to find the necessary rewards and satisfactions through work or will there have to be a fundamental shift in what is still essentially a Puritan value system?

(3) Finally, what are some of the political implications of the automation and, particularly, the computer revolution? Is there a danger that the very efficiency of such devices may endanger fundamental liberties? What are some of the dangers of misapplying such machines?

These are but some of the broad questions that we should like to discuss with you. Actually, the interview would flow informally in the normal course of conversation. We have attempted to develop several procedures by which to record such interviews and we have come to the conclusion that a tape recorder is, perhaps, the most accurate and convenient--that is, if you have no objection to this device. In any case, we would submit an edited version of the recording for your approval before it goes to the printer. We have found that this procedure works very nicely in our regular monthly interviews.

We should like to schedule this interview for our June issue and this would require us to set a date for some time within the next 10 days. Aside from this deadline, however, any time or place convenient for you would be convenient also for us. In any case, I should appreciate hearing of your reaction to this as soon as possible.

Sincerely,

Martin Kessler
Senior Editor

MK:am
enc.

WESLEYAN UNIVERSITY
MIDDLETOWN, CONNECTICUT
DEPARTMENT OF MATHEMATICS

April 6, 1959

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

Dear Professor Wiener:

I wonder if you can help me with certain information on Tauberian theorems of the following character, particularly in respect to the underscored clause:

'Let Σa_n be summable-T and suppose that $n^k a_n = O(1)$. Then Σa_n is convergent if $k = c$, <u>but not necessarily if</u> $k < c$, where c is a certain constant depending only on the method T.'

When the method T is Abel's or Cesàro's, it would appear that such a constant c exists and equals 1; when T is Borel's or Euler's method, again c would seem to exist, this time equalling 1/2.

Not every summation method could be expected to possess such a c (which might be termed the tauberian index of the method). Thus, the transform $t_n = s_{2n}$ cannot have a c.

In Hardy's <u>Divergent series</u> I find no information concerning the underscored clause above. Do you know where results of this type have been enunciated and proved? I shall appreciate any comments and references that you may find it convenient to supply.

Sincerely yours,

Lee Lorch

Lee Lorch.

[ans 4/22/59]

received April 6, 1959

HERBERT R. MILLER
PLANETARIUM STATION, BOX 244
NEW YORK 24, N. Y.

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

My dear Dr. Wiener;

I was glad to receive your letter of March 26, 1959. Points touched upon sponsorship, your capacity as consultant.

Contacts are both national and international. When I see you and talk with you: I will give you the names of some of those interested.

Contacts large industries, "universities", Government, sciences, law and social organizations.

This is an interim letter.

Sincerely

Herbert R. Miller

Herbert R. Miller

no letter sent by Prof. Wiener!

THE WHITE HOUSE

WASHINGTON

THE ASSISTANT TO THE PRESIDENT

April 6, 1959

Dear Professor Wiener:

The President has asked me to thank you for the letter you sent to him following his report to the American people on West Berlin and the free world's capacity to meet the challenges that the Soviets incessantly pose to peace and to our own security.

It is helpful and encouraging to the President to have the benefit of your comments, and he wants you to know of his appreciation of your thoughtfulness in writing.

Perhaps you would like to have a copy of the President's address. With that thought in mind, I am sending one to you.

Sincerely yours,

Wilton B. Persons

Professor Norbert Wiener
Professor of Mathematics
Massachusetts Institute of
Technology
Boston, Massachusetts

Enclosure

FOR RELEASE ON DELIVERY, MARCH 16, 1959

James C. Hagerty, Press Secretary to the President

THE WHITE HOUSE

TEXT OF THE REPORT TO THE AMERICAN PEOPLE BY PRESIDENT DWIGHT D. EISENHOWER, DELIVERED IN THE PRESIDENT'S OFFICE IN THE WHITE HOUSE AND TELECAST AND BROADCAST BY ALL AMERICAN NETWORKS FROM 9:30 TO 10:00 P.M. EST, MONDAY EVENING, MARCH 16, 1959

AS ACTUALLY DELIVERED

SECURITY IN THE FREE WORLD

My Fellow Americans:

Tonight I want to talk with you about two subjects:

One is about a city that lies four thousand miles away.

It is West Berlin. In a turbulent world it has been, for a decade, a symbol of freedom. But recently its name has come to symbolize, also, the efforts of Imperialistic Communism to divide the free world, to throw us off balance and to weaken our will for making certain of our collective security.

Next, I shall talk to you about the state of our nation's posture of defense and the free world's capacity to meet the challenges that the Soviets incessantly pose to peace and to our own security.

First, West Berlin.

You have heard much about this city recently, and possibly wondered why American troops are in it at all.

How did we get there in the first place? What responsibilities do we have in connection with it and how did we acquire them?

Why has there developed a situation surrounding this city that poses another of the recurring threats to peace that bear the stamp of Soviet manufacture?

Let's begin with a brief review of recent history.

We first acquired rights and responsibilities in West Berlin as a result of World War II. Even before the war ended, when the defeat and capitulation of Nazi Germany were in sight, the Allied Powers, including the Soviet Union, signed agreements defining the areas of occupation in Germany and Berlin which they would assume.

As a result, Germany and the City of Berlin, were each divided into four zones, occupied by American, British, French and Soviet troops, respectively.

more

(OVER)

Under the wartime agreements I have mentioned, the Western Allies entered into occupation of West Berlin and withdrew our Armies from the Soviet Zone. Accordingly, the boundary of the Soviet Zone, like our presence in Berlin, was established upon the basis of these same agreements.

Also by agreement among the occupying powers, the Western Allies -- the United States, the United Kingdom, and France -- were guaranteed free access to Berlin.

Here in my office is a map of Germany. The light portion of the map is West Germany -- the darker portion is East Germany. The lighter gray lanes are the air corridors to Berlin -- and the dotted lines show both the main roads and railroads that give us access to the city. Notice that the City of Berlin is one hundred and ten miles inside East Germany; that is, it is one hundred and ten miles from the nearest boundary of West Germany.

Here is the territory, now in East Germany that was taken by our Army in World War II and was turned over to the Russians by political agreement made before the end of the War.

Now at the end of World War II our announced purpose and that of our wartime associates was the pacification and eventual unification of Germany under freedom.

We jointly agreed to undertake this task. Ever since that time, the United States has continuously recognized the obligation of the Allied Governments under international law to reach a just peace settlement with Germany and not to prolong the occupation of Germany unnecessarily.

The public record demonstrates clearly that such a settlement has been frustrated only by the Soviets. It quickly became evident that Soviet leaders were not interested in a free unified Germany, and were determined to induce or force the Western Powers to leave Berlin.

Ten years ago Senator John Foster Dulles, now our great Secretary of State, described the basic purpose of the Soviet government. He said that purpose was, and now I am quoting: "no less than world domination, to be achieved by gaining political power successively in each of the many areas which had been afflicted by war, so that in the end the United States, which was openly called the main enemy, would be isolated and closely encircled." That is the completion of the quotation.

The current Berlin effort of the Soviets falls within this pattern of basic purpose.

The first instance of unusual pressure, clearly evidencing these purposes, came in 1948 when the Communists imposed a blockade to force the protecting Western troops out of Berlin and to starve the people of that City into submission.

That plan failed. A free people and a dramatic airlift broke the back of the scheme.

In the end the Communists abandoned the blockade and concluded an agreement in 1949 with the Western Powers, reconfirming our right of unrestricted access to the city.

Then, last November, the Soviets announced that they intended to repudiate these solemn obligations. They once more appear to be living by the Communist formula that "Promises are like pie crusts, made to be broken."

The Soviet Government has also announced its intention to enter into a peace treaty with the East German puppet regime. The making of this treaty, the Soviets assert, will deny our occupation rights and our rights of access. It is, of course, clear that no so-called "peace treaty" between the Soviets and the East German regime can have any moral or legal effect upon our rights.

The Soviet threat has since been repeated several times, accompanied by various and changing suggestions for dealing with the status of the city. Their proposals have included a vague offer to make the Western part of Berlin -- though not the Eastern part , which the Soviets control -- a so-called "free city."

It is by no means clear what West Berlin would be free from, except perhaps from freedom itself. It would not be free from the ever present danger of Communist domination. No one, certainly not the two million West Berliners, can ignore the cold fact that Berlin is surrounded by many divisions of Soviet and Eastern German troops and by territory governed by authorities dedicated to eliminating freedom from the area.

Now a matter of principle, the United States cannot accept the asserted right of any government to break, by itself, solemn agreements to which we, with others, are parties. But in the Berlin situation, both free people and principle are at stake.

What, then, are the fundamental choices we have in this situation?

First, of course, there is the choice which the Soviet rulers themselves would like us to make. They hope that we can be frightened into abdicating our rights -- which are indeed responsibilities -- to help establish a just and peaceful solution to the German problem -- rights which American and Allied soldiers purchased with their lives.

We have no intention of forgetting our rights or of deserting a free people. Soviet rulers should remember that free men have, before this, died for so-called "scraps of paper" which represented duty and honor and freedom.

The shirking of our responsibilities would solve no problems for us. First, it would mean the end of all hopes for a Germany under government of German choosing. It would raise, among our friends the most serious doubts about the validity of all the international agreements and commitments we have made with them in every quarter of the globe. One result would be to undermine the mutual confidence upon which our entire system of collective security is founded.

This, the Soviets would greet as a great victory over the West.

Obviously, this choice is unacceptable to us.

The second choice which the Soviets have compelled us to face, is the possibility of war.

Certainly, the American and Western peoples do not want war. The whole world knows this. Global conflict under modern conditions could mean the destruction of civilization. The Soviet rulers, themselves, are well aware of this fact.

But all history has taught us the grim lesson that no nation has ever been successful in avoiding the terrors of war by refusing to defend its rights -- by attempting to placate aggression.

Whatever risk of armed conflict may be inherent in the present Berlin situation, it was deliberately created by the Soviet rulers.

Moreover, the justice of our position is attested by the fact that it is ardently supported with virtual unanimity by the people of West Berlin.

The risk of war is minimized if we stand firm. War would become more likely if we gave way and encouraged a rule of terrorism rather than a rule of law and order. Indeed, this is the core of the peace policy which we are striving to carry out around the world. In that policy is found the world's best hope for peace.

Now our final choice is negotiation, even while we continue to provide for our security against every threat. We are seeking meaningful negotiation at this moment. The United States and its allies stand ready to talk with Soviet representatives at any time and under any circumstances which offer prospects of worth-while results.

We have no selfish material aims in view. We seek no domination over others -- only a just peace for the world and particularly, in this instance, for the people most involved.

We are ready to consider all proposals which may help to reassure and will take into account the European peoples most concerned.

We are willing to listen to new ideas and are prepared to present others. We will do everything within our power to bring about serious negotiations and to make these negotiations meaningful.

Let us remind ourselves once again of what we cannot do.

We cannot try to purchase peace by forsaking two million free people of Berlin.

We cannot agree to any permanent and compulsory division of the German nation, which would leave Central Europe a perpetual powder mill, even though we are ready to discuss with all affected nations any reasonable methods for its eventual unification.

We cannot recognize the asserted right of any nation to dishonor its international agreements whenever it chooses. If we should accept such a contention the whole process of negotiation would become a barren mockery.

We must not, by weakness or irresolution, increase the risk of war.

Finally, we cannot, merely for the sake of demonstrating so-called "flexibility" accept any agreement or arrangement which would undermine the security of the United States and its Allies.

The Soviet note of March 2nd appears to be a move toward negotiation on an improved basis. We would never negotiate under a dictated time limit or agenda, or on other unreasonable terms. We are, with our Allies, however, in view of the changed tone of the Soviet note, concerting a reply to that note.

It is my hope that thereby all of us can reach agreement with the Soviets on an early meeting at the level of Foreign Ministers.

Assuming developments that justify a summer meeting at the Summit, the United States would be ready to participate in that further effort.

Our position, then, is this: We will not retreat one inch from our duty. We shall continue to exercise our right of peaceful passage to and from West Berlin. We will not be the first to breach the peace; it is the Soviets who threaten the use of force to interfere with such free passage. We are ready to participate fully in every sincere effort at negotiation that will respect the existing rights of all and their opportunity to live in peace.

* * * *

Today's Berlin difficulty is not the first stumbling block that International Communism has placed along the road to peace. The world has enjoyed little relief from tension in the past dozen years. As long as the Communist empire continues to seek world domination we shall have to face threats to the peace, of varying character and location. We have lived and will continue to live in a period where emergencies manufactured by the Soviets, follow one another like beads on a string.

Whatever the length of that period, we shall have to remain continuously ready to repel aggression, whether it be political, economic or military. Every day our policies of peace will be subjected to test. We must have steadiness and resolution, and firm adherence to our own carefully thought-out policies.

We must avoid letting fear or lack of confidence turn us from the course that self-respect, decency and love of liberty point out. To do so would be to dissipate the creative energies of our people upon whom our real security rests. This we will never do.

Now to build toward peace and maintain free world security will require action in every field of human enterprise. It can only be done by the nations of the Free World working together in close cooperation, adjusting their differences, sharing their common burdens, pursuing their common goals. We are carrying out just such an effort. We call it mutual security.

more

(OVER)

We recognize that freedom is indivisible. Whereever in the world freedom is destroyed, by that much is every free nation hurt.

If the United States, alone, had to carry the full burden of defending its interests from the Communist threat, we would have to draft a much larger portion of our manhood into the armed services, spend many more billions of treasure, and put a more intense strain on all our resources and capacities. We would become more and more like a garrison state.

Fortunately, we do not have to adopt such a desperate course. Nearly 50 nations have joined with us in a cooperative effort to protect freedom.

This system of mutual security allows each nation to provide the forces which it is best able to supply.

Now what is the strength of these forces? What are we contributing to the joint effort? What can we count on from our Allies:

Let's look first at our own contribution. Let us look at it from the viewpoint of our own security.

Of late I -- and I am sure the American people -- have heard or read conflicting claims about our defenses.

We have heard that our military posture has been subordinated to a balanced budget, jeopardizing our national defense.

We have heard that our defenses are presently -- or they will be sometime in the future -- inadequate to meet recurrent Communist threats.

We have heard that more manpower in our forces than I have recommended is essential in the present circumstances, for psychological reasons if for no other.

My friends, such assertions as these are simply not true. They are without foundation. It is not likely, however -- and this is indeed fortunate -- that such assertions will lead the Soviet Union to miscalculate our true strength.

The design of our defense is the product of the best composite judgment available for the fulfillment of our security needs.

First, we are devoting great sums for the maintenance of forces capable of nuclear retaliatory strikes. This capability is our indispensable deterrent to aggression against us.

The central core of our deterrent striking force is our Strategic Air Command with its long range bombers. They are reinforced by naval aircraft, missiles of varying types, and tactical fighter bombers. This array will soon include weapons of even greater power and effectiveness.

The capacity of our combined striking forces represents an almost unimaginable destructive power. It is protected by a vast early warning system and by powerful air defense forces.

More and more this great retaliatory force will feature intermediate as well as long range missiles capable of reaching any target on the earth. As we steadily go through the transition period from bomber to missile as the backbone of this striking force, we nevertheless continue replacing bombers, powerful as we know them now to be, with others of greater power, greater range and greater speed. In this way we take care of the needs of this year and those immediately ahead, even as we plan, develop and build for the future.

We are engaged in an endless process of research, development and production to equip our forces with new weapons.

This process is tremendously costly, even should we consider it only in terms of money. If we are to master the problem of security over a prolonged period, we cannot forever borrow from the future to meet the needs of the present.

Therefore, we must concentrate our resources on those things we need most, minimizing those programs that make less decisive contributions to our nation. Effective defense comes first.

Today there is no defense field to which we are devoting more talent, skill and money than that of missile development.

I'd like to have you look at this chart showing three lists of missiles.

The first list shows seventeen different types of missiles now in use by our Armed Forces.

The second list shows missiles that will be available for use in 1959. There are eleven different types.

The third list shows thirteen more types of missiles now in the research and development stages. In all there are forty-one types of missiles.

Now there is, of course, a constant parade of improvement, with newer and better weapons constantly crowding out the older and less efficient ones.

The first model of any new piece of equipment is always relatively primitive. The first sewing machine, the first typewriter, the first automobile -- all left much to be desired. And even the rockets that dazzle us today will soon become the Model T's -- the Tin Lizzies -- of the Missile Age.

We must never become frozen in obsolescence.

In addition to the forces comprising our retaliatory striking power, we have potent and flexible naval, ground and amphibious elements. We have a growing array of nuclear-powered ships, both submarines and surface vessels.

World-wide deployment of Army divisions, including missile units, increases the ability of the U. S. Army and the Marines to rapidly apply necessary force to any area of trouble. At home, the Strategic Army Corps is ready and able to move promptly as needed to any area of the world.

I believe that the American people want, are entitled to, can indefinitely pay for, and now have and will continue to have a modern, effective and adequate military establishment. In this over-all conviction, I am supported by the mass of the best military opinion I can mobilize, and by scientific and every other kind of talent that is giving its attention to a problem to which I personally have devoted a lifetime.

* * * * * *

As all thoughtful citizens know, our own security requires the supplemental and reinforcing strength provided by the free world's total.

In the Far East, nations with which we are associated in a common defense system have over a million trained soldiers standing watch over the free world frontiers.

In Europe, the efforts of fifteen nations are united in support of freedom.

In global totals, our friends are contributing over 200 ground divisions, 30,000 aircraft, and 2500 combatant naval vessels to the task of defending the free world.

For every soldier we have under arms, our free world Allies have five.

Through each of these stout efforts we strengthen the bonds of freedom.

Our mutual security program supports this joint undertaking by helping to equip our partners with the weapons they cannot by themselves provide, and by helping them keep their economies strong.

This mutual effort provides a constructive, long-term answer to the recurrent crises engineered by the Communists. It strengthens the stability of free nations, and lessens opportunities for Communist subversion and penetration. It supports economic growth and gives hope and confidence to the cause of freedom. It is America's strongest instrument for positive action in the world today.

Last Friday I sent to the Congress a special message presenting my recommendations for this important part of our defense and security program for the coming year. Let me repeat that definition of that program: It is an important part of our defense and security program for the coming year. In my judgment, there is no better means of showing our resolution, our firmness, and our understanding of the Communist challenge than to support this program in full measure.

These funds are vital to our national and free world security.

Any misguided effort to reduce them below what I have recommended weakens the sentries of freedom wherever they stand.

In this conviction, also, I am supported by the military experts of our government.

* * * * * *

Fellow Americans, of one thing I am sure: that we have the courage and capacity to meet the stern realities of the present and the future. We need only to understand the issues and to practice the self-discipline that freedom demands.

Our security shield is the productivity of our free economy, the power of our military forces, and the enduring might of a great community of nations determined to defend their freedom.

We Americans have been, from the beginning, a free people -- people who by their spiritual and moral strength and their love of country provide the mainspring for all we have done, are doing, and will do. In those truths we place our faith.

So, together with our allies we stand firm wherever the probing finger of any aggressor may point. Thus we lessen the risk of aggression: thus we shall with resolution and courage, struggle ever forward to the dream of a just and permanent peace.

God helping us, we shall stand always equal to the challenge.

Thank you, and Goodnight.

# # # # # # # #

TYPE	NOW IN USE	AVAILABLE IN 1959	ACTIVE RESEARCH AND DEVELOPMENT
AIR TO AIR	Genie Sidewinder Sparrow I Sparrow III Falcon GAR I Falcon GAR II	Falcon GAR III Falcon GAR IV	Falcon GAR IX Falcon GAR XI Eagle
AIR TO SURFACE	Bullpup	Zuni	Corvus Hound Dog Quail
SURFACE TO AIR	Nike Ajax Nike Hercules Terrier Talos	Hawk Bomarc	Tartar Nike Zeus
SURFACE TO SURFACE	Honest John Corporal Redstone Regulus I Matador Thor	Little John Lacrosse Mace Jupiter Snark Atlas	Sergeant Pershing Polaris Titan Minuteman

April 6, 1959

Houghton Mifflin Company
2 Park Street
Boston 7, Massachusetts

Gentlemen:

Enclosed is a request from Mr. Harold Barrett for permission to quote from The Human Use of Human Beings. We would appreciate your taking care of his request.

Thank you.

Sincerely yours,

Margaret M. Kruger (Mrs.)
Secretary to Professor Wiener

Enclosure

April 6, 1959

Dr. Thomas E. O'Brien
Executive Secretary
Neurology Study Section
Department of Health, Education,
and Welfare
Bethesda 14, Maryland

Dear Dr. O'Brien:

Thank you for your letter of April 1, 1959, concerning the application for a Public Health Service Research Grant for Dr. Eduardo R. Caianiello.

I would like to recommend Dr. Caianiello as a person who is studying cybernetics seriously. He is a delightful person with great enthusiasm for his work and I would be very inclined to act favorably on any request that he makes for an opportunity for a research grant.

Sincerely yours,

Norbert Wiener

NW:mmk

April 6, 1959

Mr. J. Polonsky
Figueroa Hotel
939 S. Figueroa Street
Los Angeles 15, California

Dear Mr. Polonsky:

Professor Wiener would be happy to meet with you during your visit to the United States. He would be able to see you on Thursday morning, April 16th if this would be convenient for you. If you would prefer to have an appointment during the week of April 20th, please suggest the time most convenient for you.

Sincerely yours,

Margaret M. Kruger (Mrs.)
Secretary to Professor Wiener

[ans 4/9/59]

CHANNEL 5

WNEW / TV • NEW YORK / 205 EAST SIXTY-SEVENTH STREET / NEW YORK 21, N.Y. / LEHIGH 5-1000

April 7, 1959

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

Dear Mr. Weiner:

WNEW-TV, (Channel 5) here in New York, will soon begin televising a new public service series entitled "America's Great Teachers". We would be very pleased if you could participate in this series.

Each program in the series will be one half-hour in length and will be devoted to a single outstanding teacher or educator. The programs will be seen on Channel 5 (New York's best-known independent station) Sunday evenings at 9:30 PM. The first program in the series will be televised on April 19 and features Dr. Mason Gross, President of Rutgers University, speaking on "What Makes a Great Teacher?"

The format consists of a talk or lecture by the teacher running fifteen or twenty minutes, followed by a short question-and-answer period in which the questions are asked of the teacher by two of his former or present students. The subject, of course, is that field with which you are immediately associated, and the talk itself should be informal and conversationally spontaneous.

The program is entirely educational, non-sponsored and is designed to meet a demand we feel exists among the public, namely: a chance to hear scholars and teachers, persons of intellect and scholarly research, talk about their subject and what it means to them and to others. To put it in other words, we feel that the persons we are asking to do this program have been rehearsing, intellectually, for many, many years.

We believe that this program is unique in offering such an unrestricted approach to scholars, and we're hoping you can take advantage of it.

In addition to Dr. Gross, others who have agreed to appear on "America's Great Teachers" include Professor Sidney Hook, of New York University; Professor Henry Steele Commager of Amherst and Columbia; Professor Adolf A. Berle of Columbia; Professor Hans Kohn of C.C.N.Y.; Professor Roger Sessions of Princeton; and a number of others.

CHANNEL 5

WNEW / TV • NEW YORK / 205 EAST SIXTY-SEVENTH STREET / NEW YORK 21, N.Y. / LEHIGH 5-1000

You will be reimbursed for any travel expenses incurred in coming to and returning from our studios, and there is a $100 fee in addition.

May I hear from you soon about this?

Very sincerely yours,

Herbert Dorfman

Herbert Dorfman
Producer

HD/lm

[ans 4/14/59]

April 7, 1959

Mr. Jason Epstein, Editor
Random House Inc.
457 Madison Avenue
New York 22, New York

Dear Jason:

It appears then that what arrangements I make with my other New York friends for visiting New York on scientific matters need not be particularly coordinated with affairs to do with my book, at least for the present. The next fixed engagement I have in New York is the New York University Institute of Philosophy on Saturday, May 16th.

By my very tentative reckoning I should suppose that a couple of weeks or so will see the galley proofs ready for my inspection. While there is nothing critical about it, I have the natural eagerness of any author to see himself in print. I am well aware that the schedule on my book is your business and not mine and I should not presume to interfere with it and above all things to rush it. Nevertheless, as a matter of personal curiosity it would interest me to know something about it.

I have now a considerable piece of criticism of my manuscript from my colleagues, The criticism is quite consistent and agrees with your remarks. I think that they all feel that the book is good of its kind and is sincere but does not fall into the most recognized categories of literary work particularly as far as the present mode is concerned. They expect as you do it will have a good appeal within a circle which is scarcely that of the readers of the best sellers. I still feel that within my limitations I have achieved my aim. In general my colleagues recommend the picture I have given of engineering and business at the time as authentic and fair. The future of my book is in the lap of the gods.

I am enclosing a picture which appeared a year or so ago in a German periodical. My wife likes it and believes it is the best picture of me which has appeared. I also call to your attention the picture which appeared in a recent number of Esquire which is also very good. One or the other of these - preferably in my wife's opinion the German one - is very suitable for use on the jacket of the book. If you can get copies of my photograph from the German publisher, I should appreciate it if you would reserve one or two copies for me personally. I would also appreciate your returning the enclosed copy of Der Spiegel when you have finished with it.

With best wishes from house to house.

Sincerely yours,

[ans 4/9/59]

THE TECHNOLOGY REVIEW

EDITED AT THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY

CAMBRIDGE 39, MASSACHUSETTS

April 8, 1959

Professor Norbert Wiener
Room 2-276
M.I.T.

Dear Professor Wiener:

Many thanks for your great contribution to the success of the Seminar for Science Writers arranged last week by the Nieman Foundation. You made this a memorable experience for our friends, and I hope that you did not find the long day too tiring.

We rather expected a good many of our visitors to leave before the three-day program ended. But you and the others who participated on the opening day evoked such enthusiasm that nearly everyone was still on hand when the seminar ended at 5:00 p.m. on Saturday.

Gratefully yours,

Volta Torrey

Volta Torrey
Editor

VT/DdeF

JOSEPH POLONSKY

DIR. DÉPART. ET. TÉLÉVISION A LA Cie Gle DE T. S. F.

8, RUE VOISEMBERT
ISSY-LES-MOULINEAUX

TÉL. : MIC. 01-39

(Seine)

INTERNATIONAL RADIO
CONSULTATIVE COMMITTEE

NINTH PLENARY ASSEMBLY 1959
Biltmore Hotel
Los Angeles, California, U.S.A.
Cable address COMRADIO, *Los Angeles*

Los Angeles
April 9, 1959

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

Dear Professor Wiener:

Thank you very much for your kind reply and for the invitation.

I will be in your office on Thursday morning, April 16th as you propose in your letter.

Thanking you again, I remain

Very truly yours,

J. Polonsky

J. POLONSKY.

April 9, 1959

Professor E. J. Hannan
Department of Statistics
Canberra University College
Box 197 Post Office
Canberra City, Australia

Dear Professor Hannan:

I am sending you under separate cover the reprints which you requested in your letter of April 3rd. As to my having been turned down for an appointment in Australia, that is very ancient history. It is completely irrelevant to the present situation and I feel very cordial towards my Australian colleagues such as Gordon Brown, head of the Electrical Engineering department.

Sincerely yours,

Norbert Wiener

NW:mmk

April 10, 1959

Mrs. McLellan
Admissions Office
Room 3-103

Dear Mrs. McLellan:

I am enclosing the correspondence which we received from Mrs. Martin Pender concerning her son, Daniel J. Pender. We greatly appreciate your seeing that this gets into the proper hands.

Thank you.

Sincerely yours,

Margaret M. Kruger (Mrs.)
Secretary to Professor Wiener

Enclosures

PERSPECTIVES IN BIOLOGY AND MEDICINE

Editorial Office:
950 East 59th Street
Chicago 37, Illinois
MIdway 3-0800, Ext. 2697, 3383

April 13, 1959

Professor Norbert Wiener
Department of Mathematics
Massachusetts Institute of Technology
Cambridge 39, Massachusetts

Dear Professor Wiener:

We wonder whether we can schedule your review of Symposium on Information Theory in Biology for the Autumn issue of PERSPECTIVES? To include it in that issue we would need to have the review by the end of May.

With best regards.

Sincerely yours,

Elizabeth Munger

Elizabeth Munger

[ans 4/16/59]

DR. MED. FRITZ BEYME
Steinengraben 79,

Basel, 14th April 1959

Dear Professor Wiener,

a few weeks ago I spent an evening with Herrn und Frau Prof.Ostrowski and was told, that you had been there for tea last year. When they heard of the admiration, which I have for you since almost ten years, they said, I should have told them before. They would have invited me together with you, to give me the opportunity of meeting you.

I had told Prof.Ostrowski about a paper, which I am about to publish, where the question of archetypes is of paramount importance. I am stumbling over a point, where the measurement of information comes in. I said, that you are the very person, who can help me in this difficulty. So Prof. Ostrowski encouraged me to write to you directly. He sends you his and Mrs.Ostrowski's kindest regards.

As you are perfect at German - Prof.Ostrowski told me so - I leave the text untranslated.

Thanking you in advance, I am yours very sincerely

Beyme

[ans 5/14/59]

11.1.1.3)Psychologische Besonderheiten von Familien, Rassen und Nationen:

Am leichtesten wird dieser Fragenkomplex verstÄndlich, wenn man die Schemata IX bis XI in Jacobis Psychologie von C.G.Jung betrachtet.

"Die Schemata IX und XI sollen nun den Gesamtaufbau des totalpsychischen Systems eines Individuums veranschaulichen. Der unterste Kreis (in Schema IX ist es der Innere) ist der grösste. Auf ihm ruhen über einander geschichtet und immer enger werdend die übrigen; als Abschluss die Spitze des Ego. Dazu stellt Schema XI eine Art psychischen Stammbaumes dar, die phylogenetische Entsprechung zur vorangegangenen ontogenetischen Darstellung. Ganz unten liegt das Unergründliche, die zentrale Kraft, aus der sich einstens die Einzelpsychen ausgeschieden haben. Diese zentrale Kraft geht durch alle weiteren Differenzierungen und Vereinzelungen hindurch, sie lebt in allen, durchschneidet sie bis zur Individualpsyche als einzige, die durch alle Schichtungen ganz und einheitlich durchgeht."

Darüber folgen die einzelnen Abschnitte.

"Jeder Abschnitt steht für eine weitere Differenzierung der Kollektivpsychen, bis die HÖhe der individuellen, einmaligen Psyche von Menschheitsgruppen zu nationalen, vom Stamm zur Familie weiterschreitend, erreicht ist." (Jacobi,l.c. p.61-63) Unterstreichungen von mir)

11.1.1.4)Erbliche Uebertragung bestimmter psychischer Inhalte.

"Ich habe bei einem Geisteskranken folgende Wahnidee beobachtet: Der Kranke sieht an der Sonne ein membrum erectum. Wenn er mit dem Kopfe hin- und herwackelt, so schwankt auch der Sonnenpenis hin und her und daraus entsteht der Wind. Diese sonderbare Wahnidee blieb mir so lange unverstÄndlich, bis ich die Visionen der Mithrasliturgie kennen lernte."(Symbole der Wandlung,p.169)

Die entsprechende Textstelle lautet:

"Aehnlicherweise wird sichtbar sein auch die sogenannte RÖhre, der Ursprung des diensttuenden Windes. Denn du wirst von der Sonnenscheibe wie eine herabhÄngende RÖhre sehen." (Dietrich l.c.p.6,7 (Zit.bei Jung ibid.p.166ff30)

"Diese merkwürdige Vision einer von der Sonnenscheibe herunterhÄngenden RÖhre würde in einem religiÖsen Texte, wie dem der Mithrasliturgie, befremdend wirken, wenn dieser RÖhre nicht phallische Bedeutung zukÄme: Die RÖhre ist der Ursprungsort des Windes. Aus diesem Attribut ist die phallische Bedeutung zunÄchst nicht zu ersehen. Es ist aber daran zu erinnern, dass der Wind, so gut wie die Sonne, ein Befruchter und SchÖpfer ist. Bei einem Maler des deutschen Mittelalters finden wir folgende Darstellung der Zeugung: vom Himmel kommt eine RÖhre oder ein Schlauch herunter und begibt sich unter die RÖcke der Maria; darin fliegt in Gestalt der Taube der hÄilige Geist herunter zur Befruchtung der Gottesmutter."(Jung ibid.167f)

Die Wahnidee wirft auch einerklÄrendes Licht, wie mir scheint, auf eine recht dunkle Stelle des Textes, die unmittelbar der vorhin zitierten folgt: "Dieterich(p.7) Übersetzt hier 'Und zwar nach den Gegenden gen Westen, unendlich als Ostwind; wenn die Bestimmung nach

den Gegenden ~~GANXKAMTKKX~~ des Ostens der andere hat, so wirst du in ähnlicher Weise nach den Gegenden jenes die Umdrehung(Fortbewegung) des Gesichtes sehen.' Mead übersetzt:
'And towards the regions westward, although it were an infinite Eastwind. But if the other wind, toward the regions of the East, should be in service, in the like fashion shall thou see, toward the regions of that (side) the converse of the sight.'
"ὅραμα ist die Visön, das Gesehene; ἀποφορά heisst eigentlich das Wegtragen, Wegnehmen. Der Sinn dürfte demnach sein: je nach Richtung des Windes wird das Gesehene bald dahin, bald dorthin weggetragen oder gewendet. Das ὅραμα ist die Röhre, der 'Ursprungsort des Windes', welche sich bald nach Osten, bald nach Westen wendet und vielleicht den entsprechenden Wind erzeugt. Mit dieser Bewegung der Röhre stimmt die Vision des Geisteskranken erstaunlich überein. Dieser bemerkenswerte Fall hat mir Anlass gegeben zu gewissen Untersuchungen an geisteskranken Negern. Ich konnte mich bei dieser Gelegenheit überzeugen, dass das bekannte Motiv des Ixion am Sonnenrade..im Traume eines ungebildetes Negers vorkam. Diese und einige ähnliche Erfahrungen genügten mir zur Orientierung: es handelt sich nicht um eine für die Rasse charakteristische Heredität, sondern um eine allgemeinmenschliche Eigenschaft. Es handelt sich auch keineswegs um vererbte Vorstellungen, sondern um eine funktionelle Disposition, gleiche oder ähnliche Vorstellungen zu produzieren. Diese Disposition habe ich später als Archetypus bezeichnet."(Jung ibid.169f

"Ich habe oben ein Beispiel davon gegeben, wie eine mythische Aussage(Sonnenphallus) sich unter Bedingungen wiederholt, welche keine Uebermittlungsmöglichkeiten erkennen lassen. Der Patient war ein kleiner kaufmännischer Angestellter mit nicht mehr als Sekundarschulbildung. Er war in Zürich aufgewachsen, und die grösste Anstrengung der Phantasie konnte mich nicht in den Stand setzen, auch nur zu ahnen, woher der Patient die Idee des Sonnenphallus, die Hin- und Herwendung des Gesichtes und die Entstehung des Windes bezogen haben könnte. Ich selber, der ich doch weit eher in der Lage gewesen wäre, vermöge einer gewissen allgemeinen Bildung im diesen Gedankenzusammenhang zu wissen, war völlig unwissend und habe überhaupt erst vier Jahre nach meiner erstmaligen Beobachtung (1906) die Parallele dazu in Dieterich: Eine Mithrasliturgie, welches Buch 1910 erschien, entdeckt.
"Diese Beobachtung ist nicht vereinzelt geblieben: Es handelt sich selbstverständlich nicht um vererbte Vorstellungen, sondern um eine angeborene Disposition zu parallelen Vorstellungsbildungen, bezw. um universale, identische Strukturen der Psyche, welche ich später als das kollektive Unbewusste bezeichnet habe. Diese Strukturen nannte ich Archetypen. Sie entsprechen dem biologischen Begriff des 'pattern of behaviour'."

Ich kann beim besten Willen keinen Unterschied zwischen den zuvor zitierten Auffassungen Freuds und den ihnen im Einzelnen entsprechenden Ansichten Jungs finden.

11.1.1.5) Lamarckismus bei Freud.

Hören wir weiter Freud:

"Ausserdem wissen wir, dass wir den Unterschied zwischen ererbten und erworbenen Eigenschaften nicht zu einem Gegensatz überspannen dürfen; unter dem Ererbten ist, was die Vorfahren erworben haben, gewiss ein wichtiger Anteil."

11.1.3) Kemper und das Prinzip der tabula rasa.

Wo er sich mit der Lehre von den Archetypen auseinandersetzt, schreibt Kemper (Der Traum ...p.145f)

"Gegenüber solcher Konzeption ist die Frage berechtigt, ob nicht die vorhin genannten uns allen gemeinsamen typischen Marksteine in unserem gesamten Lebenslauf schon ausreichen, um in jedem von uns genügend tiefe gleichartige Eindrücke zu hinterlassen, so dass diese, wenn sie durch geeignete kategorial entsprechende Tagesvorfälle mobilisiert werden, dann nächtlich in einer bei allen Menschen weitgehen übereinstimmenden Art im Traume wieder auftauchen müssen. Diese Gleichartigkeit der typischen Grunderlebnisse des Menschen würde schon hinreichend erklären, warum Märchen, Mythen und Sagen (obwohl sie doch, wie gesagt, objektiv 'falsch' sind bzw. sogar vielfach als historische Fälschung nachgewiesen werden konnten) sich dennoch durch die Jahrhunderte hindurch haben erhalten können, und von uns allen gesucht und gepflegt werden. Dank des auch im modernen technisierten Menschen erhalten gebliebenen Restes der archaischen 'Ursprache' verstehen wir sie noch unmittelbar, weil wir ihnen als unserem eigensten Geschehen stets nahe sind. Sie erfüllen uns ständig. So können, ja müssen wir sie auch jederzeit in unseren Träumen neu gestalten."

Es nähme mich wunder, wie Kemper auf Grund der "typischen Marksteine in unserem gesamten Lebenslauf" die Vision vom Sonnenpenis erklären würde. Bei Kemper spukt inplicite die Idee, es handle sich bei der Psyche ursprünglich um eine tabula rasa. Und gegen diese Idee ist es, dass Jung auftritt, wenn er bei den Archetypen von Vererbung spricht.

Wenn es nicht möglich ist, die Vision vom Sonnenphallus aus dem Lebenslauf des Geisteskranken zu erklären, bleibt nur noch die Annahme übrig, dieser seltsame Inhalt sei rein zufällig im Patienten aufgestiegen. Obwohl das logisch eine mögliche Annahme ist, sträubt sich in uns etwas dagegen, in dieser ausgefallenen Uebereinstimmung zwischen Halluzination und griechischem Text einen blossen Zufall zu sehen. Wenn schon Zufall, dann wollen wir wenigstens wissen, mit wie grosser Wahrscheinlichkeit dies Zufall gewesen sein kann. Gibt uns die moderne Wahrscheinlichkeitsrechnung eine Antwort auf diesse Frage? Schon E.Bleuler hat aus einer ähnlichen Situation heraus die gleiche Frage gestellt, damals jedoch keine befriedigende Antwort erhalten.

11.1.3.1) Die Rolle des Zufalls beim Aufsteigen eines sogenannten "archetypischen patterns".

E.Bleuler ging damals von einem bekannten Beispiel aus Freuds Psychopathologie des Alltagslebens (Ges.W.IV:13ff) aus. Dort konnte ein junger Mann den Vergilvers "Exoriare aliquis nostris ex ossibus ultor" nicht mehr reproduzieren, weil ihm das Wort "aliquis" entfallen war. Dieses Wort hing für ihn mit liquis = flüssig und a-liquis = nicht flüssig zusammen und erinnerte ihn daran, dass bei seiner Freundin die Monatsblutung noch nicht floss. Er hatte deshalb eine Schwangerschaft befürchtet. Bleuler knüpft nun daran eine von ihm erdachte Wahrscheinlichkeitsrechnung. Als vorsichtiger Wissenschaftler lässt er sie allerdings im Hypothetischen stecken und betont, dass sie "die konsultierten Mathematiker alle als falsch" ansahen. (Das autistische Denken p.128)

Zwischen Bleulers Beispiel und der Vision vom Sonnenphallus besteht nun aber ein fundamentaler Unterschied. Bei Freuds Gesprächspartner war nämlich aus einer vorhandenen Information etwas verlorengegangen. Umgekehrt ist in der Vision des Schizophrenen scheinbar aus dem nichts eine neue Information entstanden. Ist so etwas rein auf Grund des Zufalles überhaupt möglich? Die moderne Kybernetik weiss darauf eine klipp und klare Antwort. Sie lautet: nein!

Es kann in einem geschlossenen System "Information verloren gehen aber niemals gewonnen werden."(Wiener: Mensch p.71)"Diese Tatsache, dass Information verloren, aber nicht gewonnen werden kann, ist die kybernetische Form des zweiten Hauptsatzes der Thermodynamik."ibid.p12

Zu diesem zweiten Hauptsatz der Thermodynamik noch einige Bemerkungen, die ich A.March (p.42f) entlehne:" Jeder makroskopische Zustand lässt sich auf verschiedene mikroskopische Arten verwirklichen. Je grösser die Zahl dieser Möglichkeiten ist, desto leichter und daher auch häufiger wird die Natur den Zustand treffen,was mit anderen Wor-

ten heisst: desto grösser ist die Wahrscheinlichkeit dieses Zustandes. Darauf gründete Boltzmann seine berühmte Deutung des II.Wärmesatzes, nach welchem die Entropie eines abgeschlossenen Systems niemals abnimmt. Der Satz wird sofort verständlich, wenn man die Entropie [1] als eine Grösse auffasst,die mit der Wahrscheinlichkeit des Zustandes zusammenhängt und wächst, wenn diese zunimmt. Er besagt dann einfach, dass ein sich selbst überlassenes System sich immer nur so verändern kann, dass sich dabeisseine Wahrscheinlichkeit vergrössert. Nehmen wir z.B. an, ein in ein Gefäss eingeschlossenes Gas sei zunächst mit ganz ungleichmässiger Dichte über den Raum des Gefässes verteilt; das ganze Gas sei etwa in einem Winkel zusammengedrängt, der ganze übrige Raum stehe leer. Das ist ein äusserst unwahrscheinlicher Zustand, dem der gleichmässigen Verteilung kommt eine viel grössere Wahrscheinlichkeit zu. Das Gas wird daher in kurzer Zeit in den zweiten Zustand übergehen, dem auch eine grössere Entropie entspricht. So erwies sich der II.Hauptsatz nicht als ein kausales, sondern alsein statistisches Gesetz, dessen Verletzung nicht schlechthin unmöglich, sondern nur ausserordentlich unwahrscheinlich ist."

Im von Bleuler angeführten Beispiel ist eine Zunahme der Entropie erfolgt, indem mit dem Worte "aliquis" Information verloren ging. Es ist Ordnung verloren gegangen, und an ihre Stelle ist Unordnung getreten. Dies wäre rein zufällig ohne weiteres möglich. Der Beweis, dass es nicht zufällig war, interessiert uns in diesem Zusammenhange nicht. In Junks Beispiel hingegen finden wir eine Abnahme der Entropie Die Annahme, dass so etwas zufällig geschehen könnte, widerspricht einem physikalischen Gesetz. Allerdings würde gemäss der statistischen Mechanik "zumindest in der Makrowelt, keine strenge Kausalität herrschen, sondern jedes Gesetz würde grundsätzlich Ausnahmen zulassen, die allerdings $\frac{so}{so}$ selten eintreten,dass wir niemals Gelegenheit haben, sie zu beobachten."(March p.43f.)

Die Möglichkeit, dass die Vision vom Sonnenphallus rein zufällig zustandegekommen sei, können wir damit ausschliessen. Wir sind damit im Prinzip genau so weit,wie dort, wo wir die reine Zufälligkeit einer Assoziation zwischen dem Traum von der unvollendeten Todeshochzeit und der FrigiditÄt anhand des chi^2-Tests ausschlossen.

Die nÄchste Frage lautet nun: Wie eng ist die Assoziation zwischen den Aussagen des Schizophrenen und dem zitierten griechischen Text? Ist sie enger als dass angenommen werden könnte, die Aehnlichkeit zwischen den beiden sei als zufÄllig zu betrachten? Damit stellt sich gleichzeitig die Frage nach dem geeigneten numerischen "Mass für den Betrag der Information."(Wiener: Mensch..p.12)

Falls es gelingt zu zeigen, dass die Uebereinstimmung zwischen den beiden Informationen derart gross ist, dass die Wahrscheinlichkeit einer rein zufÄlligen Aehnlichkeit unterhalb der konventionellen Werte(5%,1% oder 1‰) liegt, so können wir die Nullhypothese, es bestehe kein Zusammenhang zwischen den beiden zurückweisen. Wir dürfen dann eine gemeinsame Quelle der beiden vermuten, die aber nicht von aussen, sondern von inwendig stammt. Diese Quelle bestÜnde dann in MÖglIchkEIt der vererbten Möglichkeit ohne Äusseren Anlass identische oder Ähnliche Vorstellungen zu produzieren - eben in dem was C.G.Jung als Archetypen bezeichnet.

Ereignis	Vision des Schizophrenen	griechischer Text bei Dieterich	Uebereinstimmung Zeichen	Num
n_1	Der Kranke sieht	ὄψει = Du wirst sehen	+	
n_2, n_3	an der Sonne	ἀὴρ ἀπὸ τοῦ δίσκου nämlich von der Scheibe (sc. der Sonne)	+	+
n_4	ein membrum	ὡς αὐλὸν = wie eine Röhre	+	
n_5	erectum	κρεμάμενον = herabhängende	-	
n_6	wenn	εἰς δὲ = wenn nach (bzw. aber)	+	
n_7	er mit dem Kopfe hin-	τὰ μέρη τὰ πρὸς λίβα den Teilen, den gen Südwesten ἀπέραντον οἷον ἀπηλιώτην unendlichen wie Ostwind	+	
n_8	und herwackelt	Ἐὰν ἡ κεκλημένος Wenn (n_6) aber wäre zufällig gewählt würden wäre mit Bestimmung, εἰς τὰ μέρη τοῦ ἀπηλιώτου nach den Teilen des Ostwinds ὁ ἕτερος (sc. ὁ δίσκος?) der andere (d.h. die Sonnenscheibe)	+	
n_9	so schwankte auch der Sonnenpenis	ὁμοίως εἰς τὰ μέρη τὰ ἐκείνου ebenso nach den Teilen von jenem (d.h. vom Südwind, gen Südwesten)		
		ὄψει τὴν ἀποφορὰν τοῦ wirst du sehen das Gebührliche ὁράματος des Anblickes (d.h. wirst du den entsprechenden Anblick haben.	+	
n_{10}	und daraus entsteht	ἡ ἀρχή = der Anfang, Entstehungsort	+	
n_{11}	der Wind	τοῦ λειτουργοῦντος des diensttuenden ἀνέμου = Windes	+	

Wie ersichtlich besteht hier zwischen ~~xxxxxxxx~~ zehn von elf Ereignissen eine Uebereinstimmung. Wenn wir uns einer statistis hen Prüfmethode bedienen, die unter dem Namen Zeichentest bekannt ist, weil dabei einfach die Pluszeichen (a) und die Minuszeichen (b) gezählt werden, so bekommen wir ein chi^2 nach der Formel: $chi^2 = \frac{(a-b-1)^2}{n}$, wobei n = a+b bzw. 11= 10 + 1

$$= \frac{(10-1-1)^2}{11} = \frac{64}{11} == 5,8$$

Das kritische Wert von chi^2 liegt für eine Zufallswahrscheinlichkeit von 2% bei 5,4 . Die Wahrscheinlichkeit, dass diese frappante Uebereinstimmung zwischen zwei von der Kommunikation mit ein-

ander ausgeschlossenen Informationen, nämlich der Halluzination des damals Geisteskranken und dem inedierten griechischen Text auf blossem Zufall beruhe, ist somit sicher kleiner als 2%. Damit ist das Resultat gemäss der Konvention der Statistiker als wahrscheinlich signifikant zu bezeichnen. Mit anderen Worten: die Nullhypothese, welche annimmt, dass es sich um ein blosses sinnloses Spiel des Zufalls handle, kann wahrscheinlich zurückgewiesen werden.

Mit dem Zeichentest haben wir uns nun aber einer sehr groben Prüfungsmethode bedient. Das Resultat wäre hier genau das gleiche gewesen, wenn es sich um einen völlig banalen Inhalt handeln würde, wie etwa: Du gehst in die Stadt und kaufst Brot, Butter, Käse, Eier, Schinken, Speck, Salz und Schmalz ein. Auch in dieser Information hätten wir 11 Ereignisse. Doch würde niemand viel dahinter suchen, wenn einmal zwei derartige Informationen unabhängig von einander übereinstimmten. Ganz anders mit dem Sonnephallus, der an sich schon eine ausgefallene Sache ist, von der die wenigsten Leute gehört haben dürften. Dass dann aber dieser beim Hin- und Herwackeln des Kopfes ebenfalls hin- und herschwankt, und dass daraus der Wind entsteht, ist extrem merkwürdig. Das muss doch irgendwie quantitativ erfassbar sein. Und um dies abzuklären, habe ich mich an Herrn Prof. Wiener gewandt.

April 14, 1959

Mr. Herbert Dorfman
Producer, WNEW-TV
205 East 67th Street
New York 21, New York

Dear Mr. Dorfman:

I am very flattered by your invitation to participate in the new series entitled "America's Great Teachers". It is tempting but I am afraid I shall be compelled to turn it down for the following reasons. In the first place I find television work very fatiguing. One meeting can and does put me out of my stride in work for a week or more. Therefore I have to refuse television invitations or at least accept them very gingerly. However, when it comes to accepting invitations gingerly, I am confronted with a serious difficulty. If I accept some and not others of possibly equal merit, I am making a distinction which is invidious and which can lead to bad feelings. Moreover, I am put to the necessity of disposing in one way or another of a by no means negligible group of invitations. It is far more desirable on my part that these invitations should not come to me and should not put me to the burden of a plurality of decisions and should not consume my time and my judgment. I have therefore adopted a tight policy of refusing all television invitations of any kind however meritorious they may be. I hope you will understand the necessity that I am under of protecting my health and my work.

I want to call your attention to one interesting fact about your invitation. Two of the other speakers whom you mentioned are A. A. Berle and R. Sessions. Berle, Sessions and myself are the three surviving members of the group of abnormally young students who were together at Harvard around 1910. The other two members were Houghton who died of appendicitis during his student days and Sidis who as you know had an unfortunate breakdown a few years later. Thus, leaving out Houghton who was a non-starter, the record of some degree of success on the part of this group is three to one. At this late date when we are all in the middle sixties there can be no question of our careers being flashes in the pan and the fact that you have seen fit to ask us shows to me that we have all had worthwhile careers. Hoping you will understand my refusal, I remain,

Sincerely yours,

Norbert Wiener

NW:mmk

April 14, 1959

Miss Judith Serebnick
Library Journal
62 West 45th Street
New York 36, New York

Dear Miss Serebnick:

I wish to compliment you on the very intelligent questionnaire you have sent me concerning my new novel. Unlike most questionnaires it was a pleasure to answer. If you need more material from me I shall be glad to send it to you but I think that I have written you all that is necessary. Enclosed you will find the completed form and a fairly complete list of my publications.

Sincerely yours,

Norbert Wiener

NW:mmk
Enclosures

The Albany Medical College of Union University

Albany, New York FOUNDED IN 1839

Department of Anesthesiology

April 15, 1959

Doctor Norbert Wiener
Department of Mathetmatics
Massachusetts Institute of Technology
Cambridge 39, Massachusetts

Dear Dr. Wiener:

I have read with great interest, your letter dated March 31, 1959. I thouroughly agree with you that the difficulties of accepting new instrumentation are very great and that too hasty introduction may bring catastrophic results in the hands of an inexperienced operator.

However, my initial letter to you which was written at the suggestion of Dr. Hesser, Professor of Neurology at the Albany Medical College, was not primarily concerned with the problem of instrumentation per se, as much as with the problems of the operational capacity and the organization of the brain which are obviously put under strain by this instrumentation. In other words, the problem has come to our attention because this new instrumentation has taxed our ability to operate efficiently and we are trying to know what are the limits of efficient operation of the brain. In the light of these considerations, and within the general framework of the outline which is in your hands, I am wondering if you would not like to reconsider your decision and contribute or participate as a speaker.

Thank you,

Antonio Boba, M.D.

AB/pk

[ans 4/22/59]

P.F.Collier & Son Corporation
640 Fifth Avenue · New York 19, N. Y.

Executive Offices

April 15, 1959

Dear Dr. Wiener:

I enclose herewith tear sheets of your excellent article on Cybernetics. We would very much appreciate your reviewing this article and making whatever changes you feel are required to bring it up to date. We will, of course, pay you for your review and for any new wordage that you feel is required. (We cannot stipulate the amount of this fee, however, until we have your opinion on what has to be done.)

Thank you in advance for your kind assistance.

Sincerely yours,

W T Couch

William T. Couch
Editor-in-Chief
Collier's Encyclopedia

Dr. Norbert Wiener
Department of Mathematics
Massachusetts Institute of Technology
Cambridge 38, Massachusetts

WTC:EMR:rjs

[ans 9/28/59]

C O S M O P O L I T A N

FIFTY-SEVENTH STREET AT EIGHTH AVENUE, NEW YORK 19, N.Y.-COLUMBUS 5-7300

April 15, 1959

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

Dear Mr. Wiener-

I am preparing a column for The American Weekly to be called "An Expert Speaks." In it will appear distinguished specialists in various fields of knowledge - such as Keith Funston, Head of the New York Stock Exchange, Dr. George Papanicolaou, noted cancer specialist, and Dr. George Stevenson of the Mental Health Association. I wonder if you could find time in your busy schedule to talk with me for a half hour or so about a subject on which you have written a great deal -- the problems and pleasures of being an extraordinarily gifted child -- in brief, a genius.

I think that your observations and experience would be of great help to parents of gifted children as well as being quite fascinating in themselves.

I shall be up in Massachusetts on the week-end of April 26-27, and would be happy to call on you at your convenience.

Sincerely,

Thomas J. Fleming
Executive Editor

tjf/hc

[and 4/22/59]

April 15, 1959

Professor Walter A. Rosenblith
Department of Electrical Engineering
Room 20B-221

Dear Professor Rosenblith:

Enclosed is a letter which Professor Wiener received from Mr. J. D. Chambers of London, England, concerning work on blind aid. Professor Wiener would appreciate your handling the request for information.

Thank you.

Sincerely yours,

Margaret M. Kruger (Mrs.)
Secretary to Professor Wiener

Enclosure

April 15, 1959

Miss Mary Ward
College of Saint Francis
Joliet, Illinois

Dear Miss Ward:

Professor Wiener asked me to write and thank you for your letter of April 1st. He can only answer for the work he is doing at the present and feels you should consult other present-day mathematicians in regard to their work. I am enclosing a few reprints of papers by Professor Wiener and hope that these will give you some information about his present work. I might also refer you to his latest book which came out in December, 1958, entitled Nonlinear Problems in Random Theory. It was published by John Wiley & Son, Inc. in conjunction with The Technology Press of M.I.T.

Sincerely yours,

Margaret M. Kruger (Mrs.)
Secretary to Professor Wiener

Enclosures

NEW YORK UNIVERSITY
WASHINGTON SQUARE, NEW YORK 3, N.Y.

DEPARTMENT OF PHILOSOPHY

TELEPHONE: SPRING 7-2000

Graduate School of Arts and Science
University College of Arts and Science
Washington Square College of Arts and Science

April 16, 1959

Dear Professor Wiener,

I am enclosing the program of the New York Institute of Philosophy. We hope you will find it convenient to attend the three sessions but we shall expect you for the second.

May I ask a favor of you? Would it be possible for you to send us, not your paper - which I presume is still in your head - but a few pages indicating in general what you are going to say? This is not for purposes of publicity but only for the discussants who will thereby be in a better position to make intelligent and informed comments. I know that you yourself would prefer this to merely stuttering acknowledgements of wonder and admiration.

I think you will like our group. We are all looking forward to your talk. Sincerely yours,

Sidney Hook

[ans 4/23/59]

Third Annual Meeting *of the*

NEW YORK UNIVERSITY

INSTITUTE OF PHILOSOPHY

MAY 15-16, 1959

DIMENSIONS OF MIND

Chairman, SIDNEY HOOK, New York University

FIRST SESSION

Friday, May 15, 1959, at 8:00 p.m.

1. CONCEPT FORMATION IN PHILOSOPHY AND PSYCHOLOGY

Stephen Toulmin, Professor of Philosophy,
University of Leeds, England

B. F. Skinner, Professor of Psychology,
Harvard University

SECOND SESSION

Saturday, May 16, 1959, at 10:00 a.m.

2. THE BRAIN AND THE MACHINE

Norbert Wiener, Professor of Mathematics,
Massachusetts Institute of Technology

Michael Scriven, Professor of Philosophy,
Swarthmore College

J. B. Rhine, Professor of Psychology,
Duke University

LUNCHEON FOR PARTICIPANTS: 1:00 P.M., VANDERBILT HALL

THIRD SESSION

Saturday, May 16, 1959, at 2:30 p.m.

3. THE BRAIN AND THE MIND

Wolfgang Kohler, Emeritus Professor of Psychology,
Swarthmore College

Wilfrid Sellars, Professor of Philosophy,
University of Minnesota

Stephen Pepper, Professor of Philosophy,
University of California

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257 FOURTH AVENUE, NEW YORK 10, N. Y.
SPRING 7-5530

April 16, 1959

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

Dear Professor Wiener:

We will be publishing shortly, WHAT IS CYBERNETICS? by G.T.Guilbaud and it would be very helpful, in introducing the book to the American market, to have a brief Preface by some American authority. I am therefore writing to ask if you would be willing to consider reading the book with the thought of writing such a Preface for us in mind.

Yours sincerely,

Sidney Phillips

Sidney Phillips

sp/e

[ans 4/29/59]

April 16, 1959

Miss Elizabeth Munger
Assistant Editor
Perspectives in Biology and Medicine
950 East 59th Street
Chicago 37, Illinois

Dear Miss Munger:

Thank you for your letter of April 13th. Professor Wiener is working on his review of Symposium on Information Theory in Biology and will definitely have it to you by the end of May, so that you may schedule it for the Autumn issue of Perspectives.

Sincerely yours,

Margaret M. Kruger (Mrs.)
Secretary to Professor Wiener

April 17, 1959

Dr. Julius A. Stratton, President
Massachusetts Institute of Technology
Room 3-208

Dear President Stratton:

I wish hereby to make a record of my gratitude to you and to the Institute for my new appointment as Institute Professor. It puts the capstone on the deep relations which I have had for years with the Institute and with you personally. The warmth of your letter means a great deal to me not merely as an official of the Institute but also as a person. My relation with the Department while officially changed will receive no factual change through my new appointment and I shall always consider myself a member of the Department where I have grown up, developed, and participated for years.

I intend on the first possible occasion to supplement this letter by calling at your office and thanking you both in your capacity as President of the Institute and as an old and very dear friend.

Sincerely yours,

Norbert Wiener

NW:mmk

17 Anthony Lane
Albany, N. Y.
18 April 1959

Dr. Norbert Wiener
Massachusetts Institute of Technology
Boston, Mass.

Dear sir:

Having read the article treating of a strong focusing principle and in particular the difficulties experienced by an aspiring Physicist named Christofilos (Life Magazine, March 30, 1959) the writer was struck by the element of suggestion embodied within the article when, for instance, it was weighed against that which he has found it possible to provide the 'press' with to date. Should you be unaware of yet interested in the nature of that which the press is or should be in possession of in this connection he suggests that you contact David H. Beetle, Editor, Knickerbocker News Albany, N. Y.
For the major portion of his lifetime to date the writer has been tuned to strong focusing principles of a Buck Rogers variety and he can prove it. And he doubts very much that Mr. Christofilos would be familiar with the operations referred to. As a consequence, he (the writer) would like to inquire as to what you would do were you in a similar position since he is advancing rearward to the point whereat he is now sweeping floors in the Schenectady works of the G. E. Co. and for reasons he understands only too well. But since the writer is politically ignorant in many important ways he is not necessarily blaming the A.A.M. for his predicament since during the past ten years, in particular, his mental capabilities have been on a par with that which would be required of a janitor.
Should you be cognizant of yet disinterested in the writer's position you have only to ignore receipt of this letter. The writer is, incidentally, aware of all of the various and possible political and similar reasons why you could conceiveably choose to ignore it etc. He (the writer) is a member of the A A A S. and a former member of the A R S.
A reply is expected on or before 25 of April, 1959.

Respectfully yours
Fayette Eckert

Copies to Dr. Edward Teller and Dr. J. Robert Oppenheimer.

A. WARREN STEARNS, M. D.
BILLERICA, MASSACHUSETTS

April 18, 1959.

Professor Norbert Wiener
53 Cedar Road
Belmont, Massachusetts.

Dear Professor Wiener:

I have been asked to write a few letters to members of the Class of 1909, with which I spent one year, soliciting contributions to the Alumni Fund at Tufts College.

As you well know, one of the important sources of revenue for endowed colleges is the contributions of the Alumni. On the whole, the Tufts group has done very well - and especially our Class.

I do hope you will feel like making a contribution of some sort. You may send it either to me or directly to the Fund.

I hope also that you are coming to the Fiftieth Reunion this June.

Sincerely yours,
A. W. Stearns

AWS/pas

[ans 5/1/59]

COMITATO NAZIONALE PER LE RICERCHE NUCLEARI
SCUOLA DI PERFEZIONAMENTO IN FISICA TEORICA E NUCLEARE
NAPOLI - Mostra d'Oltremare, Pad. 19 - Telef. 387681

li April 20 1959

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

Dear Professor Wiener:

I am extremely pleased to hear from Dr. Braitenberg that you consider spending some time with us in Naples. It will be an honor and a magnificent opportunity for us: any time of your choice will be convenient.

I wish also to thank you for having sent me so kindly your last book, which we are studying with great care.

Have my thanks for your interest in us and, with Mrs. Wiener, my best wishes and regards.

Sincerely yours,

E. R. Caianiello

ERC:amh

[ans 9/28/59]

SNTL

Maison d'édition technique

Monsieur
W i e n e r
c/o Hermann, Editeur,
6, Rue de la Sorbonne,
P A R I S Ve,
France

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20 avril 1959

Ré.: Wiener: Cybernetics.

Monsieur le Professeur,

Nous nous permettons de vous envoyer ci-joint une copie de notre lettre du 8 janvier adressée à Vous, Monsieur le Profeseur, sur laquelle nous sommes restés jusqu'aujourdhui sans aucune réponse.

Nous vous serions obligés si vous voudriez bien nous communiquer si vous préparez des changements ou suppléments de quelques chapitres.

Dans l'espoir de vous lire bientôt, nous vous présentons, Monsieur le Professeur, nos salutations distinguées.

MAISON D'ÉDITION TECHNIQUE
Ing.J.Grohman Dr J.Brož

1 annexe

[ans 5-13-59]

Monsieur
WIENER
c/o Hermann, Éditeur,
6, Rue de la Sorbonne
P A R I S Ve,
France

8 Janvier 1959

19/Čh/Pe/030

Monsieur le Professeur,

Nous nous permettons de vous faire savoir que nous avons déjà engagé des traducteurs de votre publication: Cybernetics.

Le 29 Mai 1958 a été convenue avec l'éditeur HERMANN, PARIS que notre maison comme traducteur s'engage à apporter au texte publié les corrections que vous exigerez lors de la traduction. Nous vous prions donc, Monsieur le Professeur, au cas, que vous préparez des changements ou suppléments de quelque chapitres, de nous les envoyer aussitôt que possible, car nous avons l'intention de terminer la traduction jusqu'au 1er Juin 1959.

Dans l'attente de vous lire bientôt, Monsieur le Professeur, nous vous prions de croire à l'assurance de nos sentiments très distingués.

MAISON D'ÉDITION TECHNIQUE
Ing.J.Sucharda
Rédacteur en chef

ALAN D. HAAS PRESS FEATURES

articles, photo essays, brochures, manuscripts

42 West 12th St., New York City
OR 5-8665

April 20,1959

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

Dear Mr. Weiner:

I am a writer/photographer engaged in the production of feature articles for national magazines.

I am currently seeking to locate a gifted child, age about 10 or 11 years, who is attending college anywhere in the US. The child would be the subject of a feature story for Cosmopolitan magazine in a forthcoming education issues

Knowing of your interest in gifted children I thought perhaps you could help me locate such a child. Do you know of any such youngster or can you find out if any exist? I need to have a subject for this essay within a very few days, and would greatly appreciate your letting me know within the week if you have any information.

Your cooperation will be greatly appreciated by myself and the magazine.

Very sincerely yours,

Alan D. Haas

ADH:ma

[and 4/27/59]

Paul Watzlawick
41 Av. Sur y 4a C.P., No.10
San Salvador, El Salvador, C.A.

20 April 1959

Prof. Norbert Wiener
c/o Massachusetts Institute of Technology
Cambridge, Mass.

Dear Professor Wiener:

I am at present working as professor of psychopathology and psychotherapy at the University of El Salvador. My contract expires at the end of this year. Before returning to Europe I want to go to the United States for further studies.

Because of my experience in World War II with firing predictors I have become very interested in your research in Cybernetics. Since working in the field of psychotherapy, however, I have been particularly fascinated by certain aspects of your work and the analogies with problems regarding the working and the evolution of the human mind.

As you know, psychoanalytic therapy uses certain concepts, such as defense mechanisms, ambivalence, pro- and regression of libido etc. - to mention just a few - the existence of which can be empirically proven, although the actual process involved is a matter of mere hypothesis. Modern psychoanalysis has also had to acknowledge one of the basic laws of Gestalt psychology according to which the whole is always more than the sum total of all parts. These particular aspects of psychoanalysis still need a great deal of research and study and psychoanalysis should, therefore, be receptive to any leads that other fields of science may offer.

As I understand that not only neurologists, but also psychologists are at times collaborating in certain lines of research work in cybernetics, I wonder if there is any possibility of my being admitted to such work. Attached is a biographical data sheet, giving my education and professional activities to date.

I can assure you that any advice or help you may be able to give me in this matter will be deeply appreciated. Thanking you in advance, I am

yours truly

Paul Watzlawick

(Paul Watzlawick, Ph.D.)

Encl.: 3

[ans 5-13-59]

BIOGRAPHICAL DATA

Paul WATZLAWICK, born on 25 July 1921 in VILLACH (Austria), Austrian citizen.
Permanent address: Warmbad-Villach, Villa Scotti, Austria;
present address: 41 Av.Sur y 4a C.P., No.10 San Salvador, El Salvador, C.A.

Education

Elementary School and college in Austria;

1945-1949: University of Venice (Italy), Modern Languages and Philosophy;

July 1949: Graduation from a/m University, Dissertation on "The Philosophy of Vl. Solovev", Ph.D.

1951-1954: Institute for Analytical Psychology, Zurich (Switzerland): theoretical and practical training in psychotherapy; training analysis (3½ years) and control analyses (approx. 200 hours), partly performed in Zurich and partly in Rome under the supervision of a training analyst accredited with the Institute;

during the same period: 3 semesters psychiatry and psychology at the University of Zurich; complementary courses on psychodiagnostics and other test methods at the Institute for Applied Psychology, Zurich; 9 months practice in clinical psychology in two mental hospitals near Zurich;

October 1954: final examinations and diploma in Analytical Psychology, Zurich.

Professional activities

1946 - end of 1950: secretary and personal assistant to the (British) Deputy Director of Public Safety, Free Territory of Trieste (organization, investigations, general problems of delinquency);

November 1954 - June 1955: psychotherapeutic practice in Bombay, mostly in co-operation with the physicians of the European Hospital (short analyses);

November 1955 - February 1957: psychological practice in Munich (Germany) and part-time collaborator of Prof.Dr. Hans Bender, University of Freiburg (Germany) and Director of the Institute for Frontier Areas of Psychology and Mental Health, Freiburg;

since April 1957: professor of general psychopathology, basic psychiatry, psychosomatics and psychotherapy at the Medical and Philosophical Faculties respectively, National University of El Salvador; (total number of lectures by the end of 1959 will be about 950);

(Biographical data, contd.)

since May 1958: (in addition to the above) private psychotherapeutic practice in San Salvador;

since July 1958: (in addition to the above) psychological consultant to the Rehabilitation Center for Blind Children, San Salvador.

Professional memberships

Constitutional member of the Association of Graduate Analytical Psychologists, Zurich;

Individual member of the International Association for Analytical Psychology, Zurich.

Languages

Mother tongue German; English, Italian, Spanish fluently; good working knowledge of French; reading knowledge of Russian.

References

Institute for Analytical Psychology, Gemeindestrasse 27, Zurich 32, Switzerland;

Ernst Bernhard, M.D., psychotherapist, via Gregoriana 12, Rome (Italy);

Kurt Binswanger, M.D., psychiatrist, Moussonstrasse 15, Zurich 44;

Hans Borchers, M.D., lecturer, Medical Clinic, University of Munich;

Kenneth E. Bond, F.R.C.S. (England), Consulting Surgeon to the Bombay European Hospital Trust, B. Desai Road, Bombay 26, India;

K.W. Bash, M.D., psychiatrist, at present Medical Officer, W.H.O., Abassia Mental Hospital, Cairo (Egypt);

José Kuri, M.D., neurologist, Dean of the Medical School, National University of El Salvador, Calle Arce 1439, San Salvador, El Salvador, C.A. (I should appreciate prior notification before writing to Dr. Kuri.)

W. CLEMENT STONE
PRESIDENT

TELEPHONE RAVENSWOOD 8-1000
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SERVICE SECURITY STRENGTH

5050 BROADWAY
CHICAGO 40, ILLINOIS

April 22, 1959

Massachusetts Institute of Technology
Cambridge, Massachusetts

Attention: ~~Dean of Engineering~~ Science

Dr. Norbert Weiner, who is your Mathematics and Cybernetics expert as I understand it, is a consultant for industries in the United States. Could you please tell me the names of the industries for which he acts as consultant?

Thank you very much for your information in this matter.

Henry F. Alderfer

HENRY F. ALDERFER
Educational Director

HFA/aa

[anz 4/29/59]

THE ROYAL COLLEGE OF SCIENCE AND TECHNOLOGY
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TEL: OFFICE—BEARSDEN 2275
DOMESTIC BURSAR—BEARSDEN 4677

Our Ref.....

Your Ref.....

22nd April, 1959.

Mrs. Margaret M. Kruger,
Secretary to Professor Wiener,
Department of Mathematics,
Massachusetts Institute of Technology,
Cambridge,39,
MASSACHUSETTS,
U. S.A.

Dear Mrs. Kruger,

Thank you for your letter of March 17th, enclosing some material which I had left in your office.

Would you please give Professor Wiener my kindest regards and tell him that I greatly enjoyed the visit which I had with him and that I am hopeful that he will be able to come to Glasgow when next he visits Britain.

Yours sincerely,

W. Allan Gay.

W. A. Gay.

UNIVERSITY OF CALIFORNIA

CENTER FOR THE STUDY OF HIGHER EDUCATION
2747 BANCROFT WAY
BERKELEY 4, CALIFORNIA

April 22, 59

Dear Dr. Weiner:

I was much interested in your book on "the Human Use of Human Beings."

Enclosed is my own small amount of thought on some related topics, and I thought you might be interested.

(I mentioned you, forgive me, as a prophet! – on the first page, along with some former esteemed colleagues)

Very sincerely yours
Harold Webster

[ans 4/29/59]

Do we trust our machines too much—or not enough?

Mechanized Decisions and Human Problems

HAROLD WEBSTER

Historians explain, perhaps with some oversimplification, that scientific progress has been paid for by loss in pride. For example, our ancestors had scarcely recovered from the shock of finding that the earth was not the center of the universe when evolution and psychoanalysis made further assaults on their feelings of self-importance. It appears that a similar kind of change in self-regard is still going on: it is becoming increasingly evident that modern man cannot have confidence in the wisdom of his judgments unless he is willing to depend on calculating machines to increase the effectiveness of his own reasoning. The entire realm of policy decision-making within many institutions is being revolutionized by new methods of collating and evaluating the information upon which decisions rest.

The revolutionaries themselves are inconspicuous enough; they are mostly mathematicians and scientists who describe their interests with seemingly innocuous phrases such as "theory of games," "information theory," "decision functions," and "operations research." Actually, the effects of these areas of research on society have not been fully recognized or appreciated. Just as the psychoanalytic movement had its prophets, its Herbarts and Groddecks, so the current change in social decision-making was foreseen by mathematicians such as von Neumann, Wald, and Wiener. Psychoanalysis wounded our vanity because it demonstrated how rational intentions to satisfy needs are so very often frustrated by behavior which, because of unconscious motives, is inappropriate for that purpose. It is more ironic to be confronted with evidence that even when there are no unconscious or ethical conflicts, leaders are unable to make wise decisions without depending upon arithmetical recipes.

The movement is widespread and growing rapidly; even though it is impossible to see exactly what is happening, the kinds of problems

Reprinted from THE HUMANIST, 1958, No. 6.

discussed below may be expected to increase. Many examples of the effects of applying mathematical decision functions to the activities of industry or business could be cited. Readers are certainly acquainted with some of the problems posed for labor by automation; there seems to be less awareness of its drastic effects upon management. Automation eventually enables a project or production line to "run itself," in the sense that decisions must depend on what comes out of computers, which are continuously fed information about the operation process. Some important policy decisions are, of course, required in order to determine initially what is to be fed into the computers. One object of operations research, however, is to find the procedures by which even these "input" decisions can be routinized. We can easily imagine how this "escape from freedom," even from daily decision-making, might have disturbing effects upon imaginative and responsible company managers.

Problems of Prediction

A typical example is provided by an expanding dairy company which needed to revise its program for shipping milk. This involved changing dispatchers' schedules to include new areas, in competition with other companies, while maintaining service in older areas in which the demand for milk was less variable. After much study, company officials whose task it was to solve the problem found themselves at odds with each other, and hired the services of consultants. A mathematician, using data from the company's accounting office, was able to offer a succession of solutions, corresponding to successive hypothetical expansions in service. Having available the inevitable electronic computer, he could thereafter experiment with "linear programming," even when unforeseen changes suddenly arose, until satisfactory solutions entailing known acceptable risks were found. An immediate social effect, as described by the mathematician, was a gain in power within the company by the official most willing to understand and use the method, and a feeling of frustration among the others. It is likely, however, that more important changes have been occurring within the dairy market itself, where competitors will be forced either to adopt similar methods or else to take unnecessary risks to earn comparable profits.

• Harold Webster *has taught psychology, and done educational and psychological research for Vassar College. He is now working at the Center for the Study of Higher Education at the University of California in Berkeley.*

An example of resistance to the revolution in decision-making was described recently by a psychologist employed by a branch of the armed services. A high-ranking commander insisted on organizing his specialists and their supplies differently from the distribution "ordered" by the mathematical model, even though it was agreed that in the past he had obviously been no match for the computer. It is, of course, also easy to find examples where policy makers would like to put newer methods into effect but are unable to do so because of generalized resistance from members of their own organizations. Resistance probably arises within many kinds of institutions today, and there is a belief in some quarters that the new methods entail a "dehumanization" of relationships such that the sternest counter-revolutionary measures are warranted.

This brings us to some more serious problems, the ethical issues arising from attempts to apply mathematical decision methods in areas such as education, medicine, and politics. Decision conflicts in these areas affect immediately the welfare of individual scholars, patients, and citizens; and we are likely therefore to feel more uneasy about the errors made than we would about either reduced profits for a few competing corporations or malassignment within our emergency-minded armed services. Ten years ago in England, a study of two liver ailments was carried out for the purpose of improving diagnosis. The two illnesses are difficult to distinguish at the onset, but without proper treatment one of them usually proves fatal. The disorders are, therefore, easily distinguishable in the final phase. Using the data from available case histories, outcomes of which had been observed, it was possible to assign to each of a number of symptoms a different weight, derived mathematically in such a way as to provide a composite measure which could be used to minimize the number of misdiagnoses. Although there was evidence that the resulting classification function diagnosed new, primary stage cases with less error than that arising for conventional diagnosis, the entire process was regarded with profound skepticism and no little aversion by the majority of medical specialists who learned about it.

Other similar applications in medicine could be cited. It may not be very long before medical practitioners will need to compare their own rates of misdiagnosis for certain kinds of illnesses with the rates obtained using computers. There is actually little doubt that the computers, with their unerring "memory" for the numerous symptoms of many case histories, will eventually win out quite easily. Meanwhile, the ethical conflicts

which can arise during the transition from the present period of intuitive recognition and weighting of symptoms to the future period of statistical diagnosis are not hard to visualize—they may even be severe enough to lead some physicians to study probability decision functions! The reader can participate vicariously in this kind of decision problem by imagining that his own child is ill. Will the illness progress somewhat as it has in thousands of previous similar illnesses for children of this age? In this case the machine containing the mass of case history information could easily win, specifying the probabilities of various subsequent disease states, in competition with human diagnosticians. Or will the illness be "entirely unique"? If this were so, then the medical specialists' intuitions might be more effective.

Problems of Selection

The problems of classifying or predicting the course of illnesses have received very little attention in comparison with the problems of classifying students or potential students. The increase in numbers of college students now presents certain urgent problems. Does a college have the right to admit some students and to deny admission to others? This question, phrased here as an ethical inquiry, is too broad to explore in depth. We can preface the discussion with two simplifying observations. First, policy makers have always had to assume the responsibility, whether they liked it or not, for making decisions which influence the future welfare and status of other people. Second, educators, who have been no exception to this rule, will probably be required to go on attempting to identify the better students for the purpose either of favoring them for admission to college or for recommending them in preference to others for graduation, with or without certain honors or distinctions. Of course, theoretically our society could put a stop to these kinds of decisions by insisting that educators admit everyone to college, and later graduate everyone with no distinctions. But this seems unlikely to happen, at least in the immediate future.

Suppose that, whether we like it or not, we have to decide which applicants to admit to a college. What information shall be used to make the best decision? Perhaps it should first be emphasized that the problem of selecting students for admission to college has a determinate solution *only* if some criterion of successful performance in college exists. The whole selection procedure would necessarily be entirely arbitrary and

meaningless if it were not possible to distinguish some kinds of variations in student performance, or to assess in some crude way the extent to which students realized the goals of their education. A few teachers are likely to flounder at precisely this point: they are either unwilling or unable to define what they are trying to do in terms which can be related to students' experiences. Reluctantly assigning some letter grades, they may even declare that the grades are meaningless!

The great majority of teachers try seriously, however, to invest grades, or other similar kinds of ratings, with meaning. At least some partly valid criterion with which success of college performance can be assessed therefore exists for most colleges. Current educational research, moreover, is aimed at broadening our knowledge of what happens to students during their college years, so that more general criteria of educational growth are already being investigated.

The current practice among leading colleges is to admit students mainly on the basis of probable future success as measured by grades; and it is now generally known that past performance in secondary school, for example, rank in high school graduating class, and the scores on certain ability and aptitude tests are the best predictors of future college grades. This practice seems to be followed partly because no one can think of anything else that works as well. In a few cases where other criteria of selection have been employed, the institutions have been severely criticized.

For example, it is now known that various motivation measures and certain attitudes toward studying will also contribute significantly to the grade-prediction formula. But when such measures were actually included in a selection test battery which is widely used in England, the educators were accused of unfairness by some political leaders. Here the ethical conflict seems clear: even though chances of success in later academic work are increased by possession of certain attitudes and motives, should not one of the functions of college education be to try to induce just these attitudes and motives? In other words, it might be argued that institutions of higher learning should be prepared to spend more time changing the attitudes and motives of potentially good students, rather than giving preference to those who already have strong motivation for college achievement. The opposing argument is equally clear: why should college professors, who are usually expected to be doing many other things, also be asked to assume the responsibility for a task which—if it

were at all possible to accomplish—should have been achieved much earlier by other institutions such as the secondary school, the home, and the community?

Note that in the case just described, the computer had not been used to help decide *which kinds* of college admission tests to employ. Instead, this important preliminary decision, which had to be made despite disagreement among citizens concerning the function of their universities, was effected by traditional methods. The decision to include motivation measures among the admission tests was a failure, if only because it was politically impossible to implement it. Conceivably it might have been better if the computer had been used to help make this preliminary decision. For example, it might have been used either to process public opinion data concerning the desired function of universities, or else to work out a "game theory" strategem for implementing the decision in the face of political opposition. Either of these moves would have brought even the required preliminary decision concerning choice of admission tests into the domain of the newer decision processes. This kind of situation provides only one example of changes in social leadership function which may be expected to occur more and more frequently in society.

Political decision-making will not be discussed here at length. It is generally known that during the last decade politicians have paid increasing attention to public opinion poll data, sometimes to their disadvantage. Merely giving citizens what they think they want is obviously no substitute for leadership in any form of society. It is likely that with the gradual improvement of voting prediction techniques, however, preelection polls will assume increasing importance in political strategies; and this will present the politician with all kinds of ethical problems, a few of them quite new.

Problems of Information

One of the main sources of resentment of mechanical processing of information to be used for making decisions can be traced to various misconceptions of what constitutes useful information. For example, some teachers still behave as though they could agree among themselves, research findings to the contrary, on the *reflexive* information present in essays. We may never be able reliably to assess the merit of the essay until teachers actually begin to regard it as a way of communicating information about some topic other than itself. On the other hand, there is often

resentment of the use of certain procedures for obtaining information because it is known that it is intended for use routinely with mathematical decision functions. Upon being asked which tests he would require for admitting students to college, a professor recently stated that he would use no paper-and-pencil tests at all, but instead would depend entirely on interviews—or if it were impossible to interview all applicants, then he would admit all of them, "first come, first served." This attitude reveals (among other things) a belief that more valid information is obtained by interviewing than by other methods, a view which receives almost no support from past and current social research. Regardless of the future of interviewing as a method, it has not been very useful, when compared with other data sources, for predictions of achievement.

It is easy to sympathize with the professor, however, for he was aware of certain general social trends toward conformity and routinization, as described so dramatically by observers such as Riesman and Whyte. The recommendation to eliminate "routine" methods of selection in favor of more personal ones, though understandable, is premature.

We need new ways of encouraging and nurturing humanistic values within all institutions, and this would seem particularly desirable in the case of the colleges. In moving in this direction, however, we cannot deny the reality of the new decision-making movement, many aspects of which appear to be irreversible. A more realistic plan is to attempt *to humanize decision processes*. First, however, let us consider some of the problems which must be solved before this will be possible.

It will be possible to humanize modern decision procedures only if we are willing to accept what they are revealing to us about certain limitations of our rational processes. We have a proud but exaggerated belief that we are able to make decisions which actually have the serious effect of determining our future. It appears that even though computers cannot help us to predict very well the course of events in individual lives, we can predict even less well without them. The best intuitive predictions of human behavior are significantly less precise than the very poor predictions made by using mathematical methods; and this is true for general behavior of immediate importance, as well as for most behavior which occurs in the distant future. No wonder that mental hygienists stress the "acceptance of destiny" as a prerequisite to health!

Some behavior is aimless, and a great deal of it is unrelated to the earlier conscious decisions of one's life. Perhaps this is largely due to the

intervention or impact of unforeseen circumstances on personal plans, such that our information can never be sufficient for much effective planning. Whatever the reasons, most behavior cannot have been "decided upon" in some unequivocal fashion during earlier periods of life. This is sometimes a cause for sorrow, even among a few social scientists who still persist in confusing prediction with understanding. The two concepts should not be confused, of course, for prediction is subordinate to understanding; although understanding behavior implies its predictability, the converse is not true.

The discovery that so much behavior is unpredictable might be interpreted to show that there is much freedom of choice in living—were it not for the fact that, on the contrary, most persons subscribe to the illusion that their planning is highly effective, hence quite restrictive on their behavior. And they may even subscribe to this myth despite the fact that many a "decision" is made without benefit of any relevant existing information. A great deal of what has previously been thought of as efficient communication for the purpose of effecting rational decisions has not been that at all—it has been mostly irrational noise. It is not difficult to find examples of decisions made after a great deal of conversation in which there has actually been no appreciable communication of information. Many decisions, therefore, are either arbitrary or entirely dependent upon unconscious needs. This fact must be understood before we can safely attempt to improve modern decision processes.

Even though the relative importance of various *kinds* of decisions is still largely uninvestigated, it appears that a person makes *more* decisions in an hour of mental testing than he usually makes in several hours of interviewing or in several weeks of conversations with friends. Most predictable behavior is not understood, so there is no very good reason why we should be concerned about failures of mental tests to predict behavior in the distant future. Other more immediate behavior, which appears to be partly dependent upon certain continuous decision processes, may be highly predictable; but it is only now being conceptualized by social scientists, often with the aid of mental tests, for purposes of further study.

It would seem to be a poor time to dispose of mental tests as "unscientific," as W. H. Whyte advocates in *The Organization Man*. The personnel problems of modern corporations, as described by Mr. Whyte, are probably not very different from many of the problems of student selection, or classification, which are confronting colleges today. If cor-

porations want to select conformists in preference to other kinds of employees, then it seems that they have every right to do so, at least until the larger society either makes them stop or else insists on the use of certain safeguards of the rights of the individuals concerned. (It might be hoped, if corporations exercise the right to select conformists, that they will also have the courage to perish from stagnation!) But do they indeed have a right to *reject* the nonconformists? As in the case of the colleges, such an ethical inquiry seems meaningless without attention to the presumed function of corporations within the larger society. On humanistic grounds the inquiry cannot be answered, of course, without a direct concern for the individual and his rights.

We can well imagine a case where a nonconformist, having been informed of the function of the corporation, and having been given the opportunity to compare its aims with his own—as revealed, say, by test data or by interviews—would happily go elsewhere. We are not especially concerned with this kind of employee, nor with a college student, for instance, who on the basis of what is believed to be the best information available has changed his choice of a college. We are more interested in the responsibilities to the prospective employee or student who, despite a poor prognosis for a successful future within the institution, will nevertheless be willing to take the risk if admitted.

In order to humanize decision processes, we should, therefore, pay more attention to the use of the relevant information *by the individuals who are being classified*. This is exactly what at least one large western university has been attempting to do: each student is presented with his computed probability of success in various specialties within the institution, and then encouraged to make his choice. He knows the odds which the counselors think are against him if he decides to attempt an area of study for which the obtained data indicate a very small probability of success. Surely this kind of information can do him no harm. If he is a rare case destined to succeed against high odds, then he may very well know this, even though the institution does not; he will in any case be assuming a risk *about which he will have more information* than if he had not seen his classification data. The only objection the writer has heard to this procedure (made by a parent of a prospective student) was that the predominance of peculiarly adaptable students might encourage college departments to become set in their ways, much as conforming employees might paralyze corporations into static, unimaginative masses.

From the viewpoint of college teachers this danger is accompanied by at least one advantage, which, of course, consists of easing the task of teaching "misfits" who would otherwise be admitted unnoticed. Nevertheless, the danger remains; and it might be necessary eventually to defend actively against it, either by admitting more students who are large risks, or else by asking departments to conduct studies of the very students whom they may understand least well, that is, those for whom the probabilities of success seem very small.

The inevitability of the spread of these new decision methods should certainly not be a cause for discouragement or alarm. Initial misapplications or injustices are probably partly due to failures to recognize inherent limitations; for example, failure to realize that no amount of information will be sufficient to effect perfectly errorless decisions, especially when social policy is desired. Initial shortcomings may also be due to a tendency to forget that, ideally, decision functions should be recomputed constantly on the basis of new information. Finally, the fact that classification data are for democratic and educational reasons "fed back" to the very individuals who are being classified does not necessarily mean that the institution concerned will become overstabilized.

April 22, 1959

Dr. Antonio Boba
Assistant Professor of Anesthesiology
The Albany Medical College of Union University
Albany, New York

My dear Dr. Boba:

I am afraid that I will be unable to participate in your November conference. As the topic for the conference seems to be set very definitely, I do not see that there is much scope for remarks on my part that are not directly within this set frame. I am profoundly skeptical of the present tendency to multiply conferences with prescribed topics and I do not feel that I will have very much to contribute.

Sincerely yours,

Norbert Wiener

NW:mmk

April 22, 1959

Mr. Thomas J. Fleming
Executive Editor
Cosmopolitan
Fifty-seventh Street at Eighth Avenue
New York 19, New York

Dear Mr. Fleming:

I shall be very glad if you can come up and we can talk together off the record. However, I cannot promise to give you material for your column. If you are willing to talk with me knowing that this talk is more than likely to prove fruitless as a source of new material for you, I shall be glad to see you.

Sincerely yours,

Norbert Wiener

NW:mmk

April 22, 1959

Professor Lee Lorch
Department of Mathematics
Wesleyan University
Middletown, Connecticut

Dear Professor Lorch:

I have at hand your letter of April 6th. For the present I have been too occupied to give your letter the attention that it deserves but now that my duties are a little more off my back, I shall study it most carefully. I think that your conjecture is closely connected with the reductions of the method of summation to a method where the kernel function is a difference and that the k depends on the transformation necessary to make this reduction. As soon as I have thought the matter out more, I shall write to you again.

Sincerely yours,

Norbert Wiener

NW:mmk

[ans 5/5/59]

Challenge
THE MAGAZINE OF ECONOMIC AFFAIRS
475 FIFTH AVENUE. NEW YORK 17. N. Y. MURRAY HILL 5-4971

April 23, 1959

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

Dear Professor Wiener:

I am enclosing, belatedly, an edited version of our interview as it will appear in the June issue of CHALLENGE. I trust you are satisfied with it.

If, however, you find any basic error of fact and/or interpretation, I shall appreciate your letting me know as soon as possible.

Thank you once again for a most stimulating experience.

Sincerely,

Martin Kessler
Senior Editor

MK:dv
enc (1)

[ans 4/27/59]

April 23, 1959

Professor Sidney Hook, Chairman
Department of Philosophy
New York University
Washington Square
New York 3, New York

Dear Professor Hook:

I shall be at the meeting on May 16th but I doubt if I can come to the other day's meeting. If I stay in New York I will be pretty heavily occupied with work to do and with visits to my daughter's family in New Jersey.

As to the topic of my talk, I think I shall speak on the problem of the programming of programming and of machines of higher logical types in the sense of Bertrand Russell's use of the work type. It has come to the practical attention of people constructing computing machines and automatic factories that the task of organizing the program of consecutive operations of such an instrument is by no means easy. There has been in many quarters an attempt to relegate at least a portion of this work to machine computation which is what I call machine computation of a higher type. In this computation the elements to be determined are rather logical steps to be taken in a definite order than numerical quantities. A considerable amount of progress in this direction has already been made and I have been shown some of the results of this work in programming an automatic milling machine both as far as the detailed program is concerned and as far as the mechanical results of this programming. This question of the programming of programming is most important both as an indication of some of the problems which the brain has and as a source of a new conception of the possibilities and responsibilities of the machine. From the point of view of the brain, it represents an increasing mechanical understanding of what we can call the higher functions. Because we now have an application of mechanism not merely to the slavish following out of a program into which all the essential elements of human thought have been put in advance, but an actual aid to the lower stages of thought itself. It has been a common problem of those who emphasize the difference between the brain and the machine to say that the machine cannot do anything original but is merely an executory enlargement of the scope of the human beings who have made it. It has even been supposed that those who have made a machine must have automatically a full comprehension of all the possibilities of performance of the machine and that the dangers mentioned by Samuel Butler that the machines may to some extent control humanity are absurd and empty. Now that the machines are stepping up one or more stages in their functions, this idea of the machine is already insufficient and the difficulties and

dangers conceived by Samuel Butler assume a new actuality. I can illustrate this best by considering what is after all a minor function of the machine: that of playing games. One must realize that very considerable progress has been made in the construction of chess playing machines and that very great progress has been made in the construction of machines to play checkers. Chess playing machines as of now will counter the moves of a master game with the right moves recognized in the textbooks up to some point in the mid-game. It is true that when they go wrong, they will go very wrong and commit absurdities. In checkers the plays of the machine up to the very end game are already recognized to be better than the plays of a checker master. At the end game where the problem is not so much that of immediate captures as that of moving over an almost empty board into a good strategic position for later captures, the machine is not yet so totally satisfactory. On a nearly empty board one must look further ahead than when the board is reasonably occupied.

Now, let us consider the game playing machine from the point of view of the opposing player. In order to eliminate the prejudices which this player will have on the basis of actually seeing a machine before him, let us suppose that the machine is being used to play correspondence chess where the opposing player receives his antagonist's moves in the familiar form of a postcard. In such a case the attitude of the opponent to the machine will be initially the same as that of the opponent to a person. It is impossibile to play a game of high skill without getting an impression of the game personality of the antagonist. With a machine playing in accordance with an absolutely set program the opponent will get the impression of a game personality which will be rigid and inflexible. This will not be the case if he is playing against a machine with higher order programming. Such a machine will store up in its memory a mass of previously played games and to some extent will erase from its memory the results of games played a long time ago. Within limits on the basis not only of its own plays but of the games played against it, it will determine a policy which is optimum not in the abstract but in view of the success or failure of earlier games and of earlier moves. As a consequence the tricks that the human player against it will have made at the beginning will cease in time to be as effective as they once were and the machine will learn and benefit by the intelligence of its opponent. Such a machine will give a far less rigid impression of its playing personality and will gradually get on to the favorite tricks of the other player which will thereby come to lose their effectiveness. It will not be at all easy for the human player to be sure that he is playing a machine and not a person.

In the case of such a machine while the general policy will be put into the machine by a person, the detailed applications of this policy in particular instances may not and in general will not be known to those who have programmed it. There will be a strong unpredictable or at least

unpredicted element in its detailed plays. The problem of playing against it will be much more like the problem of playing against a human opponent than in the case of a machine of only first order programming.

What can be done in the case of a game playing machine can also be done in the case of a computing machine or an automatic factory. This gives rise to certain questions of a quasi moral and a quasi human nature. Here there arises the fundamental paradox of slavery. I do not refer to the cruelty of slavery which we can neglect entirely for the moment as I do not suppose that we shall feel any moral responsibility for the welfare of the machine. I do refer to the contradictions besetting slavery as to its effectiveness. A slave is expected to have two qualities, that of intelligence and that of subservience. These two qualities are by no means perfectly compatible. The more intelligent the slave is the more he will insist on his own way of doing things in opposition to the way of doing things imposed on him by his owner. To this extent he will cease to be a slave. Similarly the machine with a higher order programming will do things that we may not have foreseen in detail. The result is that in the employment of such a machine we are bound to find sooner or later that the purpose of the machine does not conform to the detailed mode of action which we have chosen for it. Indeed it is just because of such considerations that we have relegated to the machine its function of performance.

With a machine of this sort the dangers signalled by Butler become immediate. Where we do not fully understand we shall be under pressure to conform and to a certain extent the machine rather than ourselves will be the lord of such performance. This imposes upon us new obligations and new responsibilities. The machine will still be literal minded on its highest level and will do what we have told it to do rather than what we want it to do and what we imagine we have told it to do. Here we dig into the moral problems which earlier generations have faced on the level of magic. Jacobs' story The Monkey's Paw as well as Goethe's poem of The Magician's Apprentice and the Arabian Nights legend of the fisherman and the genie call this matter to our attention. The Monkey's Paw gets its owner a small fortune at the cost of the mangling of his son in the machinery of the factory in which he works. The Magician's Apprentice was learnt the words by which the broomstick was made to fetch water but has not yet learnt the words to stop it. The genie in the bottle once it had been released by the fisherman has a will of its own which is bent on his destruction. These tales of imagination cease to be tales of imagination once we have actually made working agencies which go beyond the complete comprehension of those who have constructed them. There is nothing which will automatically make the automatic factory work for human good unless we have determined this human good in advance and have so constructed the factory as to contribute to it. If our sole orders to the factory are for an increase in production without regard to the possible aspects of this new and vast productivity

and without regard to the problems of unemployment and of the redistribution of human labor, there is no self working principle of laissez-faire which will make them redound to our benefit and even prevent them from contributing to our own destruction. The responsibilities of automation are new, profound, and difficult.

This is a rough summary of the topics I wish to bring up. I don't intend to confine myself to the repetition of these words and I am rather loathe to write them down in much more detail than I have here. I hope the summary will meet your needs.

Sincerely yours,

Norbert Wiener

NW:mmk

[ans 4/27/59]

Route 1
Emmaus, Pa
24 April 1959

Dear Professor Wiener,

Sherwood Mercer sent me that pamphlet with your talk before that Columbia-and-whatnot engineering group. I didn't read the others yet, because I was most interested in yours and have since passed the pamphlet around among some friends. You gave such a true picture of the generation difference and at the same time made yourself clear through the beautiful picture of your childhood environment and your father's mind! I have associated a great deal with Jews, from my childhood in Nürnberg till now, that I am sure you also gave the right "causal" explanation. Of course, not all Talmud scholars had brains, but they all have a respect for reading and learning and matters of the mind, and that is inbred and part of the biological structure, I am sure; for that silly separation of "environment" and "heredity" is obviously impossible logically, unless we have a soul substance that is free from our bodily existence. I see now in my little daughter--I am fifty-five and therefore able to see much that a young father wouldn't even know how to look for -- traces of a physiological and psychological structure that recalls much from my father and myself etc. And I have often remarked in classes that the Jewish students were the only ones who could be called intellectual, though occasionally we get some others, (~~though~~ but hardly anyone from the Pennsylvania German element.) But enough of this. I just wanted to say something because I enjoyed your talk so much.

I enclose something that may not interest you, since the approach is far from mathematical. But I wanted to get at it in the round-about way that lawyers use when they know they will lose in the lower court and mean to lay the foundation for an appeal. I had to use the historian's mimicry before I could venture into that matter of mathematical psychology. I don't know whether I am right about it. But I think the essence was already seen by Euler; that applying numbers is already setting up proportions (since one refers something to unity etc.); otherwise it would be inexplicable why such naive notions as Faraday's or, for that matter, Maxwell's would "work" or why ideal gasses and ideal pendula etc. satisfied the needs until refinements could be developed. And then the presumption ~~was~~ that the totality of mathematics and theoretical physics is also such a "unit" by which a good deal of 'reality' is understood. Not just the model idea, but rather more directly. Most of what matters is said in paragraphs 2 ff. —

The other day I thought of something that may be nonsense; but as there is no good mathematician, let alone a physicist of any importance at our college, I cannot test out the matter as I would have at Rice Institute, where I once was. If it bores you, just forget about it. Anyhow, I do not mean to trouble you at all with any of this, and am more or less just talking. The idea was this:

MUHLENBERG COLLEGE
ALLENTOWN, PENNSYLVANIA

Since one can measure the current that goes into an electro-magnet, since one can weigh a piece of metal in a ceetain place on earth, it should be possible to make a definite connection between electricity, magnetism and gravitation, because the point at which the magnet lifts the piece of metal should be relatively easy to determine. But then we would have an empirical relation between magnetic, gravitational and electric terms, by which one ought to be able to approach the Einsteinian problems in the old-fashioned way that the nineteenth century used. While this would of course apply only to terrestrial conditions, it should be easy to generalize from that. Is this all nonsense ? At any rate, I do not recall ever having seen anything on this in the various books I read at one time or another. (I cannot do mathematics, of course; but I have often had an intuition when I was reading it, because I seem to be able to see psychological connections and thus anticipate what next will turn up. Again and again, I have had the experience that I expected something to come later, and it did come later in the treatise or in another work of the same man. That is why such simplist books like Neumann-Morgenstern's theory of games and such bore me. It is too obvious that very little will be found in the end or that one can predict what will be found without having to write more than a couple of pages. Perhaps this is putting application over the manipulation that seems to intrigue some mathematicians as a pleasurable entertainment, but I guess I am an amateur meta-mathematician.) That is why I don't dare to write this to anyone but a genius like yourself. You will at least see it in the proper proportion, I am sure.

Well, enough of this. I started out to thank you for that talk, and I ended with far more than I had meant to say. But then it's up to you to disregard it. I won't feel hurt a bit.

Sincerely yours,

Heinrich Meyer

Heinrich Meyer

DEPARTMENT OF RESEARCH

BARNWOOD HOUSE,
GLOUCESTER

Glos. 66207.

Your ref.:
Our ref.:

Date 25 April 1959

Dear Walter,

The part of Wiener's "Non-linear problems in random theory" that I would like taken up with him is the discussion on pages 70 to 77. He gives several examples of oscillating systems that, when coupled, pull together in frequency.

Now this cannot be a general property, for it is possible to have two simple harmonic oscillators that, when coupled, form a whole that is not, in the strict sense, periodic at all. I am interested to know whether Wiener can give any really general characterisation (one that is both necessary and sufficient, if possible) that will determine whether pulling-together will or will not occur on coupling.

I have written to him raising the question, so when you meet him he will probably have had time to give the matter some thought. I have suggested that his opinion would be acceptable either as a letter to me or through discussion with you; so I expect he will take the latter.

Yours faithfully,

W. Ross Ashby

[ans 5/21/59]

DEPARTMENT OF RESEARCH

BARNWOOD HOUSE,
GLOUCESTER

Glos. 66207.

Your ref.:
Our ref.:

Date 25 April 1959

Dear Dr. Wiener,

Your "non-linear problems in random theory" has interested me very much. The part that I am most interested in, and that I would like to see further developed, is that on page 70. I wonder if you could amplify it a little?

You give there the example of the generators that feed into a common load, and later the example of the asteroids as affected by Jupiter, suggesting that the pulling-together of frequencies is common. Now I believe it cannot be maintained that all systems (including the non-conservative, such as the brain) will show a pulling-together; for even two linear systems, each strictly periodic, can give a whole that is not strictly periodic (by the presence of real exponential decay factors.) So I wonder if you can give the general conditions (necessary and sufficient if possible) that specify when a pulling-together will occur.

Dr. Grey Walter, I understand, will be seeing you in a few days. If you could find time to clarify the matter, either by a letter to me or by discussion with him I would be very grateful.

I hope you are keeping well. I shall probably not be visiting the States in the immediate future, but I hope we may meet again before long.

Very sincerely yours,

W. Ross Ashby

W. Ross Ashby

[ans 4/28/59]

Duke University

THE PARAPSYCHOLOGY LABORATORY

COLLEGE STATION
DURHAM, NORTH CAROLINA
U.S.A.

April 25, 1959

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

Dear Professor Wiener:

I have had the temerity to accept Professor Hook's invitation to discuss your paper on the brain and the machine on the morning of May 16, although I am an authority on neither. Since I am partly deaf in the bargain, I should greatly appreciate it if you would let me have a copy of your paper to read in advance. I have no doubt Professor Scriven will have a similar interest, and perhaps he has already written you. Or you may have sent copies to Professor Hook. Any help you can give me on this matter will be needed and appreciated.

Sincerely yours,

J. B. Rhine

f/

Belmont Public Library BELMONT 78, MASSACHUSETTS

ELIZABETH J. HODGES, Librarian

April 27, 1959

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

Dear Dr. Wiener:

The Board of Library Trustees, the Chairman of the Belmont Committee for National Library Week, and the librarian of the Belmont Public Library send this letter to express their appreciation for your help in writing a statement on reading for publication in connection with the celebration of National Library Week April 12-18, 1959.

Thank you very much for your kind interest in the Belmont Public Library and your help in this nationwide observance for a better read, better informed America.

Sincerely and gratefully yours,

Walter E. Boright, Chairman
Library Board of Trustees

George Manuel Fenollosa, Chairman
Belmont Committee for National
Library Week

Elizabeth J. Hodges
Librarian

Memorandum from the
DEAN'S OFFICE
SCHOOL OF SCIENCE
M. I. T.

From: George R. Harrison

April 27, 1959

NEW YORK UNIVERSITY
WASHINGTON SQUARE, NEW YORK 3, N.Y.
DEPARTMENT OF PHILOSOPHY
TELEPHONE: SPRING 7-2000

April 27, 1959

Dear Professor Wiener,

Thank you very much for your letter of April 23rd and the summary of your remarks. I shall forward them at once to Professors Serwin and Rhine who will open the discussion.

We are looking forward with the keenest interest to the meeting.

Sincerely yours,

Sidney Hook

April 27, 1959

Mr. Alan D. Haas
42 West 12th Street
New York, New York

Dear Mr. Haas:

As I know well by experience how much damage publicity can do to a gifted child, I do not feel disposed to answer your request. If you think this matter over, you will understand perfectly what I mean.

Sincerely yours,

Norbert Wiener

NW:mmk

April 27, 1959

Mr. Martin Kessler
Senior Editor, Challenge
Institute of Economic Affairs
New York University
475 Fifth Avenue
New York 17, New York

Dear Mr. Kessler:

I am very pleased with your revision of my interview. I hope that our paths will cross in the future.

Sincerely yours,

Norbert Wiener

NW:mmk
Enclosure

April 28, 1959

Dr. R. Ross Ashby
Department of Research
Barnwood House
Gloucester, England

Dear Dr. Ashby:

Congratulations on your new appointment. I shall talk the matter over with Dr. Walter when he comes here. Hope we shall run into one another soon. I may be in Europe about a year from now.

Sincerely yours,

Norbert Wiener

NW:mmk

April 28, 1959

Professor E. R. Caianiello
Comitato Nazionale Per Le Ricerche Nucleari
Napoli - Mostra D'Oltremare
Italy

Dear Professor Caianiello:

This is to confirm my interest in spending some time in Naples with you during the summer of 1960 or the fall term of 1960-61 or both. I enjoyed my contacts with my Naples colleagues very much and both my wife and I are looking forward to a very interesting time.

Sincerely yours,

Norbert Wiener

NW:mmk

April 28, 1959

Mr. William T. Couch
Editor-in-Chief
Collier's Encyclopedia
640 Fifth Avenue
New York 19, New York

Dear Mr. Couch:

Enclosed is the tear sheet of Professor Wiener's article on Cybernetics which you sent with your letter of April 15th. Professor Wiener asked me to tell you that no revision is necessary.

Sincerely yours,

Margaret M. Kruger (Mrs.)
Secretary to Professor Wiener

Enclosure

[aw 4/30/59]

HUGHES

Research and Development Laboratories

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SCIENTIFIC AND
ENGINEERING STAFF

OFFICE OF ADVANCED SCIENTIFIC EDUCATION

April 29, 1959

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

Dear Professor Wiener:

We understand that you will be teaching mathematics course number X 497AB, entitled "Nonlinear Problems in Random Theory", at the University of California, Los Angeles, from July 6 to 17, 1959. Because of significant contributions which you have made in the field of communication theory, we should like to invite you to visit the Hughes Research and Development Laboratories in Culver City, California, as a Howard Hughes Lecturer at some convenient time during July in order to inform the Senior Members of our Technical Staff of some of the most recent developments in your research activities. We would like to suggest Monday, July 20 as a suitable date since that will be after the completion of your course.

If you accept our invitation, we shall expect to pay you an honorarium of $150 for your lecture, plus the necessary travel, hotel, food and taxi expenses. Arrangements will also be made for you to see some of the interesting research work being carried on in our laboratories during your visit. Starting at 10:00 a.m. meetings will be scheduled between you and several of our top level laboratory research scientists who are primarily interested in your field of work. There will be a special luncheon held in your honor from 12:00 noon to 1:30 p.m. on the day of your lecture. After the luncheon ample time will be provided for you to relax and collect your thoughts for the lecture which starts promptly at 3:30 p.m. You will have an hour and a half in which to deliver your lecture and to hold a discussion period. In the past, lecturers have held their presentation to approximately one hour, thus leaving thirty minutes for questions and answers.

You may use the entire time (3:30 p.m. - 5:00 p.m.) as you think best. The audience will consist of up to 255 high level senior scientists and engineers in our various research and development laboratories.

If you are interested in visiting our laboratories and in presenting a Howard Hughes Lecture, we would be pleased to have you send us an appropriate title for your talk together with an abstract of your presentation and a brief biography of yourself. In addition, we should like to know your needs in the way of slides or movie projectors so that arrangements can be made ahead of time.

If July 20 is not a convenient time for you, please feel free to suggest another date. A second choice for us would be Monday, July 27, but we will be happy to schedule your talk on another day of the week if you prefer.

We hope to receive a favorable reply from you soon.

Sincerely yours,

E. L. Michaels

E. L. Michaels, Head
Advanced Scientific Education

ELM:tlr

[and 5/5/59]

April 29, 1959

Mr. Henry F. Alderfer
Educational Director
Combined Insurance Company of America
5050 Broadway
Chicago 40, Illinois

Dear Mr. Alderfer:

Dean Harrison of the School of Science of the Massachusetts Institute of Technology passed on to me your letter of April 22nd inquiring for what companies I was acting as consultant. As a matter of fact I am not acting as consultant for any company. I am curious however to know the purpose of this inquiry. If you can see fit to communicate it to me, I should be interested.

Sincerely yours,

Norbert Wiener

NW:mmk

[ans 5/5/59]

April 29, 1959

Mr. Sidney Phillips
Criterion Books, Inc.
257 Fourth Avenue
New York 10, New York

Dear Mr. Phillips:

Professor Wiener thanks you for your letter of April 16th in which you inquire whether he would be able to write a preface for What Is Cybernetics by G. T. Guilbaud. Professor Wiener will be extremely busy in May and will be out of Cambridge during the summer. He must therefore decline your request, for he just won't have the time to devote to writing a preface.

Sincerely yours,

Margaret M. Kruger (Mrs.)
Secretary to Professor Wiener

April 29, 1959

Mr. Harold Webster
Center for the Study of
Higher Education
University of California
2747 Bancroft Way
Berkeley 4, California

Dear Mr. Webster:

Many thanks for your article. I shall be glad to look it over and to compare it with my more recent thoughts on the subject.

Sincerely yours,

Norbert Wiener

NW:mmk

The Duodecimal Society

of Great Britain

106, Leigham Court Drive, Leigh-on-Sea, Essex.

30th April 1959.

Dear Mr. Wiener,

There is so strong a conviction in this country that a duodecimal system of numbering and measurements could bring practical advantages to all walks of life that the "Duodecimal Society of Great Britain" is in the process of being formed.

You will know that the duodecimal system is strongly supported in America where the"Duodecimal Society of America" has been organised since 1944, and indeed includes people from Great Britain in its membership.

The reference to the advantages of the duodecimal system made in your informative book "I am a mathematician" has doubtless helped towards the general support for a duodecimal system. I am sure therefore you will wish to support this Society in materials and ideas. I think a dozen shillings to be a reasonable membership fee; but donations, particularly at the start of the venture, will be very welcome. A membership form is enclosed.

I have also enclosed a leaflet, the pioneer issue of this Society, and you will see that this is no idle venture. We are sounding some eminent persons for the Presidency,and we hope in the

near future to convene our first general meeting.

I hope to hear from you soon.

Yours sincerely

(Brian R. Bishop)

Secretary.

[ANS 5/21/59]

THE DUODECIMAL SOCIETY OF GREAT BRITAIN

Application for membership

(Block letters) Surname	Christian names	Titles degrees etc.

Private address Tele.	Business address Tele.
Interests	Occupation

My interest in duodecimals arose from:-

Particular application of duodecimals which gives most interest:-

Please give comments and suggestions for the work of the Society:-

Fee of dozen shillings received	Membership card number

THE DUODECIMAL SOCIETY OF GREAT BRITAIN.

THE PAST

In years gone by numbers did not have the scientific importance and precision they need today. Man could therefore be satisfied then with the cumbersome alphabetical systems of numbering or the arbitrary Roman numerals. There was a revoluntionary improvement in Europe after several thousand years when the Arabic system of decimal numbering was first introduced in the tenth century; but it took until the sixteenth century to come into general use - that is only four hundred years ago.

Mathematicians and philosophers have long realised that the use of base ten is still a second best. This has come to particular notice with advances made during the past hundred years. Twelve with twice as many factors as ten provides the most suitable base. Herbert Spencer and Sir Isaac Pitman to name but two famous Englishmen, were early users and advocates of base twelve. In 1944 the Duodecimal Society of America was formed and is flourishing strongly in the Unites States. It is becoming increasingly necessary to sharpen British scientists' prime tool.

THE PRESENT

Opinion in many circles in Great Britain is such that a society has been formed. The Duodecimal Society of Great Britain has three aims:-

(i) to make opposition to any legislative proposal to extend the inferior decimal system;

(ii) to draw the attention of responsible people and authorities, with and without technical interests, to the superiority of the duodecimal system of numbering and units;

(iii) to conduct research into numbers and standardised units with especial reference to those using base twelve.

British tradition, either through the naturalness of the duodecimal system or in its unconscious wisdom has given us in Great Britain a particular advantage. In all the maze of our illogical systems of measurements runs a consistent duodecimal thread; for example twelve pence in a shilling; twelve inches in a foot, etc. In fact duodecimal arithmetic is scarcely more than what we are already used to.

THE FUTURE

You are the future of the Duodecimal Society of Great Britain. As in all voluntary societies, benefits received by members depend directly on the interest and effort they give. Membership dictates the activities of the Society under the direction of its Committee. Those interested in mathematical research, in an improved calculating medium or merely in an easier everyday arithmetic will be able to exchange ideas in publications, letters and personal acquaintances, whether an erudite mathematical professor or just someone who has to tot up his bills.

Anyone joining this Society will at least be sure to get some stimulating ideas and absorbing puzzles for only a dozen shillings a year. People under 19 years or who are still at college or university may join for six shillings. Any enquiry will be welcome.

FURTHER READING

A small selection from a far wider bibliography: Books (obtainable through this Society):

"An Excursion in Numbers" — F. Emerson Andrews
Pamphlet, reprint from Atlantic Monthly October 1934

"Douze: notre dix future" — Jean Essig
about 10/- Dunod, Paris. In French

"The Duodecimal Bulletin"
Official periodical publication of the Duodecimal Society of America

"Duodecimal Arithmetic" — George S. Terry
Longmans, Green & Co. 1938 (out of print)

See also long references about duodecimals in Arthur Mee's "The Childrens Encyclopaedia"

Lancelot Hogben's "Mathematics for the Million", etc....

ADVANTAGES OF DUODECIMALS

Three practical advantages arising from the extra factors become immediately obvious to anyone starting to work with duodecimals. You will find many other advantages with continued use.

(i) Divisibility by 2,3,4,6,8,9 and even E is far easier to recognise.

(ii) Fractions are simpler: for instance $\frac{1}{3}$ is 0;4 (and not an endlessly recurring number) or an exact 40 per gross instead of the awkward percentage equivalent; and similarly $\frac{1}{4}$ = 0;3

(iii) The numbers hold more, as the earlier example has shewn - e.g. 1,000,000 represents 2,985,984. And they are more exact: 0;001 represents $^1/1728$, which is smaller than $^1/1000$.

/How

How to count by dozens

1	2	3	4	5	6	7	8	9	X	E	10
one	two	three	four	five	six	seven	eight	nine	dek	el	do

Counting

In the common or decimal system which we have been using, we have been counting in tens. In the duodecimal system we count by dozens, which means that we need two new symbols and names after nine. For convenience we use X named dek for the number after nine, and E named el for what is now called eleven. A dozen, written 10 i.e. One dozen and no units, is called do; a gross or a dozen dozen, written 100, is called gro; and a dozen dozen dozen, written 1000, is called mo.

To distinguish between decimal and duodecimal numbers we precede the former with a + and the latter with a ✱.

Place Value

(thousands) tens of tens of tens	(hundred) tens of tens	tens	units	(mo) dozens of dozens of dozens	(gro) dozens of dozens	do's	Units
1	9	5	9	1	1	7	3

In the decimal system numbers increase their value by powers of ten according to their place in each successive column to the left; that is in 1959, the 9 stands for units, the 5 for tens, the 9 for tens of tens or hundreds, and the 1 for tens of tens of tens or thousands. This place value is even more powerful in duodecimal countings: 1173 represents 3 units plus 7 dozens or do's plus 1 dozen dozen or gro plus 1 dozen dozen dozen or mo -- one mo, one gro seven-do three.

Adding

Place value is the key to any arithmetic. Observe the following addition, remembering that we add up to a dozen before carrying one:

54	136	five feet. nine ins.	5;9
31	694	three ft. two ins.	3;2
96	3E2	two feet, eight ins.	2;8
15E	1000	El(even) ft. seven ins.	E;7

Converting

Conversion of small quantities into duodecimals is obvious: If you are +35 years old, dozenally you are only ✱2E (two-do el) which is two dozens and eleven. For larger numbers keep dividing by twelve and the successive remainders form the equivalent duodecimal number

```
12 ) 1959
12 ) 163   r.3
12 ) 13    r.7
     1     r.1
```

Ans.
+1959 in decimals is
✱1173 in duodecimals.

Duodecimal numbers may be changed into decimal by setting down the units figure, adding +12 times the second figure to the left, plus $+12^2$ (144) times the third figure, plus $+12^3$ (1728) times the fourth, and so on for each figure.

Thus;

3 units	=	=	3
7 dozens	= 7 x 12	=	84
1 gross	= 1 x 12 x 12	=	144
1 mo	= 1 x 12 x 12 x 12	=	1728

Ans.
✱1173 in duodecimals is
+1959 in decimals

Multiplying

Multiplication proceeds exactly as in ten-base arithmetic except that the products are different. We learn twelve tables exactly as at present, but they follow a more easily remembered pattern, e.g. there are more numbers ending in 0 due to the many factors of twelve (10). This table will be useful for experimenting.

1	2	3	4	5	6	7	8	9	X	E	10
2	4	6	8	X	10	12	14	16	18	1X	20
3	6	9	10	13	16	19	20	23	26	29	30
4	8	10	14	18	20	24	28	30	34	38	40
5	X	13	18	21	26	2E	34	39	42	47	50
6	10	16	20	26	30	36	40	46	50	56	60
7	12	19	24	2E	36	41	48	53	5X	65	70
8	14	20	28	34	40	48	54	60	68	74	80
9	16	23	30	39	46	53	60	69	76	83	90
X	18	26	34	42	50	5X	68	76	84	92	X0
E	1X	29	38	47	56	65	74	83	92	X1	E0
10	20	30	40	50	60	70	80	90	X0	E0	100

For more details write to:
THE DUODECIMAL SOCIETY OF GREAT BRITAIN
106 LEIGHAM COURT DRIVE,
LEIGH-ON-SEA,
ESSEX.

P.F.Collier & Son Corporation
640 Fifth Avenue • New York 19, N. Y.

Executive Offices

April 30, 1959

Dear Mrs. Kruger:

Thank you very much for your letter of April 28 and for returning Dr. Wiener's article on Cybernetics.

We would like to thank Dr. Wiener for reviewing the article, and appreciate his prompt attention in this matter.

Sincerely yours,

W T Couch

William T. Couch
Editor-in-Chief
Collier's Encyclopedia

WTC:EMR:em

Mrs. Margaret M. Kruger
Secretary to Professor Wiener
Department of Mathematics
Massachusetts Institute of Technology
Cambridge 39, Massachusetts

THOMAS C. DESMOND
94 BROADWAY
NEWBURGH, NEW YORK

MEMBER OF NEW YORK STATE SENATE
1930-1958

April 30, 1959.

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

Dear Institute Professor Wiener:

Being as I am a former President of the M.I.T. Alumni Association, and now a life member of the M.I.T. Corporation, I am naturally always interested in new distinctions attained by members of the M.I.T. family.

It was a special pleasure and satisfaction, therefore, to read in the New York Times this morning the enclosed account of your appointment as an Institute Professor.

Please accept my hearty congratulations on this new honor to be added to your long list of other well deserved honors, and cordial best wishes for what I know will be your continued success in your important activities.

Sincerely yours,

Thos C. Desmond

TCD:dr

[MD 5/6/59]

UNITED STATES COAST GUARD ACADEMY

ADDRESS REPLY TO:
SUPERINTENDENT
U. S. COAST GUARD ACADEMY
NEW LONDON, CONNECTICUT

30 April 1959

Dr. Norbert Wiener
Institute Professor
Massachusetts Institute of Technology
Cambridge 38, Massachusetts

Dear Norbert:

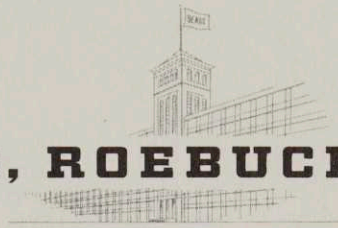
I read about your new appointment in today's BOSTON HERALD. Many congratulations from a relatively newly-appointed Dean.

The article says that the "advanced teaching and research are carried on without regard to departmental boundaries." Since when have you been so limited? Best of luck in your new assignment. Drop in and see us sometime.

Sincerely yours,

A. A. LAWRENCE
CAPT, USCG
Acting Dean

[ans 5/6/59]



SEARS, ROEBUCK *and* CO.

360 WEST 31st STREET
NEW YORK 1, NEW YORK

April 30, 1959

Professor Norbert Wiener
Massachusetts Institute of Technology
Cambridge, Massachusetts

Dear Dr. Wiener:

The paper this morning carries news that I want to send you my very hearty congratulations on. I don't suppose it will make many changes to your "way of living"! -- but any that it does are bound to be along lines that you will like.

It must be many years ago that I saw you and your family off from Hoboken to that mathematical conference in Copenhagen -- and it was not many times even before that that we had been together. But our joint closeness to Oliver made me feel really close to you too. And I wish there had been more positive opportunities more recently of developing that closeness.

But very soon after I saw you off I had to go back to Venezuela; and when I left there I only had two or three months in this country before the company sent me off to Europe for four or five years. When I got back Oliver was no longer "at" M.I.T. -- and I presume you know (as I do) how fast time has been going by. (I have a theory on that. The rate at which time goes by for any one individual is an inverse ratio to that individual's reasonable expectancy of life. It goes by six times as fast for a man who is 60 as it does for a boy of 10. It is going by so fast for me that if my theory is correct, I haven't many more years to live!!) But anyway Dr. Wiener, I send you all good wishes and sincerest congratulations. However sophisticated one may be (and I'm sure you're not as sophisticated as I am!) it is always nice to be given public recognition and honor for work that your good friends must have told you many many times was so outstandingly meritorious.

(Continued...)

I do go up to see Oliver at Lincoln every now and then. May I telephone you the next time I do and try to arrange to come and shake you by the hand again?

Best personal regards.

Sincerely,

Gordon Selfridge

H. G. Selfridge

HGS:cs

[illegible 5/9/57]