261

CORRESPONDENCE May 18 - 31, 1959

Copy for Prof. Wiener

(Prof. Wiener: Prof. Schmitt's
telephone extension is 721)

Rm 16-512
5:30-

May 19th, 1959.

Prof. Francis O. Schmitt
Room 16-512
M.I.T.

Dear Professor Schmitt,

As you have kindly offered to take passengers in your car
to the dinner at Endicott House on Thursday, May 21st, 1959, I
wonder if you would be good enough to take the following three
guests:

Professor Norbert Wiener, Room 2-276 (Ext. 198)

Dr. A. Z. Hrynkiewicz, Room 26-419 (Ext. 4289)

Dr. A. N. Stroh, Room 1-312 (Ext. 2217)

I will send a copy of this letter to each of these three
gentlemen, and perhaps arrangements could be made through your
secretary for a mutual meeting place.

Enclosed is a small map of the route to Endicott House for
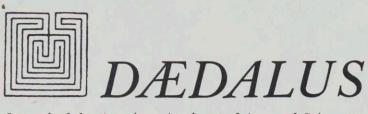your convenience.

Sincerely yours,

M. J. Buerger

MJB/DR

Enc. Map.

Copies to: Prof. Wiener, Dr. Hrynkiewicz and Dr. Stroh.

Please address your reply to:

Editorial Office

19 May 1959

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

Dear Professor Wiener,

Mrs. Frost approached us with the offer to publish some letters of John Dewey to her in the journal of the Academy, and we plan to do so. I have no information concerning her personal competence, and I am very surprised to find that she uses my name as a reference. I do not find the thoughts expressed in her letter to you appealing to me, and would not feel that I needed to reply to her letter if it had been addressed to me.

With my personal regards.

Sincerely yours,

Gerald Holton
Editor in Chief

GH/kacy

Encl:

THIS SIDE OF CARD IS FOR ADDRESS
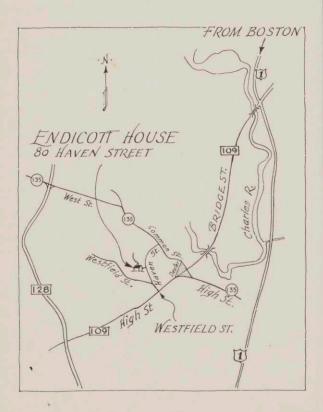
Mr.G.A.Schulze,

East Main Street,

Brevard,

N.C.

FROM BOSTON

N

ENDICOTT HOUSE
80 HAVEN STREET

135
West St.
135
Common St.
BRIDGE ST.
109
Charles R.
Westfield St.
Haven St.
Dexter St.
128
High St.
High St.
35
109
High St
WESTFIELD ST.
1
1

May 14, 1959

Professor Gerald Holton
Harvard University
Cambridge 38, Massachusetts

Dear Holton:

    I just received the enclosed letter which gives you as a
reference. Frankly it seems to be one of those marginal things
where a person uses a vocabulary of science without too much idea
of what it is about. Perhaps I am wrong. Before I answer the
letter I would like to know what you know about the person or
persons concerned as I do not wish to get myself involved in a
mere crank correspondence. Hoping you will permit me this in-
trusion, I remain,

                         Sincerely yours,

                         Norbert Wiener

NW:mmk
Enclosure

Lake Toxaway, N.C.,
May 6, 1959.

Professor Norbert Wiener,
53 Cedar Road, Belmont, Mass.

Dear Professor Wiener,

If the following statements interest you, will you please
write a line to that effect on the enclosed postal card:

(the connotations are over my head, but their authors
comments on your Cybernetics leads me to believe you speak
the same language to the extent of being concerned with the
same mathematical problems).

(Quote) : This system of numbers - on which I have been at
work for more than fifty years - integrates harmonic motion...
The propagation of fractions is entirely eliminated... The
numbers representing infinity are achieved! ~ G.A.Schulze.

The above lines were spoken to me in conversation several
weeks ago, in reply to questions I asked after having read
Elements of Mataphysics(vol II) by G.A.Schulze. Excerpts are:

"The most significant fact developed in this study is the
existence of rhythms, both those which are unique for each number
individually and those which are common to all. The conclusion is
that the basic rhythm is completely ephemeral, that it dominates
and controls all calculations but appears in none, that it repre sents
the factor of conscious perception, and that it is fundamental and
universal. This implies a definite and intimate relation between the
noumenal and the phenomenal...... In this book we/r each a conclusion
on the basis of the quasi-organic nature of number... "

The foregoing excerpt reminds me of a remark by Northrup re
re " organic evolution in an inorganic environment" , getting life
into existence "without the invocation of of extra-physical entities
and the postulation of metaphysical principles which are incompatible ,
/or difficult to reconcile, with those that the more certain facts of
of inorganic science have necessitated." (Continue Northrup quote)....

" Certainly the first principles of one must be those of the
other. Living organisms and inorganic system are part of the same
universe. The first principles of this universe are the conditions
of both. " (Science and First Principles, MacMillan, page 156.)

When I asked Mr. Schulze whether his /////////// resolution of
defects in the decimal system "takes the a- out of a-rythmetric"
(having in mind 3.14159 +) he told me he/knows it does. He is now
writing a book-length presentation of his method of attack and solu-
tion of the problem of the indeterminate fraction - or the surd. He
has been content to work alone until he satisfied all the relations
that emerged.

Is it likely that there may be clues in Mr. Schulze's
radical innovations which could prove suggestive toward solutions
of difficulties in your specific field/? Are there yet unsolved
acute problems re the notion of functional operators .... the
meaning of quantum magnitudes ....in the case in which the theory
of matrices falls?

Mr. Schulze has given consent that I mention his work to any
who may be interested ... competent f/examine ---and possibly
helped by his insights. (I am encouraged to give expression to my
own excitement by Rudolph Carnap's words: Who knows from what
source help may come?) The advantage of being a rank outsider- as
Mr. Schulze has been through choice - is freedom from the tyranny of
convention, of the immediate past as enshrined in academic circles.
Mr. Schulze's investigations, however, go far back of Alexandrian
and Egyptian (mathematical) concepts and units of measure.

If you have sufficient time or curiosity, will you please
address to Mr. Schulze a single question, important to your
system, requesting a brief answer to it, in his terms? This
would enable you - or one of your associates - to judge whether
or not his findings are as completive and/r evolutionary as he believes
them to be?

Sincerely,

Corinne Chisholm Frost

Mrs. Frank G. Frost,
    Route 1,
    Lake Toxaway, N.C.

(Personal reference,
    Gerald Holton, or *Mrs. K. Strelsky,*
    Editor in Chief   *(asst. ed.)*
        Daedalus.)

[see 5-14-59]

May 19, 1959

Dr. Norbert Wiener
Massachusetts Institute of Technology
Cambridge, Massachusetts

Dear Dr. Wiener:

Vice Admiral Rickover has read with interest an
account of your speech "The Brain and the Machine"
delivered at New York University Institute of
Philosophy.

He would appreciate receiving a copy of the
speech if one is available.

Sincerely yours,

Daisy Mae Howell, Secretary to
Vice Admiral H. G. Rickover, USN

[ans 5/28/59]

May 19, 1959

Professor J. C. Dillon
Head, Engineering Extension
Department of Engineering
University of California
Los Angeles 24, California

Dear Professor Dillon:

Professor and Mrs. Wiener are wondering if you would be so
kind as to arrange for their living accomodations in the Los
Angeles area for the time they will be there in connection with
his summer course.

Several summers ago they stayed at the Dracker Hotel in
Westwood and would be pleased if you could arrange for an apart-
ment there once again. They would like to have an apartment
with at least a living-bedroom, kitchen-dinette, and bath.
They also would hope that it would have good ventilation.
They expect to be staying there from June 29th through July 20th
and possibly a few days longer.

If some other hotel would be more convenient, please do
not hesitate to use your judgment in this matter. Thank you very
much for your help.

Sincerely yours,

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

May 19, 1959

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

Dear Professor Hook:

Professor Wiener asked me to write and give you an itemized
account of his expenses incurred in connection with his trip to
New York this past weekend. They were as follows:

Train ticket	$23.87
Tip	.75
Taxi	5.50
Meals	3.00
Taxi	1.00
Plane ticket	15.02
	$49.14

He enjoyed participating in the Institute of Philosophy very
much and thanks you once again for the invitation.

Sincerely yours,

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

[ans 5/28/59]

PASSENGER TICKET AND BAGGAGE CHECK

EASTERN AIR LINES

NOT GOOD
FOR PASSAGE

DATE AND PLACE OF ISSUE

EASTERN AIR LINES CO · *MAY 16 57*

	ATLANTA		
	BALTIMORE		
2	BOSTON		
	CHARLOTTE		
	HARTFORD	*Bl*	
	HOUSTON		PHILADELPHIA
	JACKSONVILLE		RALEIGH-DURHAM
	LOUISVILLE		RICHMOND
	MIAMI		SAN ANTONIO
	MONTREAL		SAN JUAN
	NEW ORLEANS		TAMPA
1	NEW YORK/NEWARK		WASHINGTON

FARE	1365	FORM OF PAYMENT
TAX	1.37	EXCHANGED FOR
TOTAL	15.02	

FARE BASIS				FLIGHT	DATE	TIME	PCS	WT
T	TN	(F)	P	438	MAY 16	1055 pm		

NAME   5-1

MR. N. WEINER

VERIFICATION

293907

PASSENGER'S RECEIPT

WE ARE REQUIRED TO CANCEL YOUR RESERVATION UNLESS YOU RECONFIRM

WHERE AND WHEN TO RECONFIRM:

1. AT MEXICO CITY, BERMUDA AND SAN JUAN:

When you arrive by air and your scheduled departure is 48 hours or more after your scheduled arrival, you must reconfirm at least 48 hours before scheduled departure time.

2. AT ALL OTHER CITIES:

When you arrive in a city by air or other means, if the dates of your planned arrival and scheduled departure are different and you will spend at least 12 hours in that city, you must reconfirm at least 6 hours before scheduled departure time.

HOW TO RECONFIRM: Simply inform the airline (at the city where you will board your continuing or return flight) of your intention to use your reservation. **Note:** If your itinerary includes international travel via a carrier other than Eastern Air Lines, please contact that airline to determine their application of this rule.

CONDITIONS OF CONTRACT

(1.) This ticket is sold and the transportation and services covered hereby are furnished or agreed to be furnished, subject to the terms and conditions of the applicable tariffs of the Company on file with the Air Transport Board, Ottawa, Canada, the Civil Aeronautics Board, Washington, D. C., and/or other Government agencies having jurisdiction in the premises. Carriage hereunder is subject to the rules relating to liability established by the Convention for the Unification of Certain Rules relating to International Carriage by Air signed at WARSAW, October 12, 1929 (hereafter called "the Convention"), unless such carriage is not "international carriage" as defined by said Convention. (See Carrier's Tariffs for such definition).

(2.) All stops between the original place of departure and the place of final destination scheduled by the Company as shown in the schedules or timetables of the Company (which schedules and timetables are made a part hereof for that purpose only) shall constitute "agreed stopping places"; and the Company reserves the right to alter the "agreed stopping places" in cases of necesssity.

(3.) Subject to Clause 1 ("international carriage" as defined by the Convention) the liability of the Carrier in respect of baggage and other personal property is limited to its declared value which shall not exceed $100.00 (U. S. currency) or its equivalent per passenger, unless a higher valuation is declared in advance and additional charges are paid pursuant to the Carrier's tariffs.

(4.) Baggage carried hereunder will be delivered to the bearer hereof upon return to the Carrier of the baggage (claim) tag(s).

(5.) Subject to applicable laws and regulations, the passenger agrees to pay the applicable fare whenever the Carrier, on Government order, is required to return a passenger to his point of origin or elsewhere due to the passenger's inadmissibility into or deportation from a country, whether of transit or of destination. Carrier may apply to the payment of such fares any funds paid by the passenger to the Carrier for unused carriage, or any funds of the passenger in possession of the Carrier. The fare collected for carriage to the point of refusal or deportation will not be refunded by the Carrier unless the law of such country requires that such fare be refunded.

(6.) Times shown in timetables or elsewhere are approximate and not guaranteed, and form no part of this contract. Schedules are subject to change without notice. Carrier assumes no responsibility for making connections. Carrier may without notice substitute alternate carriers or aircraft and, if it deems advisable because of any fact beyond its control, cancel, terminate, divert, postpone or delay any flight or the further right of passage or reservation of traffic accomodations, and determine if any departure or landing should be made, without any liability except to refund in accordance with its tariffs the fare and baggage charge for any unused portion of the ticket. If question arises of an aircraft's being overloaded, Carrier shall decide in its reasonable discretion which passengers or articles shall be carried.

(7.) The time limits for giving notice of claims and the institution of suit are set forth in Carrier's tariffs.

(8.) No agent, servant or representative of Carrier has authority to alter, modify or waive any provision of this contract.

EASTERN AIR LINES   10 Rockefeller Plaza, New York 20, N. Y.   *Sold Subject to Tariff Regulations*   Rev. 3-58

Expenses

Taxi   5.50
Tip. Porter   .75
Meals   3.00

                        9.25
                        1.00

         Tax   10.25

Train ticket   23.87
Plane   15.02

                       49.14

PASSENGER'S CHECK

To identify accommodations purchased
Property taken into car will be entirely at owner's risk

FORM **B-1-L**	829661

FROM *Boston*

TO *New York*

ACCOMMODATIONS	CAR
Route 3	*32*

	DATE
12504	*5—16* 19

M. TRAIN

FOR *1* **PSGR(S)**   **RESERVATION RECORDED ON NO.**

GOVT. OR OTHER

SELLING AGENT	Value $ *670*
.... (Pullman Office No.)	Tax $ *67*
.... (Date of Sale)	Total $ *737*

May 19, 1959

Dean Marcus D. Kogel
Albert Einstein College of Medicine
Yeshiva University
Eastchester Road and Morris Park Avenue
New York 61, New York

Dear Dean Kogel:

While I am highly complimented by your invitation to give a talk
during commencement week at the Albert Einstein College of Medicine,
I really don't see how I can do it. I have two graduations to go to already,
one of them at M.I.T. and the other at Tufts. In addition I shall be at
the inauguration of Dr. Stratton, our new President at M.I.T. I have had
a rather strenuous year and am very tired and immediately after my cere-
monial obligations I shall go to Los Angeles where I am giving a summer
course at the University of California.

Under the circumstances I am finding it necessary to take it easy
until my summer work begins. Thank you for thinking of me. I hope you
understand my position.

                              Sincerely yours,

                              Norbert Wiener

NW:mmk

May 19, 1959

Mr. Leo Lionni
Editorial Department
Fortune
9 Rockefeller Plaza
New York 20, New York

Dear Mr. Lionni:

I find myself unable to suggest a good blueprint or drawing
to serve as a background for your cover. Existing blueprints will
be too easily tied up with existing inventions and could get us into
a considerable amount of trouble through false identifications. There
is of course a remote possibility that I could get blueprints made of
the device which I call the magnetic shim, which occurs in the story
and which I invented for the purposes of the story as a sort of in-
vention along control lines which could have been made in that time.
However, to get an adequate drawing of that would mean taking a drafts-
man and an engineer in on the work particularly as I have no drafting
ability myself. Moreover, it would require a little antiquarian work
in copying the drafting tricks of a bygone day. It could not be done
in a hurry and you seem to be in a hurry.

I am therefore suggesting that you use for your background re-
productions of some pages from the old paper on governors by Maxwell
in 1868 which appeared in the Proceedings of the Royal Society.
Maxwell's paper unfortunately does not contain any drawings but it
does contain formulae which even if not understood by the reader
could not be taken as completely irrelevent to the text. They have
a certain old-fashioned flavor which belongs to the books read by
engineers at the time of the story and the slightly dog-eared appear-
ance of the pages from the volume does not detract from the atmosphere
which they carry. I talked the matter over with Jason Epstein and he
seemed to think that my suggestion was not unreasonable. I am sending
you both photoprint copies and microfilm of the pages in question.

                              Sincerely yours,

                              Norbert Wiener

NW:mmk
Enclosures

May 19, 1959

Professor L. L. Zimmerman, Chairman
Sub-Committee on Public Lectures
University of Florida
Gainesville, Florida

Dear Professor Zimmerman:

        I am delighted at your invitation to come down next winter to
the University of Florida and give a talk. I shall certainly do so
either as a preliminary or as an end to a winter vacation trip to
avoid the rigors of the New England climate. My two holidays are
from the 19th of December - January 3rd and from the 21st of January -
February 7th. The most suitable time for me would be just before or
at the beginning of one of these or just after or at the end. I am
leaving it to you to select the time which suits you best and you
must remember that I am in a position to cut classes for a day or
so at either end of my vacations. I should like to talk about
problems of self-organization both in machines and in living systems.

                        Sincerely yours,

                        Norbert Wiener

NW:mmk

[ans 6/1/59]

Dear Professor Wiener:

I write to request the favor of a reprint,

as available, of your paper : The Prediction Theory

of Multivariate Stochastic Processes, (in two parts),

<u>Acta Mathematica</u>, vol. 98, 1957, and vol. 99, 1958.

Copies of references 15, 16, 17 of part I of the above paper will also be
                                                           appreciated.

Thank you for this courtesy.

                          Cordially yours,

                          N. H. Choksy.

                          N. H. CHOKSY
                          Assistant Professor

P.S. I should explain that my request stems from two sources: my interest
      in the field as a teacher, and my penchant to maintain a personal
      library of pertinent papers in the fields of my interest.

      May I take this opportunity to ask you if there is any possibility
      of your classic paper on Generalized Harmonic Analysis in the same
      journal a number of years back, being reprinted -- either in the
      original form or as a reprint monograph through MIT or some
      publisher such as Dover Publications? From the preceding paragraph
      you will realize, of course, that this query is prompted by purely
      selfish reasons -- I would dearly love to have a copy.

                                                       N. H. Choksy.

P.P.S. I am originally from
India; & Dr. P. Masani is
distantly related to me!   [ans 6/10/59]

May 20, 1959

Prof. Norbert Wiener
Massachusetts Institute of Technology
Cambridge, Massachusetts

Dear Dr. Wiener:

    I thought you would like to see the enclosed clipping from the editorial page of The Cleveland Press of a recent column of mine about yourself.

    I was delighted to know that you have been made an Institute Professor. I am also very much interested in your forthcoming book and I shall ask Random House to send me a copy so that I can review it for the Scripps-Howard Newspapers.

    Perhaps you may know that I wrote my first children's book for Random House last year. It is titled "All About Satellites and Space Ships." I am happy to say that about 40,000 copies have been sold so far.

    With all best wishes,

Sincerely yours,

David Dietz

DD:jr
Enc.

[ans 6/11/59]

DAVID DIETZ—
Ex-Prodigy, Math Wizard Writes Novel

Dr. Norbert Wiener, once upon a time a boy prodigy and today one of the world's most famous mathematicians, has been given the distinguished post of "Institute Professor" at Massachusetts Institute of Technology.

A member of the MIT math department for 40 years, Dr. Wiener now becomes one of four Institute Professors whose advanced teaching and research are carried on without regard to departmental boundaries.

The son of a Harvard professor, Dr. Wiener entered Tufts College at the age of 11 and received his Ph.D. from Harvard at the age of 18.

He was one of America's most valuable scientists in World War II, making contributions of the utmost importance to the design of gunpointers, fire control systems, and radar.

Now at 64, he has just written his first novel. Called "The Tempter," it will be published this autumn by Random House.

This is not the first time that Dr. Wiener has turned to writing for the layman. He is the author of two autobiographical works, "Ex-Prodigy" and "I am a Mathematician."

He also wrote "The Human Use of Human Beings," a provocative book in which he discusses the changes in the world which will result when automation releases mankind from assembly lines and similar drudgery.

Dr. Wiener is one of the chief authorities on automation and set forth his views in another book titled "Cybernetics, Control and Communication in the Animal and Machine."
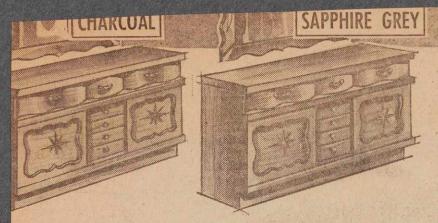
He coined the word, "cybernetics" from the Greek for the "steersman" of a ship.

More recently, he has been working on the mathematical analysis of brain waves. His most recent book is titled "Nonlinear Problems in Random Theory."

It deals with brain waves, FM radio, quantum physics, and the statistical mechanics of gases. It was put together with the aid of tape recordings of his lectures at MIT and photographs of his classroom blackboard which he covered with equations in the course of the lectures.

A natural linguist, Dr. Wiener speaks 13 languages and has lectured in China, Japan, India, Israel, and Mexico as well as in Europe.

During a meeting of the India Science Congress in 1955, he acted one day as interpreter to make possible a discussion between the Russian delegation and the Chinese delegation, speaking both languages with equal ease.

CAROLINA SYMPOSIUM
for the Spring of 1960
The University of North Carolina at Chapel Hill

WILLIAM C. FRIDAY
    President, Consolidated University
    Honorary Chairman

DONALD R. MATTHEWS
    Faculty Adviser

EDWIN LEVY, JR.
    Chairman

POST OFFICE BOX 533

PHONE 9460

May 20, 1959

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

Dear Dr. Wiener:

I have your letter of May 11, expressing your regret at being
unable to take part in the Carolina Symposium next spring.

We, also, are very sorry, for we feel that your participation
would have added a great deal to the quality and effectiveness
of the presentation.

                            Sincerely,

                            Edwin Levy, Jr.

                            Edwin Levy, Jr.
                            Chairman

EL:mjb

VICTOR RIESEL and AARON LEVENSTEIN

P.O. Box No. 6

Harmon-on-Hudson, N. Y.

May 20, 1959

To our friends and colleagues:

On July 2nd, we leave for Africa, and will be away most of the summer.
We decided to go because we're convinced that Africa is the next major chal-
lenge the West must face.

To tell what we learn, we have devised a new journalistic genre that we
call a "diary a deux". It is flexible enough to provide for joint reporting
where our judgments coincide; for individual observations where uniquely per-
sonal reactions make them appropriate; for dialogue, or even debate, where we
read the African scene differently.

We're going to Africa together because we believe that pooling our dif-
ferent backgrounds and training will make an effective combination. Our past
experience in collaborating on magazine articles and other joint projects has
shown that our specialized interests complement each other.

As writers, we know the limitations of the "article" that must stay within
the bounds of prescribed space. We want to avoid the artificial restrictions
imposed by formal publication. Our plan is to keep an uninhibited, personal,
daily "log". It will record Africa -- its people, its conflicts, its fears,
its aspirations, its sights and sounds and smells, just as we encounter them
in streets, plains, mountains, jungles, drawing rooms, tribal huts, government
offices. We want to write them down as and when we experience them, and send
them home promptly as our immediate, living reactions before they have grown
frigid under the chill of retrospective analysis and self conscious editing.

If you share our interest, we would like you to get the raw fibre of our
experience just as we put it down during pauses in our travels and at night
after a day of interviewing. We think it will have most meaning if we rush it
to you fresh from our consciousness.

We will be in the Union of South Africa, Southern Rhodesia, Kenya,
Tanganyika, Uganda and the Belgian Congo. What we see and hear, how we feel
about it, what we think, what we say to each other in the flush of encounter
with the unfamiliar patterns of human life, the misgivings and hopes that may
be stirred in us by our interviews with leaders and led, perhaps even the
dreams we dream during the African nights -- all this will be part of the re-
porting we want to do. And we want to tell it in an unrestrained, intimate,
story that can be read by friends but would have to be withheld from formal
publication.

The material is certain to amount at least to book-length. Here's how
we plan to handle it: At a subscription of $25, we find we can send you the
detailed diary on roughly a weekly basis, re-routed to you from New York.

There may be some irregular gaps due to communications difficulties -- for example, during the interval in the Belgian Congo. But we expect to get our journal to you in at least seven instalments while we are abroad; after our return, we will send you a considered evaluation of the whole experience.

We take with us to Africa a series of troubling questions: Can the minority white man make his peace with the colored races?... Can the African as he heads for independence, quickly master the social and technological skills he needs to make his independence a constructive force for himself and the world?... Can both the white and the black man, casting their votes in the United Nations, find a way to bring humanity closer to its aspirations for peace, economic security and personal freedom?... Or will all of us be swamped by a Communist tyranny that capitalizes on the chaos?... Or failing that, will the upheavals in Africa set in motion a new swirl of violence across the face of the earth because the new-born nations find democracy impractical?... Even more immediately, how will the growing mob action in Africa affect us and our allies -- our prestige, our trade, our security?

A remote, primitive Chinese town called Yenan played a key role in shaping the crucial postwar decade. Up-coming events in the dusty villages of the African bush are likely to be the decisive weight thrown into the scales of the 1960's.

We don't know what the answers are, but we hope to find some. In any case, we are confident that the combination of backgrounds we take to Africa and the medium we plan to use will provide a new lens that will help to bring the picture into sharper focus. We invite you to share our experience in Africa as it unfolds from day to day. Since our departure is so close at hand, and we can handle only a limited number of subscriptions, we ask that you let us have the attached form before June 27th.

                                        Sincerely,

                                        Vic R
                                        Victor Riesel

                                        Aaron Levenstein
                                        Aaron Levenstein

Victor Riesel and Aaron Levenstein
P.O. Box No. 6
Harmon-on-Hudson, N. Y.

    Count me in. I'd like to receive your reports from Africa. My check for

$25 is enclosed.

            Name _____

            Address _____

            City, Zone & State _____

GIL WILSON

May 20, 1959

Dr. Norbert Wiener
Massachusettes Institute
Of Technology,
Cambridge 38, Mass.

Dear Dr. Wiener:
                    Your recent lecture at NYU
stimulated this--mainly your reference to
"The Sorcerer's Apprentice".

I was strongly tempted to speak to you, but
felt it was better to make a less direct ap-
proach. You are a busy man.

One can see you are a dedicated scientist
in this matter of warning the public of the
danger inherant in the machine age.

Your sensitive opinions could be very help-
ful to me right now in evaluating a project
I have underway in the form of an animated film.

I have written and illustrated a fable in the
form of a trilogy, Part I: THE BIGGEST LITTLE
ATOM; Part II: THE NEW YOUNG SUN; & Part III:
OLD MISTER EARTH & THE HUE-MANS.

I need to know if I have kept the proper
balance of sense and nonsense. I am wondering
--rather concernedly now that the film is about
to go into production--if the fables succeed
in attracting the listener's interest by the
use of playful whimsey without marring or
diminishing the irony and satire. Also, most
of all, do the fables penetrate to the serious
core in evoking awareness?

It would be of inestimable value to expose
the work at this stage to the discriminating
ear & eye of a scientist such as you. If I
sent you a rough copy of the tapes, could you
play them on a tape recorder, and give me
your frank opinions?

Or sometime when you are free and I am in
Cambridge, could I give you a ring? I shall
have cause to be there to deliver some paint-
ings before long, to Dr. Henry Murray.

May I thank you for your work?   Sincerely,

245 E 36th
NewYork 16
MU 5-5843/

[ans 6/10/59]

21 May 1959.

My dear Professor Wiener,

First of all I would like to thank you once
again for giving me your time and such a charming reception.
The interview, I feel, came out exceedingly well - you are
wonderfully articulate, clear and incisive.

I am enclosing, as promised, the transcript,
roughly edited, for your perusal. Please feel free to make
whatever alteration and additions you would like.

Going over the script I feel that I missed
one or two points which ought to be included and I wonder
whether your charming secretary could not take your answers
down in shorthand and in your spoken language and send them
to me for insertion.

What is your definition of "programming"?
How long would it take to "programme" a
chess playing machine to allow it to play a full game?
Is it correct as I heard yesterday that it
can only play with good players, because in case of a move
too obviously wrong it will say "error, error etc."?
How many moves does it "think" in advance?
How are the different chess pieces valued?

How much have the Russians done so far in
the field of cybernatics? How much automation have they
introduced in their industries.
Do you know what the objective of the
Institute in Armenia ? Is it the study of
cybernatics exclusively?

What is your main preoccupation now - what
is the "programme" of your studies?

I am sorry to trouble you with these additional
queries, but since these "Conversation pieces" will ultimately
appear in book form I would like them as complete as possible.

I am now due to go to Russia on June 10th
and I would very much like to get this interview in final form
before then.
Kindest regards,

Yours sincerely,
Henry Brandon

P.S. Could you also send me the
countries you have lectured
in?

(ans 5/23/59)

May 21, 1959

Dr. W. Ross Ashby, Director
The Burden Neurological Institute
Stoke Lane, Stapleton, Bristol
England

Dear Ashby:

Congratulations on your new post. I had a very interesting
talk with Grey Walter when he was here.

New as to your question, I never claimed that it was a general
property of oscillating systems that they pull together in frequency,
although as you say I have given examples where this is the case.
When you speak of simple harmonic oscillators which, when coupled,
form a whole which is not in the strict sense periodical, all you
will find as you see from my general theory of harmonic analysis is
that such systems have frequencies in a generalized sense which will
not be strictly the frequencies of the individual oscillators of
which they are made. In this case I have actually given certain fairly
general conditions where strong narrow frequencies will be evoked and
this is the content of pages 70-77. Of course there remains much
more work to be done in this field and I shall spend a considerable
amount of time next summer in doing this. I shall write to you as to
the results I obtain.

Sincerely yours,

Norbert Wiener

NW:mmk

May 21, 1959

Mr. Brian R. Bishop, Secretary
The Duodecimal Society of Great Britain
106, Leigham Court Drive
Leigh-on-Sea, Essex
England

Dear Mr. Bishop:

    I cannot say that I am very interested in the purposes of the
Duodecimal Society. While ten has no advantages except the advant-
ages of tradition as the base of our numerical system, this advant-
age of tradition is enormous and I cannot build up any enthusiasm
for going beyond it. If I were to change the base of our numerical
system, I should be inclined to take two or one of its powers as most
adapted to the correlation of machine work and ordinary paper and
pencil work.

                        Sincerely yours,

                        Norbert Wiener

NW:mmk

May 21, 1959

Miss Burnett
Computation Center
Room 26-142

Dear Miss Burnett:

Enclosed is a letter which Professor Wiener received from
Professor Natanson at the University of North Carolina. Professor
Wiener would greatly appreciate your seeing that the proper person
at the Computation Center handles the matter.

Thank you very much.

Sincerely yours,

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

Enclosure

May 21, 1959

Professor Marcel Monnier
Physiologisches Institut der Universitat
Vesalianum Basel
Vesalgasse 1
Basel, Switzerland

Dear Marcel:

    If you manage to come to Boston on your trip, our latchstring
is out. July will be the only time that we will be away both from
53 Cedar Road and our home in the country where we shall spend most
of the rest of the summer. We should be delighted to have you as guests
up on the farm and to have a few days of quiet being together to dis-
cuss our many common interests. With happy memories of Basel I remain,

                    Sincerely yours,

                    Norbert Wiener

NW:mmk

May 22, 1959

Mr. Norbert Weiner
Massachusetts Institute of Technology
Cambridge, Massachusetts

Dear Mr. Weiner:

Union Junior College and the Cranford Adult School have joined forces to sponsor a community lecture series next fall and winter. Our aim is to provide thought-provoking speakers on major problems facing today's chaotic world.

The lecture series will be held at Union Junior College's new one million dollar building which will be opened with the start of the fall semester at a new campus in suburban Cranford. This will be the first community project in the College's new building.

It would be a great pleasure for Union Junior College and the Cranford Adult School to have you as a guest speaker at our lecture series. A time and place could be arranged any time between November 1959 and March 1960. If you plan to be in this area anytime in that period, we hope you could participate in our lecture series.

Details concerning compensation and other arrangements could be worked out if you are able to take part in our program. We are sure it would be a great treat for the citizens of Cranford and other Union County communities to hear you speak on any number of subjects.

We hope you will give this request your fullest consideration.

Sincerely yours,

Kenneth W. Iversen
Dean, Union Junior College

KWI:sk

93 Bynner St
Jamaica Plain
Mass

Dear Professor Weiner,
   M. I. T.
Dear Sir: I know you are
retiring and don't want
to be bothered with trivial
things. I have had the
problem of explaining the
fourth dimension to elementary
Physics classes. I have used
the illustration of the Boston
Subway with all the exits tied
together, and the cubic house,
with its six exits tied together.
Also the graph in which
time is multiplied by velocity —
It seems that this latter is wrong.

I have been taught to cancel
units. To find, for instance, the
units of momentum, mv, we
have $\dfrac{mass \times \text{~~rate~~} distance}{sec}$, and
this seems to become a second
degree equation. As I understand
it a fourth dimension equation
must be of the fourth power.
The only one I find in elementary
physics is W (watts) $= SAT.^4$
I find it hard to find any 4th
degree equations except in college
math, where they go on indefinitely.
For instance $(x^2-1)(x^2-4)$ is a
fourth degree equation, and you
can go as high as you like.
That particular equation gives
you four straight lines, but I
don't see where you are in the
fourth dimension. I should like

to explain simply to elementary
college classes and to adult
education classes. I have had
some of the same problems you
have had, asked to explain
the same problem to a class in
a number of ways. I find
it confusing to a class to give
more than one explanation, and
have offered to take home any
other methods and correct them.
It seems a good deal of questioning
on the part of the students is
to kill time, or slow down the
class. I was in Radcliffe
the same time you were, and
majored in math and minored
in physics. I hope to teach
adult physics classes. to
give a simple explanation of the
4th dimension, which would

appeal to college students and adults. I have been talking to a great admirer of yours, and would like to redeem her faith. The stories of your absentmindedness are probably typical, but some of the others are probably re-hashes of stories attributed to other professors. This is a foolish request, but needs a simple answer, as I have spent my life making simple, complicated things. This does not involve calculus, which only confuses in most cases. Have been doing college physics this last year, and resent my judgement being questioned. I understand a great many answers are found by intuition, or the working of the unconscious mind. Would appreciate an answer.

May 22   Yours sincerely, Margaret Woodward

UNIVERSITY OF CALIFORNIA

DEPARTMENT OF ENGINEERING
LOS ANGELES 24, CALIFORNIA

May 25, 1959

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

Dear Dr. Wiener,

In response to Mrs. Kruger's letter of May 19, 1959, we have made reservations for you and Mrs. Wiener at the Dracker Hotel and Apartments, 10824 Lindbrook Avenue, Los Angeles 24. (Phone Granite 30901) The reservations are for the period June 29th through July 20th.

The manager remembers you from your last visit and assures us that she knows just what you want and that she will provide the desired accommodations.

Please advise us of your travel plans so that we can arrange to meet you.

Kindest regards

Very truly yours,

J. C. Dillon
Head, Engineering Extension

JCD/dec

25th May, 1959.

Dear Dr. Weiner,

Thank you very much indeed for your kind permission to include your article "The Concept of Homeostasis in Medicine" in my proposed book.

I hope before long to be able to let you have an outline of the book, but in the interim you might like to know that the following American authorities other than yourself have kindly agreed to allow the inclusion of articles they have written: Dr. E.V. Allen, Dr. W.B. Bean, Dr. Vannevar Bush, Dr. H.C. Hopps, and Dr. C.N.H. Long.

The British contributors will be Sir Harold Himsworth, Professor Robert Platt, Professor R.S. Aitken, Sir Francis Walshe, Sir George Pickering, Dr. David M. Hughes, Dr. L.W. Batten, Dr. T.F. Fox, the late Professor J. Ryle, Lord Cohen of Birkenhead, Dr. F.H.K. Green, the late Sir James Spence, and Sir Charles Harington.

All being well, it is hoped that the book will be published before the end of the year.

Yours sincerely,

Brandon Lush.

Brandon Lush.

Dr. Norbert Weiner, PhD,
Massachusetts Institute of Technology,
Cambridge,
Mass.,
U.S.A.

P.S. The publishers of your article have also kindly agreed reprinting. I shall give appropriate credit. M.

PAR AVION
AIR LETTER
AEROGRAMME

LONDON S.W.1
3 45 PM
28 MAY
1959
A

Dr. Norbert Weiner, PhD,

Massachusetts Institute of Technology,

CAMBRIDGE,

Mass.,

U.S.A.

First fold here →

← Second fold here →

Sender's name and address: MEDICAL RESEARCH COUNCIL,

38, OLD QUEEN STREET,

WESTMINSTER,

LONDON, S.W.1

AN AIR LETTER SHOULD NOT CONTAIN ANY
ENCLOSURES; IF IT DOES IT WILL BE SURCHARGED
OR SENT BY ORDINARY MAIL.

THE 'APSLEY' AIR LETTER

Form approved by Postmaster General No.—71995/IX

To open cut here →

May 25, 1959

Professor Norbert Wiener
M I T
Cambridge 39, Massachusetts

Dear Professor Wiener:

Until language is mathematicized I doubt whether machine translation will get very far. In this belief I have set down the enclosed notions, entitled "The Mathematics of the Sentence."

Under the Lloyd-Warfel concept of the Marker (a structure-word that begins groups) there comes into sight a good deal of isomorphism in word groups:

the strong lad	noun group
in the house	prepositional phrase
has been seen	verb group
where he was sitting	dependent clause
very strongly worded	intensifier plus headword
to have been told	infinitive group

Each group begins with a structure-word and ends with a head-word. English has something fewer than 300 such words that constitute the gears and cams in the operating machinery. Other languages have fewer such words; French seems to have fewer than 200. English, of course, has borrowed from other languages (cum, re, sans, maugre, etc.).

I have gone as far as my college mathematics of 42 years ago will take me. In December at the Modern Language Association meeting I am inviting others to discuss this matter in a conference. If you wish to comment whether the enclosed paper is on the right or wrong track, I'd certainly be very grateful.

We were together at the Cleveland Humanities Center Institute in 1957 (when I was president of the College English Association), and on the strength of this acquaintance I take the liberty of writing to you.

With warmest greetings and appreciation,

Sincerely yours,

Harry R. Warfel

Harry R. Warfel
Professor of English

[ans 6/9/59]

THE MATHEMATICS OF THE SENTENCE

By Harry R. Warfel

The science of phonemics has demonstrated that language is a system in which the smallest distinctive sounds operate on the mathematical principle of functionality. That is, the phoneme is a norm or constant which can be replaced or interchanged with a number of variables called allophones. The place where this substitution occurs is a function. Morphemics employs the same principle. The morpheme is the norm or constant. The allomorphs are the variables. The place of substitution is the function. Zellig Harris in <u>Methods in Structural Linguistics</u> (1951) invented the substitution frame as a device to demonstrate "the regularities in the distributional relations ... or arrangement within the flow of speech of some parts or features relative to others" (p. 5). The criterion is the "freedom of occurrence of portions of an utterance relatively to each other" (p. 5). Donald J. Lloyd and Harry R. Warfel in <u>American English in Its Cultural Setting</u> (1956) carried this principle of functionality into syntax and thus demonstrated the fundamental unity of these three levels of language operation. For syntax Leonard Bloomfield in <u>Language</u> (1933) formulated a triad of terms: word-classes (the norms or constants), form-classes (the variables which substitute for the constants), and function (the point at which the substitution can occur). Lloyd and Warfel devised a substitution frame for syntax.

The full explication of the operation of functionality in sentences is now a pressing desideratum. The work must be accomplished in relation to the three other central mathematical principles of form, invariance, and class-formation. Although much of the basic data as collected by earlier grammarians is useful, a completely new synthesis of these materials is necessary to achieve a harmonious presentation in terms of the newly discovered principles of systematic operation. This essay is meant merely to suggest some areas in which fruitful research is possible. No attempt will be made to adumbrate a system of mathematical notation, although undoubtedly such a system ought to be devised.

The first step in analysis probably must be the isolation of existing minimal elements. (Partly because it will be clearer if familiar terms are employed, the old terminology will be used here.) Within the large class are subclasses, and within the latter are sub-subclasses. The structuralist has a rule that classification must occur on the basis of the operating principles of language. The classes must be determined in relation to the distribution of the entities throughout the system. The characteristics of each class, it may turn out, must include more defining elements than operational duties or positional norms. Some classes may have distinctive shapes (inflections), and yet a quality of invariance must be present. The extent to which a particular form is a necessary property of a class must be determined. A hierarchy of classes must be established, so that the capabilities and limitations of each class can be known. The conditions under which members of classes have power to work alone and as members of groups can be determined only after classification proceeds to higher levels than a one-word-at-a-time investigation permits. Word-classes cannot be determined solely from aural or visual form. The principle of the norm must be employed, and variants must not be included in or excluded from a class on the basis of form alone.

Structural grammar thus far has identified four great word-classes: noun, verb, adjective, and adverb. All other words in English comprise a total of about 300; these are called structure-words, because they are language words necessary in the operating machinery. They are largely group-forming words: prepositions, clause-markers, auxiliary verbs, intensifiers, etc.

It appears that two or more words combine to form a group that operates as a unit. In any sentence of a dozen words or more several kinds of groups may appear. It becomes necessary to isolate and name classes of word-groups, to identify the word-classes that can unite to form word-groups, to discover their respective positions, to state the rules of their operation, and to discover isomorphic characteristics in types of aggregates. The interplay of variance (inflection) and invariance in word-groups must be determined. The principle of combinations is usually assigned to the order of words in Latin, but it is apparent that the principle of permutations applies to other Western languages. The extent of freedom and fixity of the order of word-classes forming word-groups needs determination. The expansibility of word-groups also must be formulated in terms of the limiting factors. One group unites with another syntactically different group, as in "the little boy on the corner," "the little boy, sly and furtive," and "the little boy who has a bicycle"; the nature of these spans needs clarification, and determination should be made of the kinds of groups which can unite systematically. Some groups doubtless exclude others; rules applicable to inclusion and exclusion are needed. Walt Whitman and William Faulkner have elaborate sequences in their writings, so that in English there exists some hint of the infinite expanse open to the principle of modification. The nature of these chains of groups and the rules to be discovered in them can be determined, probably, only on the principle of ordered aggregates.

If the sentence is viewed as a linear continuum, then it is measurable in at least three ways. The normal arithmetical way is to count the words, as if each one is equal in significance with all others. The traditional grammatical way is to speak of subject, predicate, and complement by isolating the chief operating words. The structuralist speaks of the order of functions, for he is not concerned primarily with the structure of the entities which he has so carefully examined but with the correspondences that exist between structures when they substitute for each other. He sees an equivalency in the spans preceding <u>has</u> in the following sentences:

1. A man   has wisdom.
2. A man who thinks about his experiences has wisdom.

Open in this position is a large variety of structures modifying <u>man</u>. The structuralist says that the isolation of any one element or the complete abstraction of the individual nature of one or all elements or words of an aggregate destroys the aggregate. In sentence 2 it is an unpermissible simplification to lift out <u>man</u> as traditional grammarians do. This objection arises not from the shift in lexical meaning which occurs between the first sentence and the second but because it destroys an operating principle. Traditional grammarians covered their illogicality by referring to <u>subject</u> and <u>complete subject</u>. <u>Man</u> in sentence 1 and the cluster in sentence 2 correspond operationally, and hence the fragmentation of the second is not permissible.

The necessity for this procedure becomes clearer when a substitution frame like the following is set up:

```
                N        V      N

             Men       are    animals.
          To think     is     to live.
        What he sells   is     why I came
        In the red     means   on the rocks.
```

Here it is apparent that the power or duty traditionally assigned in the subject position is available not only to members of the word-class called noun but also to some word-groups (including spans, clusters, and sequences). No word in the above groups is the "subject"; the whole group constitutes the "subject." Hence in structural analysis the constant is a member of the word-class called noun; the substitutes are variables, which Bloomfield called form-classes. It is obvious that this term must embrace groups as well as inflected forms of a word-class member. The point at which the substitution occurs is, of course, the function. The functionality relationship which now is added to word-groups may or may not give these entities more importance than they formerly possessed. What is certain, however, is that functionality is of most importance, so that it is not word-group plus functionality that is significant but functionality alone.

In a full investigation the structuralist finds four functions: noun, verb, adjective, and adverb. These correspond to and take the name of the four great word-classes. The significant points of primitive or basic sentences are comprised of these four word-classes, as in "Angry men proceed thoughtlessly" or in "John is here" and "John is good." Only these word-classes are open to the principle of substitution whereby nonisomorphic groups interchange with members of the four great word-classes. Hence on the linear continuum called sentence one or more of these four functions can appear; "Halt!" represents a minimal command-sentence with only one function.

In examining other minimal sentences it appears that the norms of function arrangements are few in number in English: V, N V, N V N, N V N N, etc. As a consequence it is apparent that the system of English has a relative word-order fixity of one type in word-groups and a function-order fixity of a different type in sentences. The stability of any system depends upon the presence of a large degree of invariance. In English this permanence or fixity results from the two types of order.

It is interesting to note that the adjective and adverb in attributive positions has the power of a function. To no small extent the beauty and variety of expression in English results from the possibility of substituting groups for single words in the adjective and adverb positions. The conditions and rules under which some groups so substitute are not fully known.

If the functions are points on a line--that is, if our abstraction of these entities is correct--then a sentence is capable of analysis in terms of the point-set theory of tactic mathematics. The laws of the sequence or order of these points remain to be formulated.

The nature of a sentence, of course, will not be wholly explained by form or function or invariance or classes but by a union of all four principles in relation to the identifiable peculiarities and properties of the system. As yet no satisfactory definition of a sentence has been achieved. It may be that, once the system is fully understood, a definition in terms of its operation can be made.

Structural analysis ultimately must bring the systems of phonemics and morphemics under consideration. At the moment these two sciences have developed extensive bodies of data, but their fullest usefulness will not be achieved until the researches in structural grammar are complete. Toward this end a mathematical formulation of the operating principles of the sentence will be helpful.

Harry R. Warfel
Anderson Hall
University of Florida
Gainesville, Florida

May 25, 1959

Dr. Stephan K. Mayer
Veterans Administration Hospital
Perry Point, Maryland

Reference: 5042/178 Oppenheim, Joseph B.

Dear Dr. Mayer:

    I have known several Oppenheims and I am by no means sure which
one is the patient of whom you write. If I am to do something for
him which I cannot promise, I should like to have more data as to
him and his history. This does not mean medical data as I realize
that these are between him and you and are scarcely material to be
sent to a stranger like myself. However, I do mean his working and
personal history so that I may have the opportunity to dig up from
my memory whatever personal recollections I may have of him.

                              Sincerely yours,

                              Norbert Wiener

NW:mmk

May 25, 1959

Professor U. Sein Tu
Chairman, Department of Psychology
Mandalay University, Mandalay
Union of Burma

Dear Professor U. Sein Tu:

    I am glad to see that active scientific work is underway
in Burma. I have always had great confidence in the intellectual
powers of the eastern countries. Burma, however, to me, is an
unknown land. I have taught and lectured in China, Japan, and
India and in all these I have been struck with the great reservoir
both of latent and of actually used activity. I have also had a
considerable amount of contact with my Siamese colleagues who as
far as religion and environment are concerned must be very similar
to your own. It is somewhat difficult to know from outside what
will be the line of development of a similar but very large country
such as Burma. These matters often depend on the accident of se-
curing one or two leaders who have both the ability and the en-
thusiasm to excite a national pride in modern learning. Of the
countries of southeastern Asia I think the long tradition of
Buddhist learning in Siam and Burma gives them hope for a very
promising future, for I have often observed that the best modern
scholarship emerges from the same groups as have the best tra-
ditionsl scholarships in their own type of literary and scriptural
learning.

                        Sincerely yours,

                        Norbert Wiener

NW:mmk

ROBERT S. McCLEERY, M. D.

630 THIRD AVENUE

NEW YORK 17, N. Y.

May 26, 1959

Professor Norbert Wiener
Massachusetts Institute of Technology
Boston, Massachusetts

Dear Professor Wiener:

I have read the New York Times account of your paper on
"The Brain and The Machine," which you gave at the New
York University Institute of Philosophy on May 16.
I am very much interested in this subject and wonder if
you could send me a copy of your speech or reprints of
any ofyour papers that are pertinent.
Thank you very much.

Sincerely yours,

Robert S. McCleery

Robert S. McCleery, M.D.

RSM:er

[ans 9/28/59]

May 26, 1959

Dear Professor Wiener,

I have had a number of inquiries from interested people about
when our book will be ready.

I do hope that before long you will send me the criticisms of
the manuscript that you promised me. It is impossible to go ahead
with the final touching up of the book without some indication from
you of what you think of it. Armand told me last March that the
working copy was in your hands. I look forward to your comments.

It is unlikely that I can be in Cambridge again soon, so do not
count on first hand discussions. We should try to settle the final
details for the editors and the printers by correspondence.

Barbara and I will be on a trip to California for a month
beginning June 8. It would be helpful to have some communication
from you about the book before we leave.

I hope that the manuscript by yourself and Wintner, which you
asked about, has turned up. I do not believe I have ever seen it.

You have noticed in my contributions to the book what I have
called the 'Probability Functional' point of view. I have continued
to work on this point of view and have found it rather fruitful.
Though in the book I found it desirable to leave out any explicit
form of the complete additivity axiom, you may have noticed a weakened
form of its presence when I investigate random variables that are
obtained by resricting functions that are continuous almost everywhere
to a uniformly dense sequence in the unit interval.

I have recently found it of interest to isolate this weak form
of complete additivity in the following way: I consider a class of
bounded functions that is closed under continuous operations and I
define a real valued linear functional on this class that has the
following property:

For any function X in the class and any
sequence of continuous functions c_n defined

on the real line such that $c_n \longrightarrow 0$, monotonely,

$$Ec_n(X) \longrightarrow 0 .$$

Curiously enough, this approach suggests an integration theory
that has many formal similarities with the Daniell theory but that
has striking pathological differences. It permits something close
to dominated convergence in a context where monotone convergence,
in the strict sense, is false.

A functional of the above type can be realized by restricting
a suitably limited class of functions defined on a measure space
to a single fixed sequence, Aa_1, a_2, a_3, $\cdots$, of points in the
measure space that are generated by a metrically transitive transformation.
Having suitably chosen the class of functions X - when the measure
space is the unit interval, they coincide with the functions that are
continuous almost everywhere - and having chosen the initial point of
the sequence outside a set of measure zero, we may define the functional
E by the following:

$$EX = \lim \frac{1}{N} \sum_{1}^{N} X(a_k) \ .$$

It is in this context that most of the pathologies appear.
It is significant, however, that a functional defined in this context
does not satisfy the Daniell postulates and must, thus, be studied
through the weak monotonicity postulate that I stated on the bottom
of the previous page.

I look forward to hearing from you soon.

Respectfully,

Sam.

Bayard Rankin

[ans 6/5/59]

May 26, 1959

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

Dear Miss Munger:

Enclosed are two copies of Professor Wiener's review of Symposium on Information Theory in Biology. It is not quite as long as you suggested, but he hopes that you will find it satisfactory.

Sincerely yours,

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

Enclosures (2)

[ans 5/28/59]

REVIEW

by Norbert Wiener

of

SYMPOSIUM ON INFORMATION THEORY IN BIOLOGY

This book, as its title indicates, is the account of a
symposium on information theory in biology. Information theory
in biology is a most important and growing subject and the
present book is a valuable account from a number of authors of a
variety of investigations and attitudes concerning the status of
the theory at the time of its writing. It represents an excellent
accumulation of material for a definitive treatise on biological
information theory. On the other hand, it seems to me to suffer
from the disadvantages inherent in all scientific symposia. I
do not recognize in it anywhere the wealth of new ideas and the
independent point of view which seem to me essential for a fund-
amental advance in this subject. I view with a certain degree of
skepticism the prevalent attitude of many scientists at this time
that a major breakthrough is to be made by the mass activity of a
large group of competent but not highly original thinkers. The
book is excellent of its kind but I have my doubts that this is the
right kind of book for bringing information theory in biology to the
point where it is fully effective. I am moreover somewhat suspicious
of the full value of the isolation of a new discipline under a new
label and of the development of a new scientific name and of new
vested interests.

The book contains a number of interesting suggestions concerning
the way in which living tissues in general and genes or viruses in

particular can contain information. It is however my conviction that real progress in these fields will involve a considerable intrinsic development of information theory on the mathematical end and that it is somewhat premature to introduce information theory as it exists now into the detail of this work. In other words, valuable and well-intentioned as this book is, I consider that it is devoted to the tactics of information theory at a time at which our chief interest should be in the strategy of information theory.

May 27, 1959.

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

Dear Professor Wiener:

The C.V. Mosby Company is publishing a book which Doctor Philip
Jay and I have written. We wish to use a very short quotation from your
book "Cybernetics". May we have your permission?

We are also seeking the permission of your publisher.

Sincerely yours,

Robert E. Moyers

Robert E. Moyers, D.D.S., Ph.D.,
Professor and Head,
Orthodontic Department.

REM:s

[ans 6/9/59]

May 27, 1959

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

Dear Norbert Wiener:

The replies to our letter accompanying Max Born's "Man and the Atom" have been arriving in a slow but fairly steady trickle during the three months since that letter was mailed. The responses have been wholly encouraging and we are grateful to each of you.

I write now only to express our thanks and to say that your reply has been forwarded to our regional office in Cambridge, Massachusetts. I hope very much that someone from our staff will have the privilege of meeting and talking with you in the near future.

Because almost every reply has asked for more information about our program, I am enclosing a new brochure of interpretation. The motives and purposes outlined in "Peace Through Education and Experience" have prompted our educational campaign against nuclear weapons tests; our continuing critical analysis of U. S. foreign policy; our year round program of lectures, conferences, and institutes; and other efforts.

I trust that we may find ways to help each other in our common search for peace and freedom.

Very sincerely yours,

Norman J. Whitney
National Secretary for Peace Education

NJW/nk
Enc.

Dear Norbert:

It was gratifying to receive a notice some time ago of your appointment as Institute Professor for in fact that is what you have been for many and many a year. What is particularly satisfying about this elevation is not the title but the fact that it afforded an opportunity to the President of MIT to reaffirm the esteem in which that establishment holds you.

The freedom to roam you have always had, and a roamer you have been. As one of the leading mathematical colleagues reminded me, years ago, "Wiener does all his work in other people's offices."

Your circulation through the Institute bespoke your interest in practical problems. Not only did it bring you closer in a human way to those who were not so gifted and so minded, but it gave them an understanding of the depth and capacity of your intellect. I can speak first-hand with respect to the elevating effect you had on the Department of Electrical Engineering with which I was associated for many years. Granted impedance-matching devices were needed, we were fortunate always in finding them about. There were the Bushes, the Guillemins, the Lees and many others.

The first and only course I had in mathematics was given by you in those halcyon days of the early twenties. I believe it was in 1922. People like Julius Stratton, Karl Wildes, and a very brilliant student from Mexico whose name I cannot remember were students. You wrote a set of notes which I still have. I remember that I would study until late at night only to find that in the midst of some theoretical development there was an error. Being inclined to be lazy, it would be a good excuse to go to bed, for why should one go on following a line of reasoning predicated on something that had gone wrong. After a couple of experiences of this kind I discovered the light. With

a mind of your lofty character you knew what the answer was going
to be and you knew where to start, and I suspect that filling in the
intervening steps was virtually a routine chore to be got over with
a minimum of discomfort.   But you were always right in the end re-
sult.

It was in this class of yours, incidentally this was the first year you
had given it, that I learned that Byerly was not only outmoded but
dangerous reading.   After all, there was nothing in Byerly on Gibbs'
phenomenon, which at the time was prominent in your mind.   There
were no existence proofs.   There were none of the Lebesgue integrals
nor had the eminent Harvard professor introduced Schwartz's inequal-
ity.   I look back on this course with delight and at this age with a per-
fectly safe feeling that it would have taken little more persuasion to
have convinced me that the field of mathematics was a wondrous one
and therefore a realm in which I could have lived as an amateur with
a great deal of satisfaction.

My congratulations and warm regards.

                              Cordially,

                              Ed

28 May 1959

May 28, 1959

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

Dear Professor Wiener:

By this time I hope you have received your check
reimbursing you for expenses incurred in connection with
your visit to the New York University Institute of Philosophy.
If not, please let me know at once ⅍~~~~~~~~~~~~~~~~~.

We are happy you enjoyed your visit. Your exposition
was, indeed, the high point of the proceedings. What was
particularly impressive was the fact that the reports of the
practical and experimental work on machines and the brain all
seemed to confirm the theoretical analysis you made. Since
they were presented in obvious independence of each other
this had a sort of dramatic 'clinching' effect.

Everyone was so enthusiastic about the session at which
you spoke that I have been pressed to include your talk in
the small volume which we are planning to issue devoted to
the papers and proceedings. This, of course, was not in our
bond and I hesitate to request anything that may be burdensome
to you. But if you are planning to write or publish anything
along the lines of your talk would you be good enough to send
us a copy for inclusion in our volume? This is all the more
important because when the other discussions are published
which take off from your remarks, the readers may wonder about
the "Invisible Presence" to which and about which Professors
Scriven, Watanabe, Rhine et al are addressing their remarks.

I am confident you will be pleased with the volume when
it appears.

Sincerely,

Sidney Hook

Sidney Hook
Chairman

SH:tl

[nw 6/5/59]

*⅍ After writing this I learned that the voucher was
sent to the Bursar on May 27ᵗʰ! There may therefore be a few
day's delay. The larger the organization the more time it takes to
do small things. I bet you can invent a machine to do it better.*

Naples, le ....May 28 th I959...

N. ....

My dear Colleague,
        I would like to inform you of the recent founding of
the Society of Cybernetic Medicine.
    An acting Council has been temporarily appointed pending the forth
coming meeting of the Members.
    I presume you may be interested in joining the aforementioned So-
ciety which intends to gather all persons whose concerns are related to
the study of Cybernetics applied to Medicine and Biology,as well as to
foster the scientific research and the dissemination of the new dici-
pline throug meetings, congresses,publications etc.
    I Imam enclosing herewith a copy of the By-Laws in Italian with its
English rendition, and a Membership application form, you may return
duly filled in.

                              Very sincerely yours
                              Prof. Aldo Masturzo.

                              President of the Acting Council

Encl. I By--Laws
      I Membership application form

[ans 6-9-59]

STATUTO DELLA SOCIETA' INTERNAZIONALE DI MEDICINA CIBERNETICA (S. I. M. C.)

ARTICOLO I

E' costituita un'associazione scientifica e culturale, sotto la denominazione « Società Internazionale di Medicina Cibernetica » (SIMC), con durata illimitata.

ARTICOLO II

L'Associazione ha lo scopo di stabilire un legame permanente ed organizzato fra i ricercatori, di ogni paese, che si interessano ai problemi della Cibernetica considerata nel suo aspetto di « scienza pilota » della Medicina e della Biologia e delle altre discipline inerenti all'uomo (Sociologia, Automazione, ecc.).

Essa si propone di promuovere in tutte le nazioni l'applicazione della Cibernetica alla Medicina, sollecitando riunioni, conferenze, congressi, pubblicazioni, curando la diffusione di notizie e di informazioni, e favorendo ogni altra iniziativa atta a stimolare la ricerca scientifica e la diffusione della Medicina Cibernetica.

ARTICOLO III

La Società ha la sua sede sociale in Napoli Via Roma, 348 e potrà eventualmente avere altre sedi.

ARTICOLO IV

L'organizzazione non ha carattere commerciale o comunque speculativo. Il patrimonio è costituito dalle quote annuali versate dai soci e da ogni altra eventuale risorsa accettata dal Consiglio.

ARTICOLO V

L'associazione sarà amministrata, a tutti gli effetti di Legge, dal Consiglio Direttivo, composto da: Presidente, Vice Presidente, e un numero variabile di Consiglieri non superiore a venti, i quali durano in carica cinque anni e sono rieleggibili.

La firma sociale e la rappresentanza dell'associazione spettano al Presidente del Consiglio Direttivo, ed al Segretario Generale congiuntamente, il quale ultimo sarà nominato dai soci fondatori, così come previsto all'articolo 7. che segue.

ARTICOLO VI

La Società promuove la creazione di Centri Nazionali per potenziare l'attività della Medicina Cibernetica in determinati campi di maggiore interesse scientifico e sociale, come: Medicina Sociale, Reumatologia, Neurologia, Automazione, ecc.

Ai Centri è lasciata la più ampia libertà di organizzazione, e di amministrazione dei mezzi. dei quali verranno in possesso o per dotazione da parte della Società o per altra via.

ARTICOLO VII

I soci fondatori si riuniscono in Comitato; ad essi spetta la nomina del Segretario Generale, il quale avrà sempre la firma e la rappresentanza sociale congiuntamente al Presidente del Consiglio Direttivo, del tesoriere, dei Direttori dei Centri Nazionali (di cui all'articolo 6.), di nuovi soci fondatori per sostituire eventuali recessioni, e del Delegato italiano in seno al Consiglio Direttivo nel caso sia richiesto. Possono eleggere un Presidente nel loro seno che sarà il Presidente del Comitato dei soci fondatori.

Non vi è incompatibilità fra questa carica e quella del Presidente della Società.

Il Segretario Generale, il tesoriere ed il Delegato italiano durano in carica cinque anni. I Direttori dei Centri durano in carica a vita.

ARTICOLO VIII

Potranno aderire all'organizzazione, come sopra costituita, cittadini di ogni paese, persone fisiche e persone giuridiche, mercé domanda da indirizzarsi al Presidente dell'organizzazione, e dopo avere accettato le norme dello Statuto. L'ammissione o meno sarà deliberata dal Consiglio Direttivo nella prima veniente adunanza.

All'atto dell'ammissione gli aderenti contrarranno l'obbligo di versare per ciascun anno, anticipatamente, una quota di L. 2.000.

I soci si dividono in soci effettivi ed onorari. I soci effettivi si distinguono a loro volta in individuali (ossia persone fisiche), e collettivi (ossia Società ed Enti in genere).

I soci effettivi individuali sono tenuti al pagamento di una quota annua; quelli collettivi al pagamento di una o più quote di importo pari al quintuplo della quota dei soci individuali.

I soci onorari sono esenti dal pagamento di quote, e godono di tutti i diritti dei soci effettivi individuali, tranne quello del voto.

Tutti i soci effettivi, siano essi persone fisiche o enti, hanno diritto ad un voto, in ogni caso previsto dallo Statuto.

ARTICOLO IX

Il numero dei componenti il Consiglio Direttivo all'inizio sarà quello dei soci fondatori. Nel caso il Consiglio Direttivo venga ad essere rappresentato da componenti di parecchie nazioni, sarà necessario che vi sia un delegato per ciascuna nazione, e per l'Italia il delegato deve essere designato dai soci fondatori.

ARTICOLO X

L'assemblea generale dei soci si riunirà mercé convocazione da parte del Presidente a mezzo avvisi epistolari o attraverso la stampa.

L'assemblea nomina i membri del Consiglio Direttivo il quale a sua volta nomina il Presidente e un Vice Presidente. Il Presidente può anche essere nominato per acclamazione dell'assemblea generale.

Le deliberazioni dell'assemblea saranno prese a maggioranza dei voti e con la presenza di almeno metà degli associati.

In seconda convocazione la deliberazione è valida qualunque sia il numero degli intervenuti. Ciascun associato potrà farsi rappresentare mercé delega scritta. L'assemblea però non può modificare l'articolo 7. dello Statuto, nè procedere alle nomine in esso previste.

Il Presidente potrà delegare ad altri con procura notarile parte dei suoi poteri. Tutte le cariche sono a titolo gratuito.

ARTICOLO XI

Il Consiglio Direttivo si riunisce su richiesta di almeno metà dei Consiglieri o per convocazione diretta del Presidente.

Il Comitato dei soci fondatori si riunisce su richiesta di almeno due componenti o su richiesta del Presidente del Comitato stesso.

L'assemblea generale si riunisce almeno una volta ogni due anni in riunione ordinaria, ed in riunione straordinaria ogni qual volta sia ritenuto necessario dal Consiglio Direttivo.

Alle discussioni e votazioni dell'assemblea generale partecipano unicamente i soci in regola con i contributi sociali.

ARTICOLO XII

Nel caso di scioglimento il patrimonio sociale sarà destinato a norma di Legge.

Per tutto quanto non previsto le parti si riportano alle vigenti disposizioni di Legge.

SOCIETA' INTERNAZIONALE DI MEDICINA CIBERNETICA (S.I.M.C.)

Segreteria : NAPOLI - Via Roma, 348 - Telef. 322623 - 313184 - 313125

DOMANDA DI AMMISSIONE

Il sottoscritto ....

residente a .... via .... tel. ....

presa visione dello Statuto, che accetta, fa domanda di essere ammesso a far parte della S.I.M.C.,

come socio individuale o collettivo (indicare con cancellatura dell'altro termine).

....

(firma)

Soci proponenti :

PROF. ALDO MASTURZO

DR. ANGELO SAVINO

Attuale posizione accademica o professionale, od altre attività di interesse scientifico o sociale

---

Visto del Consiglio Direttivo

Il Presidente

N. B. — Scrivere a macchina o in stampatello

INTERNATIONAL SOCIETY OF CYBERNETIC MEDICINE (SIMC)
Constitution and BY-LAWS

Art. 1

A scientific and cultural society, under the name of "INTERNA=
TIONAL SOCIETY OF CYBERNETIC MEDICINE (SIMC)", with indefinite
duration, is hereby found.

Art. 2

The purpose of the above named Society is to establish a perma
nent and organized bond among those researchers of every country,
who are interested in the problems of Cybernetics,-considered in
its aspect of "pilot-science" of Medicine, Biology, and such
other discipline, as Sociology. Automation etc., pertaining to
mankind. It intends to emphasize the application of Cybernetics
to the Medicine in every country, by:

a) promoting meetings, lectures, publications etc.;

b) disseminating news, information, and such other data which
may be called for from time to time;

c) furthering any other initiative to stimulate scientific
research, and the dissemination of Cybernetics.

Art. 3

The Social Seat of the Society is located in Naples, Italy -
Via Roma, 348, and may be transferred elsewhere.

Art. 4

The Society has neither a commercial aim, nor is profit intended
in any way.

The patrimony is constituted by the dues paid by the members,
and by other funds that - owing to previous approval of the
Directory Board may be obtained from other sources.

Art. 5

The Society will be managed (according to the Law) by the

Directory Board which is composed as follows :

    a) President

    b) Vice-President

    c) a variable number of Councellors, not exceeding a maxi-
       mum of 20

The Councellors are in charge for a period of 5 years at the

end of which they may be re-elected.

The social-signature and the official representation belong

to the President of the Society as well as to the Secretary

General. The letter will be elected by the Founding-Members

as set forth in Art.7.

Art. 6

The Society promotes the opening of National Centers in order

to increase the activity of Cybernetics in certain fields of

major scientific and social interest (i.e.: Social Medicine,

Rheumatology, Neurology, Automation, etc.).

The National Centers are allowed to manage and dispose of, in

all liberty, the funds the possession of which they have ente-

red either by endowment from the Society or other sources.

Art. 7

The Founding-Members are joined in a Committee. It is their

prerogative to vote the General Secretary, who will be entitled

to cosign and represent the Society with the President, the

Treasurer, the Directors of the National Centers (as per Art.6),

new Founding-Members accepted to replace dropped or resigned

members, the Italian Deputy to the Directory Board, if any.

The founding-Members may also elect a President among them, whose
charge will be that of President of the Founding-Members Committee.
There is no incompatibility involved between this charge and that
of President of the Society.

The Secretary General, the Treasurer, the Italian Deputy are in
charge for a period of 5 years, while the appointment of Directors
of National Centers is for a life-time.

Art. 8

Citizens of every country -agreeing with, and accepting all these
By-Laws - may join the Society applying directly to the President.
Their admission will be discussed by the Directory Board during
the first forthcoming meeting.

The members - when accepted - are due to pay, in advance, an an-
nuity of italian Lire 2.000 per capita per annum.

There are two kinds of membership:

     1) Acting members

     2) Honorary members.

The acting membership is vested in the individual entities as
well as the legal entities (Societies, Organizations, Groups etc.).
The individual entities are due to pay a yearly fee, while the
legal entities are due to pay one or more annuity corresponding
to the fivefold amount of an acting-member's dues.

The Honorary Members are exempt from payment of any dues. They
benefit of all rights and privileges of an acting-member, but
are not eligible to vote.

All the Acting-members - whether physical body or organization-
are entitled to one vote in all cases provided hereby.

Art. 9

At the beginning the number of the members of the Directory
Board will correspond to the number of Founding-Members. If
the Directory Board will be formed by representatives of seve-
ral countries, it will be mandatory that there will be a deputy

for every country. The Italian Deputy will be designated by the
Founding-Members.

Art. 10

The General Assembly will meet upon call by the President by
written notices, or through the press.

The Assembly votes the Members of the Directory Board. It is the
Directory Board competence to elect the President and Vice-President. The President may also be elected by acclamation of the
Assembly. The Assembly takes decisions by majority. For this
purpose it is requested that, at least, half of the members be
present.

A decision taken on second convocation is legally binding whatever
is the number of members present.

Each member may appoint a delegate by written note.

The Assembly has not the power to modify Art.7, neither the
authority to vote the appointments indicated thereto.

The President - by Power-of-Attorney - may delegate other persons
to share his power and duties.

All appointments are on an unpaid-volunteer basis.

Art. 11

The Directory Boards is summoned by, at least, half the number
of the Councellors, or on convocation by the President.

The Founding-Members Committee is summoned on request of, at
least, two members, or upon call by the President.

Only members who have paid their dues are entitled to attend the
meetings, and the voting of the Assembly.

Art. 12

In case the Society breaks off its social patrimony will be
disposed of according to the law in force.

Fo all not provided in the present By-Laws the appropriate law
terms will be applied.

May 28, 1959

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

OPPENHEIM, Joseph B.

Dear Dr. Wiener:

We thank you very much for your kind interest in our patient which is shown in your letter of May 25, 1959.

Mr. Joseph B. Oppenheim was discharged from the hospital on May 9, 1959. From our records, we can take the following personal description: height 5'7", brown hair (nearly bald), brown eyes, weight 155 pounds, wears eyeglasses. Mr. Oppenheim gives the impression of a very modest man who speaks with a rather low voice, and that everything he says is well considered. Emotionally, one would say, he is more on the depressive side.

After discharge from the armed forces in June 1946 he went to a college in Maine and then to MIT from where he was graduated as an electrical engineer. We do not have the exact date of his graduation. According to our records the interview with you must have been in 1954. I only know that he told me that you referred to your own daughter who you had sent to Europe to learn languages and that you advised him to do the same, because you felt the way of life in Europe would be more to his liking and the different environment would be psychologically good for him.

We have written to Mr. Oppenheim and have advised him to give you the exact dates of his curriculum, the date of the interview prior to his leaving for Europe and if possible the academic course which he attended under your supervision.

He must have been very much impressed not only by your technical and mathematical achievements, but still more by your philosophy of life that he traveled many miles (I believe it was from Wyoming to Boston) to have your personal advice for his future.

I encouraged him that his philosophy of life is basically sound and reasonable, that he is right in saying: it is more important to enjoy work as such than to wait for recognition and success. I also advised him that his philosophy of life will meet with many repercussions in our extremely

Norbert Wiener, Ph.D.
Professor of Mathematics
Mass. Institute of Technology
Cambridge 39, Mass.

OPPENHEIM, Joseph B.

competitive culture. By association he suddenly started to speak about the inter-
view with you prior to his trip to Europe. This association of Mr. Oppenheim
is the more understandable as our psychotherapy is based on the goal to
exchange the maximum of information with the patient under any condition
and the reevaluation of his life and assets with human standards and not
with the standards of purely technical, competitive standardization.

We hope that Mr. Oppenheim will furnish you with more valuable details
so that you will be better able to recall his case. We are very
grateful that you have found time to give this case some consideration
and are always very glad, if we can be of service to you.

Yours sincerely,

STEPHAN K. MAYER, M. D.

PERSPECTIVES IN BIOLOGY AND MEDICINE

*

May 28, 1959

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

Dear Mrs. Kruger:

We thank you and Professor Wiener for the review of

Symposium on Information Theory in Biology. It is just fine--

lengthwise and breadthwise.

In due course we will send you galley proof for approval.

Sincerely yours,

Elizabeth Munger

ROCKETDYNE

A DIVISION OF NORTH AMERICAN AVIATION, INC.

6633 CANOGA AVENUE, CANOGA PARK, CALIFORNIA

28 May 1959

IN REPLY REFER TO:

59RD6759

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

Dear Dr. Wiener:

We have received with great interest the announcement of the
special short course you are giving at UCLA this summer on
"Nonlinear Problems in Random Theory." A lecture series on
this subject should provide a much needed impetus for current
projects in information theory and time series analysis.

The Research Subdivision of North American Aviation's Rocketdyne
Division is particularly interested in this general field because
of the dynamic systems and spectral analysis studies we are now
conducting.

We have developed reasonably satisfactory methods for describing
the transfer characteristics of linear dynamic systems and for
estimating the spectral densities of time series under suitable
linear hypotheses. Since many of our physical systems possess
nonlinear properties, however, existing techniques are not always
sufficient and we now find it necessary to develop analogous
methods to describe certain types of nonlinear systems.

The mathematical problems are formidable and we feel that before
initiating a detailed study of the nonlinear problem it would be
wise to formulate a general point of view with the assistance of
some experienced advice. Consequently, we would like to invite
you to spend a day at Rocketdyne, as a special consultant, to
meet and discuss these problems with several of the people in
our Physics and Mathematics Unit. We think you will find it

FORM R 67-A REV. 4-57

- -

interesting to see some of the special difficulties we have
encountered in the application of random process techniques,
and we are confident that you shall be able to give us tangible
assistance in formulating a strong approach to our nonlinear
problems, even in so short a time.

We could arrange this session after the conclusion of the special
course at UCLA; i.e., any day during the week of 29 July 1959.
Since Rocketdyne is in the Los Angeles area, there would be no
difficulty in providing transportation to and from your hotel.

May we look forward to your early reply indicating whether or
not you are interested in making the above proposed visit, so
that we may proceed with the necessary formal contractual arrange-
ments with you.

                        Very truly yours,

                        NORTH AMERICAN AVIATION, INC.
                        Rocketdyne Division

                        J. M. Zimmerman

                        J. M. Zimmerman
                        Senior Research Engineer
                        Physics & Mathematics Unit

JMZ:vb

28 May 1959

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

Dear Dr. Wiener:

We have received with great interest the announcement of the
special short course you are giving at UCLA this summer on
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                        NORTH AMERICAN AVIATION, INC.
                        Rocketdyne Division

                        J M Zimmerman

                        J. M. Zimmerman
                        Senior Research Engineer
                        Physics & Mathematics Unit

JMZ:vb

May 28, 1959

Mr. Henry Brandon
Washington Correspondent
The Sunday Times of London
3501 Rodman Street N.W.
Washington 8, D. C.

My dear Mr. Brandon:

I have gone over your interview with me and made a certain
amount of minor corrections and amplifications. There is one
point, however, which troubles me very considerably. In the first
place I am afraid of alluding too directly to individuals in Russia
because of the possible damage which some of the things I write
may do to them. They have to live there and I don't. On the
other hand I want to give something of the atmosphere of my con-
versations with them. The fact that I might go to Russia next
summer makes the possibility of damage to them much more real
than it would be otherwise.

Could you give me the great favor of going carefully over
my corrected manuscript and giving me the benefit of your own
advice as to how to handle this delicate situation. It probably
would be best to put off any final decision on this until you
return from Russia when you will be more intimately in contact
with the possible consequences of my writing.

Sincerely yours,

Norbert Wiener

NW:mmk
Enclosure

Answers to additional questions of Mr. Henry Brandon, The Sunday Times, London.

Programming is the record by which the mode of performance of the machine is determined.

Get in touch with IBM if you wish to know how long it would take to programme a chess playing machine to allow it to play a full game.

It could happen with some forms of programming.

I am not certain how far the machines think in advance - probably two or three moves.

I don't know how the different chess pieces are valued.

Concerning Russian accomplishment in cybernetics - see the recent article in the Russian journal, Ogonyok.

The chief thing I am interested in how is developing the line in my book, Nonlinear Problems in Random Theory, in respect to brainwaves and with respect to more general physiological problems.

I have lectured in England, Germany, France, Switzerland, Italy, Spain, China, Japan, Mexico, Canada, India, Israel and Norway.

                                    Norbert Wiener

May 28, 1959

Miss Daisy Mae Howell, Secretary to
Vice Admiral H. G. Rickover, USN
United States Atomic Energy Commission
Washington, D. C.

Dear Miss Howell:

Thank you for your letter of May 19th expressing Vice Admiral
Rickover's interest in Professor Wiener's speech at the New York
University Institute of Philosophy. Professor Wiener did not
prepare his speech in a written form, however, NYU may have taken
it down and may plan to publish it in some form. I know that in
previous years a book has resulted from the symposium. I suggest
that you contact Professor Sidney Hook, Department of Philosophy,
New York University, in regard to this.

You might also contact Mr. Henry Brandon, Washington correspondent
for The Sunday Times of London for he recently interviewed Professor
Wiener on somewhat the same topic. I believe his article will appear
in the late summer or early fall.

Thank you for your interest.

Sincerely yours,

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

Agrupacion de Ingenieros Civiles de Cuba en el Exilio

P. O. Box 1282

Miami 1, Fla.   AN ANSWER TO AN OPEN LETTER TO PRESIDENT KENNEDY

The Association of Cuban Civil Engineers in Exile, feel it imperatively necessary to answer the paid advertisement, which appeared in the New York Times on May 10th, entitiled "An Open Letter to President Kennedy". This reply, then, is addressed to the forty professors of Harvard University, the twelve from Brandeis, the eleven from M.I.T., the four from Boston University, and the two intellectuals from the Boston area that signed that document.

Others have already answered you in the New York Times, an expenditure which you, and they, have been able to afford, but we cannot. We therefore address ourselves to you privately.

It is needless to point out that we are addressing ourselves to a group that does not represent the American intelligentsia as a whole, but rather a very small percentage of the institutions of - learning in which you reside.

It should also be needless to point out -but we shall nevertheless do so, since you seem to have forgotten or ignored some basic facts about Comunist Cuba- that we are in this country because it became impossible for us to live in Cuba under a regime which - has implanted mental and material slavery; and we prefer to live - here, under the laws and institutions of freedom which serve to protect your goodselves and us.

Consider, gentlemen, the great difference between us. You have led a life of uninterrupted and intense intellectual work, giving - your knowledge to American youth, and all the while enjoying all the material and moral benefits of a country which represents the highest achievements in liberty of thought and of action which exist in the world today.

We who address you have been totally deprived, morally and - materially, of those selfsame adventages by the Comunist regime of Fidel Castro, which you would protect and safeguard from any attempt to overthrow it.

We have known for a very long time that the regime of Castro was a Comunist tyranny. After May 1st, 1961, the entire world knew, for he himself proclaimed it as such. It follows inescapably that - to describe that tyranny as "his particular brand of social revolution" demonstrates either incredible naivete and utter folly, or else it palpably betrays those who so declare to be themselves Communist or what Lenin so aptly described as "useful idiots".

As noted educators, it is inconceivable that you have shown total ignorance or total indifference to the fact that Fidel Castro, from the very beginnings of the revolution, said repeatedly, "If - what we are doing is Comunism, then we are Communists". By his words and actions, he proved his contention time and again; and, finally, openly admitted his serfdom to the men of Moscow and Peiping.

It is simply not possible that you were not aware of the fact that, time and again, Castro used naked force to carry out his designs; that he never took any trouble to ask his people whether or - not they would agree with his methods in an open and free election; that he deceived an entire nation by alleging that his Communist "reforms" were compatible with democratic institutions.

It is beyond the realm of credibility to state that you honestly believe that his regime, backed as it is by the enormous military and terroristic apparatus of the total police state, created by the decisive aid of the Soviet bloc, can possibly be inclined to any return to the free systems of republican democracies.

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For, gentlemen, it is perfectly evident that in defending Castro, you are defending International Communism and all its evils. It is useless to say otherwise. In the words of Castro himself, "You are for the revolution or against it". In our words, "You are for Communism or against it".

How many of you, gentlemen, had the oportunity to live in Cuba before the advent of Castro?. How many of you, gentlemen, have any detailed and documented information of the so-called "social reforms" of Castro Communism?.

Perhaps you are ignorant of the fact that the Cuban State is today the only landholder in our country. No one else. Perhaps you are not conversant with the Castro method of "turning fortresses into schools", when he turns the whole country into an armed camp, bristling with Soviet weapons. Perhaps that you are unaware that al Cuban and foreing important industry, commerce and property has been nationalized in wholesale confiscation that can only be described as outright larceny. Perhaps you have not read Castro's Communist labor legislation which deprives the working man of every single one of his rights.

You do not realize, gentlemen, that if you had dared to publish an exactly similar letter in Cuba, which criticized the Castro regime in the same terms as you do your own government, you would have instantly been imprisoned and join over 120,000 people of both sexes, of all ages and social classes, who today languish in Cuban dungeons and concentration camps.

By your declarations, it becomes clear that it is your wish to deceive your President and the people of your country, when you speak of non-existent "social reforms" in Cuba; of possible anti-American sentiment in Latin America if this country, by its actions, defends and rescues the freedoms upon which it was founded; and of the total fiction that Castro leaned toward the Communist bloc due to American governmental action.

From the comfort of your professorial chairs, you state with staggering smugness that Cuba has been saved by Castro; but had you lived through our experience, and if you would maintain your selfrespect and dignity as men, you would have felt impelled to condem the terror, the executions, the mass imprisonments, the spoliations and destruction of our once prosperous country.

You shudder at the possible use of the Big Stick. Do you then propose an understanding with a regime of terror and condone tratment on an equal-to-equal basis?.

We suggest that you bring about a reunion of the mothers, wives, daughters and sisters of the executed, the imprisoned, the exiled and the opressed of Cuba and say to them that "The first imperative is a cooling-off period, and an announcement of our willingness to test the sincerity of the Cuban offer to negotiate differences".

Our women do not deserve such macabre mockery, nor do we, nor do those who are suffering under Castro's terror -tacitly admitted by you- nor do your students, nor the American people, nor your President.

We come, then, to resolve, the following:

1. If there is to be no Big Stick, use a Little Stick; but the United States has the moral and material obligation to effectively aid Cuban lovers of freedom and republican democracy to overthrow Castro and his Communist gang.

2. Not only will Cuba benefit by such action, but the rest of Latin America, and the U.S., which are falling prey to a deadly "Socialist" encirclement in the immdiate future, and where the Communists are laboring intensely for that purpose from within Hemisphere Universities.

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3. Patriotic Cubans, united under one ideal and casting aside all differences, will continue to fight for the - restoration of freedom in Cuba, with every means at our disposal: Propaganda, sabotage, military action, etc., - for it is the struggle for humanity.

4. If we are abandoned in our liberating crusade by "diplomatic maneuvers", such maneuvers would serve only to - destroy totally the vanishing prestige of the United States abroad. All other nations will doubt that your country is disposed to aid them in any fight for freedom.

5. We are ready, at any time, to debate on an elevated - and constructive plane with your goodselves, in order that the final result will prove to be the complete delineation of the realities which we have stated; and to avoid that - an insane spirit of selfdestruction prevail in the United States and Latin America, which will inevitably bring with it total loss of freedom and tremendous loss of life. - - We shall expect to receive your conditions for debate. We shall then give you ours.

AGRUPACION DE INGENIEROS CIVILES DE CUBA EN EL EXILIO

(ASSOCIATION OF CUBAN CIVIL ENGINEERS IN EXILE, INC.)

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Representing 105 members.

Miami, May 29, 1961.

Mathematics Department
University of California
Berkeley, Calif.
May 29, 1959.

Dear Professor Wiener,

Some time ago, in collaboration with Professor Szegö, I found a result which may interest you. Let $d\mu \geq 0$ be a finite measure on $(0, 2\pi)$, and denote by Q, F the manifolds in L^2_μ spanned respectively by

$$Q: \{1, e^{-ix}, e^{-2ix}, \ldots\}; \qquad F: \{e^{ix}, e^{2ix}, \ldots\}.$$

The problem: When are Q, F at positive angle?

<u>Theorem</u>. Q, F are at positive angle if and only if

(a) $d\mu$ is absolutely continuous: $d\mu = w(x) dx$

and

(b) $w = e^{u + \tilde{v}}$,

where u is a <u>bounded</u> real function, v is bounded and real with $|v(x)| \leq \frac{\pi}{2} - \varepsilon$ (some $\varepsilon > 0$), and $\tilde{v}$ is the conjugate (in the sense of trigonometric series) of v.

The problem is equivalent to interesting statements about trigonometric series. In this form, it was known that $w(x) = |x|^\alpha$ has the property in question if $-1 < \alpha < 1$.

Very sincerely,
Henry Helson

This work will appear in due course in a joint paper, together with a discussion of the problem with log and other questions.

JOHN J. IAGO
302 FIDELITY BUILDING
BALTIMORE 1, MD.
May 29, 1959

New York University Press
New York, 3, N.Y.

Gentlemen:

A recent issue of the New York Times contained an in-
teresting but very brief reference to a talk which
Professor Norbert Weiner of MIT gave in Vanderbilt
Hall and under the auspices of New York University
on the subject "The Brain and the Machine".

I would like, if possible, to have an opportunity to
read the full text of Professor Weiner's talk. I am
taking the liberty of writing to you on the assumption
that possibly it will appear in print in some publica-
tion of which I may have an opportunity to purchase a
copy. If that is going to happen, I would greatly
appreciate a word from you as to how much I should re-
mit for a copy.

I enclose a stamped and self addressed envelope for
your possible convenience in making reply.

                    Very truly yours,

                    John J. Iago

JJI:MTH

[ans 7/28/59]

May 29, 1959

Professor and Mrs. Norbert Wiener
South Tamworth, New Hampshire

Dear Professor and Mrs. Wiener:

I called the Raymond and Whitcomb Travel Service and received
the following information:

On a tourist flight from Boston to Los Angeles you may stop
over in Chicago, but it costs the same as two separate tickets
from Boston to Chicago and then from Chicago to Los Angeles.
It costs $11.00 extra to make this stop.

The cost of a round-trip tourist ticket from Boston to Los
Angeles to Boston will be approximately $258.95 including tax.
It costs the same to return from either Los Angeles or San
Francisco. You will just need to have them adjust your point
of departure when you are in California and have decided to
leave from San Francisco.

There is quite a variety in the schedule of flights from
Boston to Chicago and then from Chicago to Los Angeles.
Here is a sampling. You could leave Boston at 7:45 A.M.
arrive Chicago 11:07 A.M.   Leave Boston 9:40 A.M., arrive
Chicago 1:20 P.M.   Leave Boston 12:15 Rrrive Chicago 4:44 P.M.

From Chicago to Los Angeles there is an even greater variety.
There are tourist jet flights, non-stop, which cost $7.00 more
than the regular tourist flight. I believe that the regular
flight from Chicago takes 6 hours and the jet takes 4 hours.
It really seems that you can pick when you want to leave
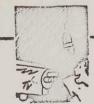Chicago and there will be a flight leaving around that time.

I am enclosing your mail, all of which I believe can wait to
be answered until your return.

Yesterday Charles and I had lunch at Joyce Chen's. We had the
buffet and enjoyed it thoroughly.

Hope you are enjoying your stay.

                              Sincerely yours,

                              Margaret Kruger

Drums Along the Pacific

MARK TWAIN may have been right, in his pre-broadcasting world, when he wrote, "The thin top crust of humanity, the cultivated, are worth pacifying, worth pleasing, worth preserving, but to be caterer to that little faction is merely feeding the overfed." TV-radio broadcasting to small factions, however, is of considerable social importance when it is carried on within ear-and-eyeshot of culturally impoverished millions. Dr. Frank Stanton, president of CBS, argued recently at Ohio State University that TV, as distinct from other communications media, ought not to have a "special imperative applied to it." To the do-gooder the free, continuous omnipresence of broadcasting in the home, its public franchise nature and the overriding necessities of a nuclear-poised age seem to demand a special imperative. The sharpness of social criticism of TV-radio is in direct ratio to the widely held belief in the salutary powers of the currently narcotizing giant.

The fundamental measurement of developments in broadcasting must be made according to this yardstick. That is why the announcement that KPFK, the Pacifica Foundation's second station, will go on the air in the Los Angeles area on June 28th, is a matter of national interest. This product of the agamogenesis of KPFA, in San Francisco, is another nonsponsored, entirely listener-supported FM radio station, which will broadcast an independent schedule of avowedly educational and cultural programs. A *Los Angeles Times* FM columnist regards KPFK as a "cultural bomb... that will provide commercial-sick or weary TV viewers a chance to rest their eyes and use their minds for a change." "Don't subscribe," warns another Southern Californian, "unless you're prepared to be caught up in something. A radio station operated for adult minds really does get to be a religion."

The local "little faction" in Los Angeles is prepared. KPFK expects to have 3,000 subscriptions by the end of June—more subscribers than its parent station, KPFA, in San Francisco, had in its first year on the air. The impersonal point, nevertheless, is that Lewis Hill's "2 per cent theory of audience support for educational broadcasting" has jumped out of the curiosity class into the raised-eyebrow category. Mr. Hill, the original prophet of the Pacifica Foundation, postulated that ten dollars a year from a 2 per cent minority of the population in a city, could produce annual revenues to support the operating costs of a completely unbeholden radio station.

Through ten years of emotional flagellation known peculiarly to its psychological expatriates of a mass, mercantilist society, KPFA endured its survival ordeal. Its mystique ("a threat to any establishment since it encourages the participant to question, to think, to feel intensely") was often regarded by its distant friends and admirers as an efflorescence special to the hills surrounding the University of California campus at Berkeley. "Tension, secret excitement," revulsion at a balanced budget ("a deficit is the price you pay for excellence and freedom")—these have been the stigmata of the experiment. But now Los Angeles looks forward to identical angels and their manifestations. One thinks of the Samaritans receiving the word of God from Philip. Or of the first landing on the moon. . . .

Lewis Hill wrote that "the listener-sponsored station must give the values and concerns of [the community's intellectual leadership] an accurate reflection at their highest level." He did not stop there, though. He added: "Because the resultant broadcast service is public, the community at large—no doubt by slow accretion and assimilation—is enabled to participate in the best aspects of its own culture as few communities have done before. . . . A practical instrument of adult education can be created wherein the concept of the average gives way to the expression of the unique." This is the social heart of the appearance of the second Pacifica Foundation station. The light is no longer parochial; it is capable of spreading to contiguous darkness. How far that contiguity may go is the exciting question of the future. To change the metaphor, two drums now beat in the West. If more drums are added eastward across the Rockies, the dialogue of the overfed cannot help but be overheard nationally by the undernourished. We may come a little closer to the answer of the riddle of what the public wants: manna or meat and potatoes?

—ROBERT LEWIS SHAYON.

KPFK

FM, 90.7 mc

5636 Melrose Avenue

Los Angeles 38, Calif.

IMPERIAL COLLEGE OF SCIENCE AND TECHNOLOGY
(UNIVERSITY OF LONDON)

DEPARTMENT OF ELECTRICAL ENGINEERING
Telephone : KENSINGTON 4861—Ext. 30

CITY AND GUILDS COLLEGE
EXHIBITION ROAD
SOUTH KENSINGTON
LONDON - - S.W.7

31st May 1955

Dear Wiener,

     I have great pleasure in sending you the Essay on the Mathematical Theory of Freedom, which I wrote with my brother André, and which owes so much to your inspiration. Forgive my thoughtlessness; I ought have sent it a year ago, but I am so busy on half a dozen schemes of a practical nature that I regularly forget sending out my reprints.

     I was much impressed with what I have heard from you to-day. I have the feeling that in time this will become even more important than your Cybernetics.

             With kindest regards

                 Yours

                 D. Gabor