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CORRESPONDENCE *March 1-22, 1953*

N. WIENER MC 22

Ica March, 1953

CERCLE d'ETUDES CYBERNETIQUES

Monsieur et cher Collègue,

Nous avons l'honneur de vous annoncer que notre prochaine réunion aura lieu le

Samedi 14 mars à 16 H 30

à l'Institut d'Histoire des Sciences, 13 rue du Four, Paris (6°), métro Mabillon.

Nous vous prions d'agréer, Monsieur et cher Collègue, l'expression de nos sentiments distingués.

PROGRAMME DE LA SEANCE:

"MONDE DES MACHINES: DEVELOPPEMENT ET LIMITES"  
par M. Jacques LAFFITTE

SERIE DE CONFERENCES CONSACREES A LA CYBERNETIQUE :

Nous signalons une série de Conférences consacrées à la Cybernétique, organisée par la Maison des Sciences, avec la collaboration des Membres du Cercle d'Etudes Cybernétiques. Ces conférences faites par MM. Louis de BROGLIE, COUFFIGNAL, FESSARD, GUILBAUD et LOEB, auront lieu en Mars à la Sorbonne. Les Membres du Cercle seront prévenus en temps utile.

REVUE "STRUCTURE ET EVOLUTION DES TECHNIQUES" :

La Revue "Structure et Evolution des Techniques" publie dans chaque numéro une rubrique consacrée à notre Cercle et un article se rapportant aux questions qui nous intéressent. De façon plus générale cette publication présente un BILAN des informations scientifiques et techniques, des ESQUISSES de synthèses rationnelles, des CONFRONTATIONS entre techniques et valeurs.

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Ecrire à : S.E.T.-CECYB, 2, rue Mabillon, Paris (6°)

Le Secrétaire,  
R. VALLÉE

[ca March, 1953]

SYMPOSIUM  
on  
NONEQUILIBRIUM STATISTICAL MECHANICS

On March 23-24, 1953, the U. S. Bureau of Mines is sponsoring a symposium on irreversibility and transport phenomena. The first (and major) part of the symposium will be devoted to general questions, and the last part, specific applications. The sessions will be held in the auditorium of the Bureau, 4800 Forbes Street, Pittsburgh, Pa.

The members of the planning committee are:

- Herbert B. Callen, University of Pennsylvania
- John G. Kirkwood, Yale University
- Elliott W. Montroll, Office of Naval Research
- John M. Richardson (chairman), U. S. Bureau of Mines
- George E. Uhlenbeck, University of Michigan

Recommended hotels with accommodations and prices are listed on an attached sheet. It is urged that reservations be sought as early as possible because of other convention activities in Pittsburgh at the time of the Symposium. Neither the committee nor the Bureau can take responsibility for securing reservations.

To aid in estimating attendance, please complete the form below.

-----

TO: John M. Richardson  
 U. S. Bureau of Mines  
 4800 Forbes Street  
 Pittsburgh 13, Pa.

I am planning to attend the Symposium on Nonequilibrium Statistical Mechanics.

Yes \_\_\_\_\_ No \_\_\_\_\_

No. of colleagues planning to attend \_\_\_\_\_

Signed \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

SYMPOSIUM  
on  
NONEQUILIBRIUM STATISTICAL MECHANICS

U. S. Bureau of Mines  
4800 Forbes Street  
Pittsburgh, Pa.

March 23-24, 1953

Monday, March 23

9:00 a.m.

REGISTRATION

9:45 a.m. (J. M. Richardson, presiding)

BERNARD LEWIS, U. S. Bureau of Mines - Welcoming remarks

1. CALLEN, HERBERT B., University of Pennsylvania

Thermodynamics of Irreversibility

2. COX, RICHARD T., The Johns Hopkins University

Statistical Mechanics of Viscosity and Brownian Motion

1:45 p.m. (G. E. Uhlenbeck, presiding)

3. MACHLUP, STEFAN, Bell Telephone Laboratories, Inc.

A Statistical Interpretation of the Dissipation Function

4. RICHARDSON, J. M., U. S. Bureau of Mines

Integro-Causal Formulation of Nonequilibrium Statistical  
Mechanics

5. TISZA, LASZLO, Massachusetts Institute of Technology

The Quantum Mechanical Basis of Irreversibility

8:15 p.m.

ROUND TABLE (Topic to be announced)

MONTROLL, ELLIOTT W., (moderator), Office of Naval Research  
MAYER, JOSEPH E., University of Chicago  
ONSAGER, LARS, Yale University  
PRIGOGINE, I., Université Libre de Bruxelles  
UHLENBECK, GEORGE E., University of Michigan

Tuesday, March 24

9:00 a.m. (H. B. Callen, presiding)

6. BERGMANN, PETER G., Syracuse University  
Generalized Statistical Mechanics and Onsager's  
Reciprocal Relations
7. GREEN, MELVILLE, University of Maryland  
Markoff Random Processes and the Statistical Mechanics  
of Time-Dependent Phenomena
8. ZWANZIG, ROBERT W., and KIRKWOOD, JOHN G., Yale University  
The Statistical Mechanical Theory of Transport Processes,  
and Some Recent Applications

2:00 p.m. (E. W. Montroll, presiding)

9. UHLENBECK, GEORGE E., and CHANG, C. S. WANG, University of Michigan  
Propagation of Sound in Gases
10. PRIGOGINE, I., Université Libre de Bruxelles  
(Title to be announced)
11. MARCUS, PAUL M., Carnegie Institute of Technology  
Irreversible Thermodynamics and Electrons in Metals

Listed below are hotels in the City of Pittsburgh, and the rates they charge for their accommodations. Because of the various conventions being held in Pittsburgh the week of March 23rd, it is urged (if you are planning to attend our seminar) to make your reservation for lodging well in advance of March 23rd:

<u>HOTELS</u>	<u>RATES</u>	
	<u>SINGLES</u>	<u>DOUBLES</u>
*Haddon Hall, 4730 Centre Ave.,	\$ 3.50	\$ 5.00
***Penn-Shady, 226 Shady Ave.,	4.50 5.00	6.50
**Carlton House, 550 Grant St.,	10.00 12.00 14.00 16.00	14.00 16.00 18.00
*The Fairfax, 4614 Fifth Ave.,	6.00 8.00	9.00 10.00
***Cadillac, 234 S. Beatty St.,	2.50 3.50	4.00 5.00
**Fort Pitt, Penn at 10th St.,	3.00 to 4.75	5.75 to 8.00
**The Pittsburger, 428 Diamond St.,	5.50 to 7.25	7.50 to 11.00
**The Roosevelt, 607 Penn Ave.,	5.50 6.50 7.00	8.00 8.50
*The Schenley, Bigelow & 5th Ave.,	6.50 7.50 8.00	10.50 to 13.50
**Sheraton, Wood St.,	5.35 5.85	9.85
*Webster Hall, 4415 - 5th Ave.,	6.50 8.00 10.00	9.00 11.00 13.00
**Wm. Penn, Grant St.,	6.50 7.00 7.50	9.50 10.00 10.50

\* Located in the vicinity of the Bureau of Mines  
 \*\* Downtown hotels  
 \*\*\*Other sections of the city

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MASSACHUSETTS INSTITUTE OF TECHNOLOGY

.....19.....

Memo to.....

Room.....

Mr. Alan Morris - S&S - Publicity Director

To my - Thur. & Fri. March 20-7. &  
interview, etc. Return Fri. pm.

Return pictures not used & photographed to S&S  
& publicity use -

from.....

Room.....

[ca. March, 1953]

PROF. NUBERT  
WEINER

MIT  
Cambridge

THE RATIONAL MIND NEEDS  
NO SAVIOR TO SAVE YOUR  
NON-EXISTENT SOUL

THE MIND THINKS UP  
THE SOUL FOR ITSELF WHILE  
IT EXISTS

---

DEAR PROF WEINER: My  
"Jimmy" article reminds me  
that Pres Eisenhower said "It  
takes no brains to be an  
atheist". I have written him  
that two of the bravest  
men of modern times are  
(were) atheists: Robert  
Weiner and Justice Holmes.  
Rationalists like  
that public leaders and  
educators are not as far  
off on other facts as they  
are on religion and  
atheism - but we fear  
the "Joseph" recall  
in "Progressive World"  
suggest they are, on  
the relation between  
religion and morality

I hope you like Progressive  
World, Clifton N.J., and  
Joseph McCabe is new  
Associate Editor.

Yours truly  
W. P. HITCHCOCK  
MAY 19

Dr. Warren <sup>knows duty of letters</sup>  
Banta ~~Warren~~

[ca. March, 1953]

Dear Sir

A study of the impression made on a dictaphone  
tape by sound waves of the voice. These marks  
or impressions to be made on a screen as the  
new apparatus for printing of books by typewriter  
These impressions to be indexed as letters of  
alphabet <sup>the</sup> & to major factors & as many as  
can be handled & shuffled. ing, long, or  
ed, et, m, im, + various endings of words  
would be handled as separate for reasons  
of condensing - shortening the sound. This  
might be done for beginnings also as, Be,  
Im, m, At, al, etc.

These marks or impressions to have a "stimulus"  
similar to various words of the alphabet (words of common  
usage). The photograph of page to be transcribed  
to tape marking by electron scanning process on tape,  
for reproduction into sound

The letters of the alphabet to be worked out in a mathematical manner + relationships to each other as to (a) sound waves, (b) length of various musical factors (c) manner of speaking or pronouncing (inward & outward word breathing), the various factors in speaking to include all knowable variations + differences of pronouncing letters. From this to progress to words after mathematical formulas for letters is made.

When this is completed an electronic mechanism could be built to use this mathematical table, by process of identification of a printed word + producing same, by a sound amplifier. The first apparatus to only form the word. Later by inhaling or exhaling + ~~to get the math from speaking by rule of association (mathematically) to produce sound (word)~~ The true consideration would seem to be of importance in the correct pronunciation including letters & vowels & syllables. A rhythm or inflection is seen in all primitive speech this would seem of some importance.

(2)

If the various letters of the Alphabet were given  
 a color, the words to be formed by blending of  
 the various colors or letters. Each letter to form a dot  
 of blended colors. This varying of blends of colors or  
 letters to be identified by the several thousand  
 varieties of blends. The idea to stimulate the  
 pronunciation on a automatic annunciator or keyboard  
 of several thousand words to be recorded on a tape  
 & replayed. You have an automatic apparatus to read  
 aloud from a printed page (perhaps)?

Yours  
 F. H. G.

Those memories of Ill boys have something.

28

En. March, 1953]

Fulford Harbour,  
Salt Spring Island,  
British Columbia -  
Canada -

Dear Herbert.

Having just finished your book 'Ex-Prodigy', which I sent for because of old associations, I do want to write and congratulate you and tell you how much I enjoyed reading it. It is most interestingly written and gave me a great deal to think about. To be frank, I sent for it myself because I had so often heard my parents speak of yours as old friends - My father, Milton Hydegraff, was Professor of Astronomy at the University of Missouri when your father was Professor of Slavonic languages there and you and I were born in the same year - 1894.

In 1913 or 14 my Mother visited me while I was at Simmons College and ran into your father in Boston. They spoke of you and Mother told me this story - She remarked that Ruth (myself) had not achieved all that Robert had - your father thus replied "She would have if I had been in charge of her training!"

Soon after this I was invited to lunch at your home in Cambridge. I do not remember your being there but Constance and several younger children, were. What did impress me was the fact that I was miles behind them all in general knowledge as there was a discussion of world affairs which was quite over my head! Constance walked to the bus with me and I remember liking her very much -

Two people mentioned in your book brought back memories - I traveled to Alaska in 1937 on the same ship with the widow of young Phourides, and I knew Philip Alger as a child when we lived in Annapolis in 1903 or 4 -

I should have begun by explaining why I addressed you by your first name, but I feel that we are now or less old friends as no doubt we often met as babies!

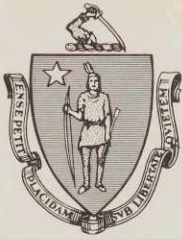
My husband and I have lived in British Columbia since our marriage in 1921. Do come and see us if you and your wife come to the northwest -

With kindest regards -

Very sincerely yours -

Ruth Updegriff Maude -





*The Commonwealth of Massachusetts*

*University of Massachusetts  
Agricultural Experiment Station*

*Amherst*

March 2, 1953

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

Dear Dr. Wiener:

Since the time is drawing near for your visit to Amherst on April 15, I would greatly appreciate it if you would send me the exact title of the lecture which you intend to present so that we may get some notices out well in advance of that meeting.

Unless it is too early, at the same time you might indicate as to your plans of traveling to Amherst. If you come by train, the nearest railroad station is that located at Northampton, and if you plan to come by this method, I shall be glad to meet you in Northampton. No matter how you come we shall plan that you stay over night in Amherst and shall make a hotel reservation for you accordingly.

A reply at your earliest convenience would be greatly appreciated.

Very truly yours,

*S. B. Hitchner*

S. B. Hitchner

Department of Veterinary Science

SBH:J

*Motives and Responsibilities of The Scientist*

# FERTILITY *and* STERILITY

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## ABSTRACTS

*O. J. Pollak, M.D.*

## BOOK REVIEWS

*J. P. Greenhill, M.D.*

PENDLETON TOMPKINS, M.D., *Editor*  
450 Sutter Street, San Francisco 8, Cal.

March 2, 1953

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

My dear Professor Wiener:

The February issue of "Transactions and Studies" of the College of Physicians of Philadelphia (of which I have long been a fellow) reached me today. I have read with admiration of your style and envy of your knowledge "The Concept of Homeostasis in Medicine".

The sentence which particularly held me reads "..... that there is an art of diagnosing graphs by which their inner dynamics may be determined."

For almost 10 years I have been interesting myself in the fluctuation of women's basal temperatures which accompanies the rhythm of estrogen - progesterone production. A few reprints are enclosed so that you may refresh your recollection of the phenomenon.

My question is this: How can I as a clinician gain a mathematician's insight into the inner dynamics of these graphs and secondly, how can I, as an editor, persuade a mathematician to write a paper for our journal?

I shall be greatly obliged to you if you can help answer either question.

Sincerely yours,

*Tompkins*

[ans 3/29/53]

2617a So. Kingshighway  
St. Louis ,9, Mo.  
March 3, 1953

Massachusetts Institute of Technology  
Professor Norbert Wiener

Dear Sir:

I have just read an article written by Msgr. Cavanagh. In it you said that robots will in the near future give man a life of leisure by doing his work and making his decisions. You also said that in doing this the robot would not dominate man.

I do not understand this. I do think it is not possible for this to happen. Maybe the reason for the way I feel is that I am actually afraid for it to happen.

Would you please, Professor, send some information on the subject to help clear up my thoughts on the matter and also to give me more knowledge about it.

Yours truly,

*Barbara Boughman*  
Barbara Boughman

P. 4-5  
ASME

[cont 5/11/53]

TB/RH

Oslo, March 3rd 1953  
Karl Johansgt. 16 IV

Prof. Norbert Wiener,  
Mass. Inst. of Technology,  
Cambridge 39, Mass.  
U. S. A.  
-----

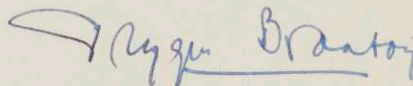
Dear Prof. Wiener.

The American copy-right-rules are generally enforced in a somewhat over-legalistic manner, I think. However when it comes to quoting a letter I concede that the author should be consulted. I therefore submit to you a paper where I quote on page one a letter from you. You do not have to read more than the first page in order to make a decision because the paper does not go into particulars in relation to your statement.

If you read the paper please remember that it has not as yet been revised by my linguistic collaborator Mrs. Mary Lee at The Menninger Foundation.

I shall appreciate very much your permission to use the quote, but shall also accept in good spirit, I hope, the opposite verdict.

Very sincerely yours

  
Trygve Braatoy

P.S. I add a reprint of another paper because the manuscript to some extent presupposes the earlier paper.

[ms 3/24/53]

①. Milner  
Mass Inst of Tech.  
Boston Mass

Mar 3 - '53

Dear Sir.

For a mathematical method of reading aloud from a printed page all letters of the alphabet to be considered as numbers A to be 1, B 2 ect. ~~It would~~ would consider as be = 25 ect. Then to 4 thousand words to be classified in this manner. With the aid of an advanced computer (electronic) + perhaps use of fractional method this could be simplified. From a fractional of mathematical method this to be reduced to a code of sound <sup>wave</sup> system using the Moors early experiments in word sounds + pronunciation with an inflection as given by experts in this department. The mechanics of this to be worked out by men familiar with this kind of fields

This would seem to be a matter of time, money + skills. A million given by some for later + 1 year by university students should be sufficient.

Sincerely  
yours  
F.H.G.



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

March 3, 1953

Dear Mrs. Baldwin:

We have in the office Dr. Wiener's  
manuscript and the photographs he sent us. Shall  
I have these sent to his home or to MIT?

Sincerely,

Lois Friedlander

Mrs. George Baldwin  
Dept. of Math.  
MIT  
Cambridge, Mass.

*parameters*  
~~*parameters*~~

[ans 3/5/53]



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March 3, 1953

Dear Dr. Wiener:

Just in case you missed it, here is a tearsheet from last week's Saturday Review, containing an advance comment on EX-PRODIGY.

I have heard that the Saturday Review is planning a rather important review of the book, scheduled for the issue of the 28th of this month. The Times and Tribune Sunday book sections have also told us that they are running reviews but will not tell us when. This is customary. I sent you the proof of a pre-publication ad running in the current Publisher's Weekly, and there will be another pre-publication ad in the Saturday Review. More advertising, of course, will be run after pub date.

Allan Morris, I know, has been busy lining up various possible radio appearances. These he will write to you about direct, if he hasn't already done so.

Advance copies have gone out to the list we drew up together, and other names have been added on the suggestion of various members of our staff.

And that is the progress report today.

Very sincerely,

Dr. Norbert Wiener  
Department of Mathematics  
MIT  
Cambridge, Mass.

hws:lf  
enc.

out of this—concocts a preposterous plot to persuade Sir Robert to give up his dog, which he does. At which point the magnificent house—scene of the party—suddenly burns down and Sir Robert, we are led to presume, realizes the selfish folly of his ways and will presumably bed with Lady Rose. I'm sorry. That's Miss Sackville-West's story and I'm stuck with it. It's all set down in very elegant prose. —E. J. F.

**INTRA-OFFICE INTRIGUE:** The story, if not quite the romance, of big business operations has been getting more than a little attention of late. What does it take to get ahead in a large, bustling firm in which each man has his heart set on the top spot and his eye on the main chance to get there? W. H. Prosser has fashioned his answer into a nicely plotted novel of office intrigue and one man's search for philosophical verities, "*Nine to Five*" (Little, Brown, \$3). Bill Tarrant is the man, and by aptitude, personality, and work he is obviously slated to go up. He is not only resigned to his future—professional success and a private life of organized concupiscence—but looking forward to it. Then into his life comes a girl who makes him see the game he is playing as unworthy of him, a rat-race.

The pettiness of the office intrigue by which he must maintain his position and fend off competitors begins to pall. Mr. Prosser has a deft and credible way of picturing the world of intra-office politics, a sure if somewhat slick hand at picturing the operations of the smiling knife-in-the-back boys, and a nice narrative sense which almost offsets the customary difficulties arising from concentrating all the story action in one day.

In addition he has some interesting—and bitter—things to say about the philosophy which controls the bright young men of our business world today. It all adds up to a highly readable book. —E. J. F.

### LITERARY I.Q. ANSWERS

1. "Anna Karenina," by Leo Tolstoy.
2. "A. V. Laider," by Max Beerbohm.
3. Walter Huff, in "Double Indemnity," by James M. Cain.
4. Alice, in "Through the Looking-Glass," by Lewis Carroll.
5. Mary Daniels, in "Once in a Lifetime," by Kaufman and Hart.
6. Captain Brown, in "Cranford," by Mrs. Gaskell.
7. Laura Jesson, in "Still Life," by Noel Coward.
8. Lady Carlotta, in "The Schartz-Metterklume Method," by Saki.
9. The story teller, in "Cannibalism in the Cars," by Mark Twain.
10. James Carker, in "Dombey and Son," by Charles Dickens.

## ON THE HORIZON



**Ex-Prodigy.** By Norbert Wiener. Simon & Schuster. \$3.95. March 26. Whatever becomes of those bright boys who enter high school at nine, are college graduates at the age their more average brothers are getting out of grade school? Well, sometimes, if their name is Norbert Wiener, they grow up to become mathematics professors at Massachusetts Institute of Technology and write such influential books as "Cybernetics" (that's the one about the machines that can do almost anything a human can) and "The Human Use of Human Beings." But being a prodigy has its heartaches as well as its peculiar triumphs, as Mr. Wiener explains in a frank and revealing autobiography that carries him from his childhood in a Harvard professor's home through graduate school days at Cambridge, England, where he studied under Santayana, Royce, and Bertrand Russell.

**My Host the World.** By George Santayana. Charles Scribner's Sons. \$3. March 9. This, the third (and final) panel of "Persons and Places," the autobiography of the distinguished philosopher who died last year, covers in part the same period and ground as Wiener's "Ex-Prodigy." In it, Santayana picks up his own story in 1912, when he resigned his Harvard professorship, goes on through his years at Cambridge, his travels on the Continent, and his final settling in Italy. His pages are peppered with the names of the famous and once-famous, but much of his concern, as befits a philosopher, is with adventures of the mind and spirit.

**Robert Browning.** By Betty Miller. Charles Scribner's Sons. \$5. March 9. A good deal of the writing about Robert Browning in our time has concentrated on his romance with Elizabeth Barrett. Mrs. Miller has resisted that temptation and offers instead an "interpretive portrait" that carries him from a sheltered youth, through a stormy courtship, and happy married life in Italy, to his return to England following Elizabeth's death. Although Mrs. Miller gives the events of the poet's life top priority, she weaves in discussions of his work.

**The Correspondence of Mr. Justice Holmes and Harold J. Laski, 1916-1935.**

Edited by Mark De Wolfe Howe. Harvard University Press. March 1. The numerous people who follow the Holmes-Pollock Letters" (1934) exciting reading are waiting for this one. The American journal of the British philosopher, brilliant diverse personalities, both gifted and influenced their times. Their lives record and illuminate political, intellectual, and artistic activities on both sides of the Atlantic between Felix Frankfurter wrote the

**Worth Watching For:** Mario Proust's "The Story of Language" and other books have won him a wide reputation as a linguist, is turning to novel-writing. "Swords and Plumes" (John Day, March 12, \$3.50) is a historical romance about the time of Charlemagne, edited by the *Chanson de Roland* and other minstrel tales. . . . Daphne du Maurier has a collection of eight short and one longish story on March 5. Most of them are about women, and the atmosphere is of suspense. "Kiss Me Again, Stranger" will be published by Doubleday for \$3.50. . . . Truman Capote whose "The Sin of the Precious" novel about the New England former, Dr. Theodore Partridge, attracted considerable attention last year, has turned to Brook Fielding's "George Ripley for his late novel "Passion by the Brook" will be published March 5 by Doubleday. . . . Richard Wright, whose "Native Son" is certain to be mentioned soon as the talk turns to novelists. Negroes, has a new one coming out March 18. "The Outsider" is about a man caught in the tentacles of the Communist Party (Harper, \$3.50). —RAYMOND WALTER

SOLUTION OF LAST WEEK'S  
KINGSLEY DOUBLE-CROSTIC (1934)

SANDERSON:  
CARIBBEAN TREASURE

Collecting animals can be a disheartening business. You start with an array of bottles, tubes and nets, search . . . over a wide area and return home empty-handed only to find that the cook has captured a rare snake in the f



ng. As an added attraction, side has supplied Jamie with indicated ethic which adds depth to his character even though activity is somewhat outlandish. Also writes with superb gusto. You'll like his tale, tall though  
—EDWARD J. FITZGERALD.

**FIEN ABOUT LONDON-TOWN:** The of Mr. Anthony Powell's long prose continues to brighten pages of his work, but it is here and there in his latest released in America, "A Market" (Scribner, \$3), by rattling grammatical—or periphrastical—lapses. These he is having his customary way with the young men who go to school in "A Question of Ingenuity." This time they are at parties instead of school, and are making ambiguous conversation, indulging in amorous innuendo and gadding about like all get out of polite sedulous references to their adolescent preoccupations, they are in their twenties, more epicene than they were in their schooldays. This reader—considerably amused—like all conversation-seekers talk too much, and, like all users of phrases, Mr. Powell's characters are around so often and with such dogged determination that the sensation of charmed interest is likely to be succeeded by a faint feeling of nausea or a buzzing in the ears. Powell is relentless, how determined to see his young men paired off with his young ladies going so to pair before he is through with them. I suspect you will be through with them long before he does.  
—E. J. F.

**IN NEW GUINEA:** You wouldn't think a novel which set a young and beautiful widow alone with a madman on an island off New Guinea and there for three months in the face of the danger of her life could be so soporific. Well, Marion Fairbank has done just that in "Monter" (Westminster, \$3). Fairbank, widowed and in search of a life in New Guinea, gets on the island—with a great deal of application of exactly how—somewhat sinister sounding. Reader-years later she begins to suspect his sanity. Then she reads an encyclopedia she had bought and comes up with the answer: paranoia! Much later, maybe he'll kill her. But she can get around to that by arguing objective a boat around the island, takes Tempe off, and Lowndes's sad story is done. This is most annoying character-

istic is the way the author constantly builds up suspense by hinting that something is going to happen soon, and then it never does.  
—E. J. F.

**THE CARE AND MANAGEMENT OF A HOTEL:** Ethel Gardner, who knows something about the management of hotels from personal experience, decided to write a novel incorporating some of her ideas and attitudes. The result, "The Captain Comes to Eden" (Dorrance, \$2.50), can't be described as a complete success. To begin with, Miss Gardner starts with that difficult thing, a farcical idea. A bunch of old ladies who have been living in the Hotel Regina for eternity, suddenly drive their manager to distraction, and with lamentable results they take over. When the hotel owners send in a new manager with ideas of efficiency, the ladies get up in arms and proceed, this time deliberately, to drive him to distraction. Some of the devices Mrs. Gardner has thought up are genuinely amusing, though more of them have that strained air one finds in amateur theatricals: Too, Mrs. Gardner gets a little breathless at the end and winds up her tale with as preposterous a farcical episode as you're likely to come upon. The total result is a volume that doesn't come off, but which has some good material.  
—E. J. F.

**DEDICATED MAN:** Stephen Elliott, hero of Sara Jenkins's latest religious novel, "The Happy People" (Crowell, \$3), had a number of problems. He was a minister, but he wasn't sure he was a good enough one. And he was in love with a woman who had been divorced, a condition frowned upon in his Methodist faith. Miss Jenkins takes plenty of time straightening out his problems, spiritual and otherwise, bring-

ing in a blind old lady whose simple-minded faith puts others to shame, a colony of devoted recluses called "The City of the Brothers," and a flood. As usual in such contrivances, the fortuitous flood neatly cleans everything up for the author and her characters, reawakens the spirituality of the mill owner, persuades the millworkers of the virtues of selfless service, affirms the need of brotherly love, and opens Stephen's eyes. Eyes open, Stephen realizes not only his religious dedication but also that the woman he really loves is lovely young Joel, who has been darting in and out of the pages from the beginning of the book. Miss Jenkins's undoubted religious fervor doesn't quite make up for the corniness of her novelistic contrivances.  
—E. J. F.

**GENTEEL MELODRAMA:** V. Sackville-West hasn't had a new novel for a number of years. So those who have been missing her will be pleased to know that she's back on the stands again. "The Easter Party" (Doubleday, \$3) is, as the title implies, the story of a party, a week-end party. At it we meet our host and hostess, Sir Walter and Lady Rose Mortibois. Their guests include Sir Walter's brother, a brain surgeon; Lady Juliet Quarles, distinguished beauty who alone knows she is going to die soon; two dull relatives of Lady Rose; and one nephew who is promising. If all this sounds familiar, it is. Miss Sackville-West's plot, however, is a little off-beat. It concerns the spiritual troubles of Sir Robert, as cold a fish as you'd care to meet. Sir Robert, by arrangement, doesn't even sleep with his wife, disdaining close personal relationships. Instead, he's in love with his dog or thinks he is. His brother—deciding to snap him



"Those guys who thought of the election must have made a fortune."

March 3, 1953

Mr. Frederick J. Gillis  
Assistant Superintendent, Boston Public Schools  
15 Beacon Street  
Boston 8, Mass.

Dear Mr. Gillis:

I have received your letter about the 31st Annual Convention of the International Council for Exceptional Children which will be held in the Statler on April 6-11.

This meeting interests me very much, and I hope to be able to attend some of its sessions. My schedule for the spring is, however, so tight that I fear that I cannot participate more actively than this. I hope you will send me more information about the meeting when it is ready.

I think that it will be of interest to you that my autobiography, Ex-Prodigy: My Childhood and Youth will be published by Simon and Schuster on March 27th. I take the liberty of calling your attention to it, since it may be of interest to some attending your meeting.

Sincerely yours,

Norbert Wiener

h

March 3, 1953

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

Dear Professor Harrow:

Enclosed with this note is a copy of the summary  
of the lecture Professor Wiener plans to deliver  
at City College on April 9.

Sincerely yours,

Mrs. George Baldwin  
Secretary to Prof. Wiener

h

[ans 3/6/53]

March 3, 1953

Institute for Mathematics and Mechanics  
New York University  
New York, N.Y.

Dear Sir:

I am eager to secure a copy of some lecture notes  
entitled "Stationary Sequences in Hilbert Space" by  
A.H. Kolmogorov, translated by Natascha Artin.

Will you kindly tell me where these notes are avail-  
able, and what their price is?

Sincerely yours,

Armand Siegel

hb

March 3, 1953

Mr. Marion C. Manderson  
Undergraduate Association  
Office of the Institute Committee  
Walker Memorial

Dear Mr. Manderson:

In taking a longer look at my summer plans, I have found that my attendance at your Senior Banquet will interrupt a two week period of vacation in the country. My experience has taught me that I must take advantage of a vacation period at the end of term, and I must therefore beg you to excuse me from your program on June 5. I am very sorry, indeed, to back out after I have accepted, and I hope that you will understand that I do so only because I must.

With best wishes for a very successful Senior Banquet,

Sincerely yours,

Norbert Wiener

hb

March 3, 1953

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

Dear Mr. Simon:

Copies of my book are at hand, as well as a charming letter from your brother. It ill becomes an author to chortle over his own work, but as I have looked over the book I have had to admit that I am not ashamed of it.

In addition to the schedule which I have sent you, I have been sounded out by the International Council for Exceptional Children to participate in their Annual Convention which meets in Boston in April. I shall enclose a copy of my reply to them. The Council is concerned with children handicapped in various ways, but also with those of exceptional intelligence. Even though I cannot take a very active part in their meetings because of my earlier commitments, I feel justified in calling their attention to my book. I shall keep you informed of any further correspondence I have with them, for I am reasonably confident that there will be a market for the book at this Convention.

With good wishes,

Sincerely yours,

Norbert Wiener

h

March 4, 1953

L.J. Greeley, Brigadier General, USA  
Deputy Commandant  
Industrial College of the Armed Forces  
Washington, D.C.

Your Ref: SAOIC 201

Dear Sir:

I am returning to you the transcript of my recent lecture with some minor changes which I have felt it necessary to make. You may reproduce it in any form you wish.

Again I wish to thank you for your courtesy to me when I visited Washington.

Sincerely yours,

Norbert Wiener

hb

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

.....19.....

Memo to.....

Room.....

Howard talk -

"In for weather + Scientific Method"

from.....

Room.....



HARVARD UNIVERSITY  
PSYCHOLOGICAL LABORATORIES

45 min. talk -  
4. 555,  
522-  
Memorial Hall  
Cambridge 38, Massachusetts

March 4, 1953

Dr. Norbert Wiener  
2-155  
Massachusetts Institute of Technology  
Cambridge 39, Massachusetts

Dear Dr. Wiener:

5 ad. mem. 1954  
The graduate students and staff of the Harvard Psychology Department meet on Wednesday afternoons in Colloquium. I should like to invite you to speak to the group sometime in the near future.

The Colloquium is quite informal and is attended by about two dozen persons. Usually, the program consists of a forty-five minute to one hour talk followed by a discussion period. The meeting begins with tea at 4:00 P. M. and ends at 5:30.

We should be delighted to have you with us on either March 18 or April 8. I should appreciate it if you would let me know within the next few days whether either of these days is convenient for you. If you like, you may reach me by telephone at Harvard extension 552.

Sincerely yours,

Nancy Collier

Nancy Collier -  
Colloquium Chairman

Experimental  
Psychology  
May 13th?

March 4, 1953

Dear Sir,

The lecture which you are scheduled to give is definitely at 4:15 p.m.

We are most certainly counting on you to have dinner with us after the lecture, however.

Perhaps, the best thing would be for you to meet Dean Howard J. Crosby at the Dean of Men's office at 35 Union St. in New Brunswick before the time scheduled for the lecture.

I must apologize, for I shall not be able to meet you. Nor will I be able to attend the lecture. The remainder of our committee will be on hand, and I am quite certain that you will be well received. My apologies once again.

Sincerely yours,

*William E. Jeney*

William E. Jeney

MILTON H. RODOFSKY, M. D.  
478 BEACON STREET  
BOSTON 16, MASSACHUSETTS  
KENMORE 6-3863

March 5, 1953

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

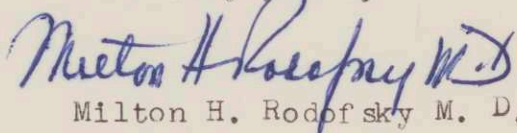
Dear Prof. Wiener:

Thank you very much for the privilege of reading your paper "Problems of Organization". I would be grateful for a reprint after publication.

Thank you again for your valuable criticisms of my own paper and for the time and energy you devoted to me.

I do hope that some of your personal problems have been solved by this time and appropriate decisions reached.

Sincerely yours,

  
Milton H. Rodofsky M. D.

MHR:as



SIMON AND SCHUSTER, INC.

*publishers*

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

March 5, 1953

Dear Dr. Wiener:

I am delighted that you are pleased with the book.

If and when the International Council for Exceptional Children announces you as taking part in their convention, our sales department will see that the appropriate bookshop is well supplied.

As ever,

*Harry Simon*

P.S. I am enclosing a proof of an advertisement to appear in the April number of the Scientific American. You will notice a coupon at the bottom. That's to test the drawing power of the Scientific American, which we have used only once before.

Dr. Norbert Wiener  
MIT  
Cambridge, Mass.

hws:lf  
enc.



**NORBERT  
WIENER** tells  
about his childhood  
and youth in  
**EX-PRODIGY**  
*Just published*

**T**ODAY Norbert Wiener of M. I. T. is world-renowned as the originator of Cybernetics\*. Forty-five years ago he was nationally famous as a child prodigy.

His book, just published, tells how it felt to be a *Wunderkind* in New England; how his father (Harvard's first professor of Slavonic languages) deliberately set out to train the infant mind; what it was like to be an 11-year-old freshman at Tufts, a Harvard graduate student at 14, to study at Cambridge and Göttingen, to be a young lecturer at Harvard.

Dr. Wiener tells what books he has read and enjoyed, (Age 11: *Iliad* in Greek, Heine in German, Horatio Alger in English), how he fared with his teachers and fellow students, how he chose his career.

EX-PRODIGY is a fascinating personal revelation that will be of particular interest to those who have followed reports of Dr. Wiener's achievements in *The Scientific American*. It is the story of the development of one of the truly original minds of our time.

EX-PRODIGY is available at all bookstores, price \$3.95. Or send the coupon below.

—Simon and Schuster, Publishers

\*Please pronounce it *Cyberneētics*, says Dr. Wiener.

To your bookseller, or  
SIMON AND SCHUSTER, Dept. P,  
630 Fifth Avenue, New York 20, N. Y.

Gentlemen:

Please send me *Ex-Prodigy: My Childhood and Youth* by Norbert Wiener. Price \$3.95.

- Send C.O.D.  
 Payment enclosed (publishers pay postage)

Name.....

Address.....

Cty.....Zone.....State.....

March 5, 1953

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

Dear Mr. Crosby:

I shall leave tomorrow morning to spend the weekend with my daughter in Basking Ridge, New Jersey, and from there my wife and I will drive to New Brunswick on Monday. We will plan to come to your office about 2:30, in case you want to talk things over with me before the lecture hour arrives. If you should want to get in touch with me over the weekend, please do not hesitate to do so. My daughter is Mrs. Gordon Raisbeck, and her address is 42 Madisonville Road, Basking Ridge. She has a telephone, but I have forgotten the number.

From your letter of February 25, I understand that I shall speak in the Kirkpatrick Chapel at 4:15 p.m. If it is possible for you to provide one without difficulty, I should be greatly assisted through my lecture by a blackboard. However, please do not trouble yourself unduly in this matter.

I look forward to meeting you on Monday, and to getting better acquainted with Rutgers.

Sincerely yours,

Norbert Wiener

hb

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

.....19.....

Memo to..... Room.....

The Assistant Dean of Men will expect you at his office at 2:30 p.m. His name is

Mr. Howard J. Crosby.

The undergraduate who has been corresponding with you about this lecture is

Mr. William E. Jeney, Jr.

from..... Room.....

March 5, 1953

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

Dear Miss Friedlander:

I think it will be best if you send the manuscript  
and the photographs to Dr. Wiener's home. The  
address there, in case you don't have it, is  
53 Cedar Road, Belmont, Mass.

Sincerely yours,

Mrs. George Baldwin  
Secretary to Prof. Wiener

h



March 6, 1953

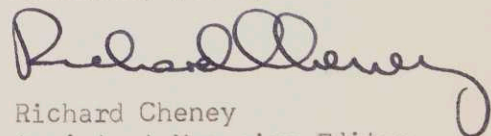
Dr. Norbert Weiner  
Massachusetts Institute of Technology  
Cambridge 39, Massachusetts

Dear Mr. Weiner:

I recently had the pleasure of a club car conversation with you on a trip from Chicago. I realized when I returned to my editorial post on Steelways, a publication of American Iron and Steel Institute, that you were one of the best qualified men in the country to look over the enclosed manuscript on automatic control. It will appear in the June issue of Steelways. We would appreciate your comments and suggestions on its soundness and factual accuracy. Our deadline is pressing so we'd appreciate hearing from you as soon as possible.

I trust your luncheon with Mr. Schuster worked out well, and I am looking forward to reading your book. I hope you had a chance to look at the Salinger Story (Teddy) about the young prodigy in The New Yorker. It was well done.

Cordially yours,



Richard Cheney  
Assistant Managing Editor  
Steelways

RC:ep

[ang 3/16/53]

STEELWAYS  
Vol.9, No.3  
June, 1953

## AUTOMATIC CONTROL

By. John Kord Lagemann

In captivity in the Bell Laboratories in New Jersey is a tiny electronic mouse who stands on the threshold of a new age. The "mouse" -- a two inch bar magnet with copper whiskers -- can find its way through a maze by trial and error. When the mouse is returned to its starting place by its creator, Dr. Claude Shannon, it can then find its way through the maze without a single false move.

A man-made mouse that profits from experience might be by itself merely a curiosity. What gives it significance is the fact that it is just one of hundreds of startling new examples of the technology of automatic control that is causing a revolution in American factories and industrial plants. Today, as never before, man is using this technology to create a kind of world that taxes his capacity for wonder.

A guided missile, hurtling through space in a strong wind, radios its complex navigation problems to a ground-based computer or "brain" which flashes back the answers as instructions to the robot pilot. The electronic brain thinks fast enough to perform 50 calculations while the missile travels 10 feet -- and the

missile is traveling at 2400 feet per second. . .

In an operating room a man's life may hang by the thread-like tubes connecting his body with an artificial kidney. The kidney is a tiny, automatically controlled chemical plant, which performs the same functions as a real kidney. During the operation another automatic device adjusts the mixture and flow of oxygen and other gases to maintain a constant degree of anaesthesia. . .

When you dial a phone number, a vast switching system, guided by an electronic brain, registers and remembers the phone number, selects the best of several alternate paths through millions of other phone circuits, rings your party's bell, clears the line when the receiver is picked up, times the call, adds up the charges and puts it on your bill. . .

Each of these is an example of automatic control. Some people perhaps conceive of "automation" as typical production line procedure where the product is automatically carried from one machine to the next. Or perhaps they conceive of it as a sort of broken-phonograph-record type of mechanical operation where the same process is carried on over again no matter what the result.

Modern control apparatus goes much further. Through such "sense organs" as photoelectric cells, microphones, thermocouples and Condensers, it "perceives" how well its instructions are being carried out and modifies them accordingly.

One good example of such control is embodied in the household thermostat. When the thermostat "perceives" that the room is getting cold, it sends a message to the oil burner control valve, causing the valve to be opened. When the room is warm enough it sends a message that closes the valve.

The thermostat itself is not a new idea and other examples of automatic control, such as James Watt's flyball governor are even older. But much of the impetus toward large scale automatic control came as recently as World War II. At that time scientists and engineers from many fields worked together for the first time to produce new weapons and equipment.

They found that human operators simply could not handle all the data that had to be interpreted at lightning speeds in order to hit a plane, say, with an anti-aircraft gun.

Obviously, automatic control was the

only possible solution. When it proved successful in complicated war machinery, everyone began to consider its industrial applications. Today an estimated 10,000 "system engineers" are at work on industrial automation problems. They include mathematicians, scientists, engineers and administrators about equally divided among private companies, government agencies and university research centers. Many of them believe they are now ready to free large portions of our production machinery to operate at speeds far beyond the reaction time of the human nervous system.

In large segments of some industries, the automatic factory is virtually here. Television and radio sub-assemblies are now being made automatically, as are light bulbs, glassware, chocolate and beer.

At a steel company in Canton, Ohio -- a "jewelry plant" where the finest grades of alloy steels are made -- I watched a melter and his assistant control an electric furnace from a control board 50 feet away. Minute fluctuations in temperatures above 3000 degrees fahrenheit were registered almost instantaneously on a dial from several parts of

the furnace, including the center of the bubbling metal itself. The temperature recording apparatus automatically transmitted instructions that controlled the blinding hot arc between the metal and the big ~~electrodes~~<sup>ELECTRODES</sup>.

Only a few years ago the fastest thermocouples took a second to respond, and measured temperature with an accuracy of one part per hundred. Today's instruments register heat fluctuations at the rate of thousands per second with an accuracy of one part in thousands. That means better control and better steel.

In both hot and cold strip mills, electronic eyes and feelers keep the fast moving metal on the track while x-ray gages give a continuous and almost instantaneous record of thickness and keep the Rollers turning at just the right pressure.

A mill can unwind a heavy steel strip at several hundred feet a minute, squeeze it down to a uniform .01 inch thickness and send the finished product whizzling out at 370,000 feet a minute. The entire processing of 15 ton coil can be finished in less than five minutes.

At a new \$11,000,000 coal hydrogenation plant in Institute, West Virginia, the

entire chemical process is watched and guided at every step by built-in control devices. Raw coal is fed in at one end of the plant, and out of the other come scores of chemicals used for dyes, drugs, synthetic rubber, plastics and explosives. The staff of only 50 men, most of them chemists and engineers, concentrates mainly on discovering uses for a wide variety of untried chemicals, that the plant itself figures out how to produce.

The modern oil refinery, which costs about \$20,000,000, is built to require the presence of only one operator at a time -- a white-gowned engineer who watches a control panel. Crude oil flows into the plant at the rate of about 250,000 barrels a day and a score or more of petroleum products flow out of it, almost without human intervention.

Remarkable as these developments are, automation is still only in the exploratory stage. It is necessarily dependent on the apparatus that serves as the nervous system and brain of control systems. To get an idea of what is in store for industry, you must first understand the IQ and general capabilities of today's electronic computer.

Computers are already at work in

business -- many in capacities other than that of production line overseer. Some have already dug into the mountains of paper work that face banks, insurance companies, chain stores and accounting departments.

Sears and Roebuck engineers are working with the Potter Instrument Company, a Long Island electronics firm, to replace their present system of punchcard inventory with an electronic brain. The brain will memorize all the millions of seasonal items in the chain's 700 outlets. <sup>IT</sup> Will keep day-to-day track of every sale, and give buyers and executives a continuous picture of sales and inventory.

American Airlines has replaced its once cumbersome reservation recording system with a "Reservisor" which, at the pressure of a few buttons, reports how many seats are available on any flight to any particular destination. It also subtracts the newly reserved seats from the total and puts them back on the list if the reservations are canceled.

Today most computers used to control industrial and military machines operate on the analogue principle. The control apparatus mimics the thing it controls. In analogue control of a guided missile,



for example, a tiny, replica of a missile in a control station actually simulates the flight of an actual missile out in space. Or <sup>a</sup> photoelectric scanner follows the lines of a scale drawing and guides a milling machine in making the part the drawing represents.

In every system of analogue control, the bigger and more complex the problem, the bigger and more complex must be the control mechanism that solves it. Most system engineers think that a maximum size has ~~been~~ already been reached by "Typhoon," a giant analogue computer that R. C. A. built for the Navy.

A new and entirely different concept of machine tool control is embodied in the "digitron." Built at M.I.T.'s Servo-Mechanisms Laboratory, it works from mathematical formulae instead of an analogue model or blueprint. The dimensions and contour of any desired machine part are reduced to mathematical equations, which are coded on a length of punched tape. The digitron translates these equations into electrical signals which guide the machine tool in making the part.

This means that a few very flexible automatic machines should be able to

produce a wide variety of parts by using precut tape -- and do this as cheaply as a large shop. During wartime, a one-machine machine shop carried in a van might be situated near a radio station in a battle area. When a part is needed the radio might obtain from "an arsenal" the mathematical <sup>FORMULAE</sup> ~~formulae~~ necessary to reproduce the part. The part might then be made right in the battle area without blueprints, instructions or skilled machinists. in a matter of hours.

Where is all this leading us? "Wherever logical processes of thought are employed," according to Dr. Vannevar Bush, "that is, whenever thought for a time runs along an accepted groove -- there is an opportunity for the machine."

New control devices are being introduced every day in steel, automobile manufacture and other heavy industries. Any kind of work that has been programmed or broken down to a routine series of small decisions -- as it has in most mass production industries -- can be scheduled for machine control.

What does this mean for employment?

During the 1951 CIO convention, one labor leader said, "I do not know of a single solitary instance when a great

technological change has taken place in the United States in the past 25 years that has thrown people out of work. The industrial revolution that has taken place in the United States in the past 25 years has brought into the employment field and additional 20 million people."

The experience of the steel industry with automatic devices for increasing production bears this out.

The continuous rolling mill, for example, brought with it more and better steel. Though it eliminated almost all of the manual jobs of the old hand mill, it created new jobs in the steel industry because there was an increased demand for the improved steel made by the mill. Other industries that expanded because of the supply of better steel also hired more men. Then, too, the continuous rolling mill meant improved working conditions for the men who made sheet steel.

It is true that automation will change the character of our labor force, replacing unskilled labor with skilled. But the change shouldn't be abrupt. Business is currently spending about \$27,000,000,000, or about 10 per cent of the national income, on new plants

and equipment -- of which about a tenth is going into automatic production units. Soon, a third of the money for new plants is likely to be spent on automatic equipment. But even then no more than an estimated 2 per cent of the labor force will have to change jobs every year because of it. The total number is smaller than the yearly fluctuation in farm employment.

During the decade between 1940 and 1950, the American worker's output increased by 21 per cent. But our population, as George Fielding Eliot pointed out in the March issue of Steelways, is increasing rapidly and includes a steadily rising proportion of non-producers -- the military, the very young, and the very old. If we're going to maintain our present rate of advance in living standards for this increasing population, the output per worker is going to have to go even higher. We will need an increase of 43 per cent between 1950 and 1960.

This is a tremendous challenge. It is a challenge that will be met only by freeing ourselves from the brake of manual control. When the machine can set its own pace of operation, the productivity of industry ~~need be limited~~ <sup>MAY BE GOVERNED</sup> only by human need.

**The City College**

CONVENT AVENUE AND 139TH STREET

NEW YORK 31, N. Y.

DEPARTMENT OF CHEMISTRY

March 6, 1953

Professor Norbert Wiener  
Department of Mathematics  
Massachusetts Inst. of Tech.  
Cambridge 39, Mass.

Dear Professor Wiener:

Many thanks for your article. The comparison of the machine with the human mind will arouse much interest.

Sincerely yours

*Benjamin Hanow*

HARVARD COLLEGE OBSERVATORY  
CAMBRIDGE 38, MASSACHUSETTS

March 9, 1953

MAR 10 1953

Dr. Charles D. Coryell  
Rm 6-427, Dept. of Chemistry  
Massachusetts Institute of Technology  
Cambridge 39, Massachusetts.

*you and I*

Dear Charles:

I should <sup>have</sup> told you before this that after you left last Tuesday's meeting at the Somerset Hotel, the Committee voted on two titles of symposia, the first "The Sea Frontier", and the second "The Biological Food Resources of Mankind". We shall have nothing to do in connection with these two symposia. But then there was considerable discussion about the symposium title of "Anti-Intellectualism in Science". The Committee voted down the proposal to hold this as a regular symposium, but on the urging of Condon, myself, and some others, they did vote tentatively to permit the holding of an evening conference on "The American Scientist in the American Society" with three or four evening speakers. The present plan is that Condon will draft a first outline for this evening conference and that he will then submit his suggestions in writing to the two of us. We shall then be asked to talk with some of our colleagues and get further suggestions and report back to headquarters. All this will apparently have to be accomplished, if possible, before March 16th, which is the date for the next meeting of the Executive Committee of the AAAS. I thought I had better warn you about what may be coming. I shall try to sound out Harlow Shapley and Kirtley Mather to see what suggestions they may have and I am wondering if you might have an opportunity to talk to Victor Weisskopf and to Phillip Morse. Maybe we can talk about this briefly after Wednesday's meeting of the Hospitality Committee at the American Academy, where I hope to see you.

Very sincerely yours,

*Bart.*

BJB:ef

Bart J. Bok

*We are going to have a good turn-out  
on Wednesday evening.*

Scientist in American Society  
Visscher suggests to Bart Bok

Get 1) A physicist

2) a chemist

3) a biologist

4) a social scientist ???

to talk each on

- 1) Past, present, future contributions of each field to American Society
- 2) Prospects for recruitment of personnel and of support for the field - statistics
- 3) How Society can help create ~~the~~ conditions in which science can progress usefully
- a) intellectual climate
  - b) material facilities

---

Cardon - Visscher - Urey - Baird (Hopkins)  
Stanley (Berkeley) - Nier

Minutes of the Meeting of the AAAS Symposium Committee  
Held at the Hotel Somerset, Boston, Mass.  
March 3, 1953

MAR 12 1953

Present: E. U. Condon, chairman; Frank A. Beach; Bart J. Bok; Charles D. Coryell; A. M. Gaudin; Jerome C. Hunsaker; Paul C. Mangelsdorf; Philip R. Morse; Francis O. Schmitt; Earl P. Stevenson; Raymond L. Taylor, secretary. Also present: Columbus O'D. Iselin, proxy for Alfred C. Redfield; Warren S. Berg, executive secretary of the Local Committee for the Boston Meeting.

Absent: A. Baird Hastings; James R. Killian, Jr.; Alfred C. Redfield; George B. Wislocki.

The Symposium Committee assembled for luncheon, as guests of the Association, at 12:30 p.m. and adjourned at 4:45 p.m.

All items of the agenda (sent each member of the Committee February 17, 1953) were considered. In addition, the following suggestions were made and considered:

By Dr. Coryell: a) "Positive International Goals for Science."  
b) "Scientific Freedom and Responsibility (generalization from academic freedom)."  
c) "The Social Responsibilities of Professional Societies."

By Dr. Hastings (in a letter dated February 16, read by the secretary):  
a) "Biological Effects of Radiation."  
b) "Calcium in Land, Sea, and Organisms."  
c) "Comparative Endocrinology."

By Dr. Bok: "American Scientists in Technical Assistance Programs." (Dr. Bok also pointed out the desirability for increased participation and recruitment of American scientists in worldwide organizations.)

By Dr. Mangelsdorf: "Biological Food Resources of Mankind"---the 10-12 basic species of plants and animals upon which the world's peoples depend and related factors of critical importance.

By Dr. Schmitt: "The Evolution of Science---Fragmentation vs. Integration."

By Dr. Gaudin: "Our Natural Resources (mineral, vegetable, animal, human)."

Sectional symposia: In addition to the sectional program plans reported in Item 7 of the agenda, the secretary reported the plans of Section C-Chemistry for a comprehensive symposium of 6 or 8 sessions on "Feeding the Nation," and of Section L-History and Philosophy of Science for three symposia---"The Unity of Science," "Art and Science," and "Criteria for Validation of Scientific Theory."

Actions taken

1. In view of the relatively poor attendance at "Disaster Recovery" in St. Louis and the likely interpretation that this would be considered primarily a civilian defense subject, it was the opinion of the Committee that "Disaster



Recovery II" not be continued as a general symposium.

2. After an initial strong interest in the theme phrase, "The Sea Frontier," the Committee unanimously adopted for the Boston Meeting the theme---"Scientific Resources for Freedom." This, inspired by the Paley Report, has already been quoted in a letter to prospective exhibitors, will be communicated to all section officers and program chairmen, and will be referred to in subsequent press releases.
3. Two general symposia, each of two sessions, to be held in a morning and an afternoon, were chosen, viz:
  - I. "Biological Food Resources of Mankind." Dr. Mangelsdorf agreed to serve as program chairman and to consult with Warren Weaver and E. C. Stakman on its organization.
  - II. "The Sea Frontier." Hope was expressed that Dr. Redfield and Dr. Hunsaker might serve as cochairmen of this symposium, the first portion devoted to a) introductory physical aspects, b) oceanography, and c) ecology and biological aspects. Pending Dr. Redfield's return in April, Dr. Iselin agreed to work on these subtopics.

It was generally agreed that half or more of this symposium should be devoted to engineering aspects. The following outline of possible topics was circulated by Dr. Hunsaker (who had already asked colleagues at M. I. T. for suggestions):

Harbor works, beaches, surf, erosion etc. Hydraulic power from waves and tides.

Fresh water from salt. Useful products made from sea water.

Food from bays and coastal waters. (Terrapin farms, ducks, fish!)

Coastal shipping vs. pipe lines, rail and highway transportation. Port facilities. Fishing vessels and methods.

Processing, refrigeration and distribution of sea food.

Coastal weather and climate. Storm warning, damage and protection.

Recreation areas, planning, conservation.

4. It was decided that the general subject of "The Scientist in American Society" should be held as an evening event. Included would be not only one or more of the topics suggested by Dr. Coryell but some other items, among these, several touched on in the agenda, e.g., "Transmission of Ideas," and "Dissemination of Scientific Information to the Layman." Dr. Condon said that he would consult with Dr. Coryell and prepare the outline of this subject.

The secretary will keep all members of the Symposium Committee advised concerning the development of the above three programs. Further suggestions of

R. W. Dodson  
BROOKHAVEN NATIONAL LABORATORY  
ASSOCIATED UNIVERSITIES, INC.  
UPTON, L. I., N. Y.



*W.S. 15*

Professor C. D. Coryell  
Massachusetts Institute of Technology  
Laboratory for Nuclear Science and Engineering  
Cambridge 39, Massachusetts



subtopics and speakers for these, if sent to me, will be referred to the appropriate program chairmen, or, if sent to them directly, the secretary would appreciate a carbon copy for his information.

With appreciation of your interest in the Association and cordial personal regards, I am

Sincerely,

*R. L. Taylor*

Raymond L. Taylor  
Assistant Administrative Secretary

Expenses: Please send to the secretary a statement of your travel expenses to this meeting of the Symposium Committee, for reimbursement.

March 11, 1953

To Charles

my / 575  
THE INSTITUTE FOR ADVANCED STUDY  
PRINCETON, NEW JERSEY

SCHOOL OF MATHEMATICS

March 9, 1953

Dear Norbert:

I have just received your book "Ex-Prodigy: My Childhood and Youth". Thank you for sending it to me. I have started to read it — I need not tell you that it is a very interesting and unusual documentation of a process that occurs rarely, and is adequately described even more rarely.

I hope that the long interruption in our contacts will not continue much further, I certainly miss them.

With best regards,

Cordially yours,



~~John von Neumann~~

JvN:eg

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

[ans 7/1/53]

# COPY

Institute for Advanced Study  
Princeton, New Jersey  
School of Mathematics  
March 9, 1953

Dear Norbert:

I have just received your book "Ex-Prodigy: My Childhood and Youth." Thank you for sending it to me. I have started to read it -- I need not tell you that it is a very interesting and unusual documentation of a process that occurs rarely, and is adequately described even more rarely.

I hope that the long interruption in our contacts will not continue much further, I certainly miss them.

With best regards,

Cordially yours,

(Signed John)

John von Neumann

Professor Norbert Wiener  
Department of Mathematics  
M.I.T.  
Cambridge 39, Mass.

CC: hb

JOHN HORACE WEAR . . . . .

509 MADISON AVENUE  
NEW YORK 22, NEW YORK  
PLAZA 8 2476

MARCH 9, 1953

DR. NORBERT WIENER  
MASSACHUSETTS INSTITUTE OF TECHNOLOGY  
BOSTON, MASSACHUSETTS

DEAR DR. WIENER:

IN THE BOOKLET "CYBERNETICS AND SOCIETY"  
- "THE SECOND INDUSTRIAL REVOLUTION", DR. LUTHER GULICK  
SUGGESTS THAT WE "TAKE ADVANTAGE OF NEW KNOWLEDGE WITH  
RESPECT TO HUMAN BEHAVIOR, PHYSIOLOGICAL AND SOCIAL,  
DISCLOSED BY CYBERNETICS.", PAGE 35.

I SHOULD LIKE TO SUGGEST THAT THERE IS  
MUCH KNOWLEDGE CONCERNING HUMAN BEHAVIOR, THAT HAS BEEN  
AVAILABLE FOR MANY YEARS, WHICH HAS NOT BECOME A PART  
OF THE MAINSTREAM OF SCIENTIFIC KNOWLEDGE BECAUSE IT  
WAS TO FAR IN ADVANCE OF OTHER FIELDS OF THIS DISCIPLIN,  
WHEN ORIGINALLY PRESENTED, TO RECEIVE ACCEPTANCE.

IT WOULD SEEM THAT THE SURROUNDING AREAS  
HAVE SINCE BEEN CULTIVATED; AND WE ARE ABOUT READY TO PROFIT  
FROM THE APPLICATION OF AT LEAST SOME OF THIS KNOWLEDGE.

FROM A READING OF THE BOOKLET REFERRED TO  
ABOVE, IT WOULD SEEM THAT EVENTUALLY MANY PEOPLE MAY  
LEARN THAT THEY HAVE NO FUTURE IN THE FIELD OF THEIR PAST  
ACTIVITY AND EXPERIENCE. THE CRITERIA OF THEIR PAST EX-  
PERIENCE WOULD THEN BECOME OF DECREASING VALUE IN DETER-  
MINING THE PROPER NATURE OF THEIR FUTURE EMPLOYMENT.



JOHN HORACE WEAR . . . WIENER . . . PAGE 2 . . . MARCH 9/53

IT WOULD THEN BECOME INCREASINGLY NECESSARY TO DETERMINE, NOT WHAT A MAN COULD DO FROM A DETERMINATION OF WHAT HE HAD DONE IN THE PAST, BUT TO DETERMINE THE NATURE OF THE FUTURE POTENTIAL OF THE MAN WITHOUT REFERENCE TO HIS PAST PERFORMANCE, BECAUSE, EVENTUALLY, ~~HE WOULD~~ HE WOULD HAVE NO FUTURE IN THE FIELD OF HIS PERSONNEL HISTORY.

WE CAN NOW MEASURE FUTURE POTENTIAL WITHOUT REFERENCE TO PAST EXPERIENCE, BY USE OF THE MERTON TECHNIC. THE BASIC RESEARCH WAS PERFORMED BY HOLMES W. MERTON, THE AUTHORITY ON ANATOMY AND ILLUSTRATOR OF MANY STANDARD MEDICAL BOOKS, AND HIS FATHER ARTHUR MERTON, A BRAIN SURGEON. WE OPERATE IN THE NONE MEDICAL FIELD OF PERSONNEL MANAGEMENT AND SELECTION AND INDUSTRIAL RELATIONS. THE ENCLOSED BOOKLET, ". . . TO THINE OWNSELF BE TRUE . . .", CONTAINS A STATEMENT OF SOME OF THE KINDS OF PROBLEMS THAT WE CAN SOLVE IN THESE AND OTHER FIELDS - ONE REPRESENTATIVE OF EACH SPHERE OF ACTIVITY DISCUSSED.

ALEX W. RATHE, IN THE BOOKLET ON CYBERNETICS, PAGE 11, SAYS " IF WE CAN USE THE LAWS WHICH DETERMINE MACHINE PERFORMANCE TO PREDICT HUMAN BEHAVIOR, MANAGEMENT WILL HAVE ADDED TO ITS TOOLS A MORE POWERFUL INSTRUMENT THAN ANY OF ITS PRESENT TECHNIQUES." MANY OF THE THINGS TO WHICH HE REFERS WE HAVE NOW AS A RESULT OF HOLMES W. MERTON'S RESEARCH. *WE HAVE A RIFLE INSTEAD OF A SHOT-GUN.*

THE PROBLEM OF THE PEOPLE WHICH A GIVEN FACTORY NEVER DOES EMPLOY AGAIN REFERRED TO ON PAGE 23 IN YOUR ARTICLE IN THE BOOKLET ON CYBERNETICS IS ONE THAT WE CAN SOLVE. WITH OUR PERSONNEL WE CAN SOLVE THIS AND OTHER RELATED PROBLEMS, IN REASONABLE NUMBERS. HOWEVER, IT WOULD

JOHN HORACE WEAR. . . WIENER . . PAGE 3 . . MARCH 9/53

SEEM THAT THE INSTALLATION OF LARGE NUMBERS OF ELECTRONIC SYSTEMS COULD CREATE THE KINDS OF PROBLEMS THAT WE CAN SOLVE, IN SUCH GREAT NUMBERS AS TO BE BEYOND THE CAPACITY OF OUR TRAINED PERSONNEL.

THE ANSWER SEEMS OBVIOUS. WE PROPOSE TO ACQUIRE AN ASSEMBLY OF ELECTRONIC EQUIPMENT - THE "BRAIN" AND THE EQUIPMENT WHICH SERVES IT - CAPABLE OF DOING THE DRUDGERY PART OF OUR ANALYSIS, ABOUT 90% OF THE TOTAL WORK, THE GATHERING AND SORTING OF THE FACTS AND SOME OF THE DEALING WITH OUR TWELVE VARIABLE FACTS, WHICH WE CALL THE ORDER OF MENTAL DOMINANCE IN THE INDIVIDUAL. *FACTORS*

THIS WILL FREE OUR PERSONNEL TO DO THE MORE COMPLEX BUT SHORTER FINAL STEP OF OUR ANALYSIS, THE MAKING OF AN EQUATED CHART OF THE ORDER OF MENTAL DOMINANCE. AS WE GAIN PROFICIENCY WITH THE ELECTRONIC EQUIPMENT WE MAY BE ABLE TO PROGRAMME MORE AND MORE SO AS TO EVENTUALLY TAKE IN SOME OF EVEN THE FINAL STEP. THOUGH, I BELIEVE THAT SOME OF THE FINAL JUDGEMENT WILL ALWAYS REMAIN FOR A MAN TO DO, AND NOT THE MACHINE.

THUS, BY THE USE OF THE EQUIPMENT BASED UPON YOUR ORIGINAL RESEARCH AND MERTON'S TECHNIC WE WILL BE ABLE TO SOLVE THE PROBLEM CREATED BY THE EXTENSIVE USE OF THIS EQUIPMENT ABOUT AS FAST AS THE INSTALLATIONS CREATE IT. AS A RESULT THE POTENTIAL PROBLEM - "THE SECOND INDUSTRIAL REVOLUTION" - NEED NEVER BECOME A REAL ONE. WE MIGHT TALK ABOUT THIS SOMETIME.

SINCERELY,

*John Horace Wear*

March 11, 1953

Miss Barbara Boughman  
2617a So. Kingshighway  
St. Louis 9, Missouri

Dear Miss Boughman:

Thank you for your recent letter. I do not know of the article which you refer to by Msgr. Cavanagh, but from your letter it appears that my point of view has not been very clearly made. I have enclosed a paper which I read in December to the American Society of Mechanical Engineers which deals with the problems of automatization and the evaluation of man, which may help your understanding of the way I look at it. Pages 4 and 5 of this paper deal with the question you raise, though the whole paper is devoted to the subject.

My book, The Human Use of Human Beings, published in 1950, might be of interest to you, too.

Sincerely yours,

Norbert Wiener

h

GEORGE R. ANDREWS, M. D.  
725 ASYLUM AVENUE  
HARTFORD 5, CONNECTICUT  
TELEPHONE 2-4371

March 12, 1953

Dr. Norbert Wiener  
M.I.T.  
Boston, Mass.

Dear Dr. Wiener:

In your book, The Human Use of Human Beings, you said on page 162 --- "The great source of intellects for the future, if not the intellectuals, is the body of men trained for a profession like engineering or medicine or natural science---professions demanding intellectual stamina and encouraging intellectual curiosity." And a little further on, "They must learn to approve what they already feel, that nothing less than the whole man is enough to constitute the scholar, the artist, and the man of action. It is this wholeness, this integrity, that a considerable number of us at M.I.T. are trying to evoke and to render conscious in our students."

I take the liberty to write to you, as perhaps many already have, because I have an M.D., and incidentally got an M.A. in sociology, and a B.A. in English literature. I had a rotating internship, and then a 3 year residency in psychiatry at Yale, where the orientation is predominantly Freudian, and which I couldn't go along with in many instances. For the past year I have been doing half-time private practice in psychiatry, and looking out for the Mental Hygiene Clinic at the Hartford Hospital.

In the past few years I have read your book Cybernetics, though the mathematics was beyond me, and the book mentioned above, the Hixon Symposium

GEORGE R. ANDREWS, M. D.  
725 ASYLUM AVENUE  
HARTFORD 5, CONNECTICUT  
TELEPHONE 2-4371

concerning itself with Cerebral Mechanisms of Human Behavior, heard Prof. Northrop and Dr. McCullough talk of Cybernetics. There is a whole field there which I don't know much about due to slight knowledge of mathematics, physiology, neurology, but which I feel is very important. "The Gospel according to Freud" to quote you, I have not been able to accept on grounds of faith or experience, and whatever contributions he made, I am pretty well aware that there is a "proper combination of scholarship and mumbo-jumbo" in all, and I have thus not had the questions answered which I asked, in a sense, when I took up psychiatry.

The quotations from your book, plus the approach make me wonder if there would be any place at M.I.T. for me to learn more of what you are doing, at the same time that I made a fairly decent living for my wife and two children. I might mention that of course I am licensed to practice medicine in this state, and I suppose that National Boards give reciprocity with Mass. I realize that I am not going to be content with the private practice of psychiatry, because of what I know and don't know. Certainly this is a crisis time in human affairs, but even so, I pursue this private interest, which in due course could have its public repercussions as it probably should.

If there should be any place at M.I.T. where I could work along the lines you are laying out, that would be fine. Naturally I don't know if there is, but out of great interest, I am writing you. Busy as you are, I hope you will have time to answer--

Sincerely yours,

G. R. Andrews

[ans 3/25/53]

Forwarded from Mexico



JOSIAH MACY, JR. FOUNDATION CONFERENCE PROGRAM

16 WEST 46TH STREET, NEW YORK 36, N. Y. • Telephone PLaza 7-7705

March 13, 1953

PERSONAL

Dear Norbert:

As the time for the last conference of our group on Cybernetics approaches I realize more and more keenly how much we want and need you at that meeting. I know that every member of the group will be delighted if you will join us on that occasion. Warren has indicated how happy he will be to write you a formal invitation if you will be willing to come. When I look back over the history of the development of this group I realize what a central role you have played from the beginning. Your leadership in this field of Cybernetics has been responsible for its present significance. If our conference group has had a modest part in this development it is due largely to the inspiration of your thinking.

I am happy to report that several of those who had resigned from active membership in the group will be present at the last meeting in Princeton, April 22, 23, and 24, 1953. Among those are Dr. Marquis, Dr. Schneirla, and Dr. Von Neumann.

The conference at Princeton will begin at 6:00 p.m. with cocktails and dinner and an evening session and with 9:00 a.m. to 5:00 p.m. sessions on the following two days. I would be personally so happy and I know I speak for all of the others if you will be with us for that meeting.

We have invited Dr. Grey-Walter, from the Burden Neurological Institute, Bristol, England, to be with us as our foreign guest. Dr. Droogleever-Fortuyn, who is in Canada, will also be there.

I have just learned that your autobiography is off the press. I am looking forward with keenest pleasure to read it.

With warm personal regards I am

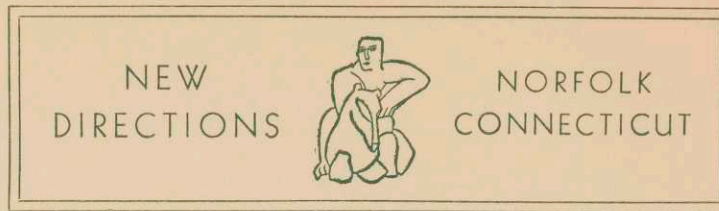
Most sincerely,

Frank Fremont-Smith, M.D.  
Medical Director

Dr. Norbert Wiener  
Instituto Nacional de Cardiologia  
300 Avenida Cuahatemoc  
Mexico City D.F., Mexico

FFS:pk

[ans 3/25/53]



March 13, 1953

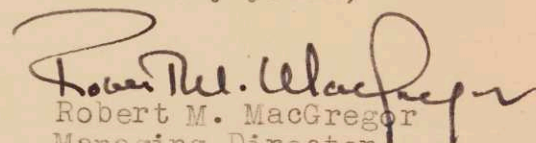
Professor Norbert Weiner  
Massachusetts Institute of Technology  
Cambridge, Mass.

Dear Professor Weiner:

I have no reason to know that you are interested in the work of Dylan Thomas, the extraordinary young Welsh poet, or for that matter in any poetry. However, a mutual acquaintance has suggested that his magical phrases, his vision and a power which is both subtle and direct will appeal to you. Anyway on the strength of this I am sending you a complimentary advance copy of his COLLECTED POEMS which we will publish on March 31.

If as I suspect you are moved by this poetry and would care to send us a line or two about it we would attempt to use it to bring a larger public to this poet and to poetry in general.

Sincerely yours,

  
Robert M. MacGregor  
Managing Director

RMM/lr

{ans 7/27/53}



SIMON AND SCHUSTER, INC.  
*publishers*

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

13 March 1953

My Dear Dr. Wiener:

You are so much in demand in New York that it required less than a day of inquiries to arrange a full (but I hope not too taxing) schedule of activities for you.

Here it is:

*Three.*  
March 26 -- 11:30: a pre-telecast interview with Dave Garroway, master of ceremonies of the television program "Today", the most important early morning television show. The actual details of the program (to be broadcast March 27) are given below.

March 26 -- 12:45-2 P.M.: The Mary Margaret McBride Show. No need to tell you about this program on which you have appeared before. It is, by far, the most popular women's-interest program on radio.

March 26 -- 4 P.M.: Interview with John Hutchens for the Herald Tribune's Sunday Book Review.

March 26 -- 5:30 P.M. Interview with Miss Rochelle Gerson for The Saturday Review Syndicate, a book feature which is carried by over 45 major and semi-major daily newspapers all over the country.

*7.*  
March 27 -- 7-10 A. M.: "Today", telecast on more than 40 stations throughout the country, has an enormous pulling power and sells books more effectively than any other t.v. program. It requires your rising in the wee small hours and being at the studio for three separate interviews (between 7 and 8, 8 and 9, and 9 and 10), but it is well worth the inconvenience.

March 27 -- 4 P.M.: Interview with Lewis Nichols for the New York Times Sunday Book Review.

March 27 -- 12 Midnight to 2 A.M.: The Barry Gray Radio Show. I've arranged for you to interviewed as soon after midnight as possible. The time factor here may inconvenience you and you may have some objections

*[over 3/16/53]*



Dr. Norbert Wiener

-2-

13 March 1953

to the fact that the show is broadcast from a kind of cocktail lounge. But Gray, a controversial figure in New York, has a large, loyal -- and primarily Jewish -- following in this area. If your objections are sufficiently strong, let me know and I'll cancel the appearance, but I'm convinced that it is well worth our while.

I realize this is a pretty large order, Dr. Wiener, but one that is best calculated to bring the book to the attention of many millions of people.

Cordially,



Allan Morris

AM:je

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

March 13, 1953

Mr. S.B. Hitchner  
Department of Veterinary Science  
University of Massachusetts  
Amherst, Mass.

Dear Mr. Hitchner:

Thank you for your recent letter. I should like to use the following title for my talk: "The Motives and Responsibilities of the Scientist."

I plan to drive to Amherst with my wife, leaving Cambridge in mid-morning on Wednesday, April 15. I would be most appreciative of a hotel reservation for the night of April 15th which would be available for our use by mid-afternoon. My understanding of your plans for me is that there is to be a dinner at 6:30, and that my talk is to begin at about 8:00.

I hope that these arrangements will be satisfactory to you, and that I shall hear from you soon about them. Meanwhile, I look forward to my visit with you and with your chapter of Sigma Xi with great pleasure.

Sincerely yours,

Norbert Wiener

hb

[ans 3/20/53]

March 13, 1953

Mr. Jerry Kagan  
Department of Psychology, Yale University  
333 Cedar Street  
New Haven, Connecticut.

Dear Mr. Kagan:

The title which I propose for my talk to the Yale Psychology Colloquium on March 25th is "Can A Machine Be Wiser than Its Maker?" This talk will be essentially a review of Dr. Ross Ashby's recently published book, Design For A Brain, which is excellent and provocative.

I plan to come from Boston by train arriving in New Haven in the early afternoon, and to continue on to New York after my lecture. My understanding is that my talk will get under way by 4:00, with tea preceding it at 3:30. I should be willing to remain in New Haven for an early dinner after the lecture if you want me to, but I want to get started on to New York by 8:00. Because I want to make definite train reservations, I should appreciate knowing soon what train I could expect to get from New Haven to New York--which depends on what supper plans you may have for me.

I look forward to hearing from you, and to meeting you and your group in New Haven on March 25th.

Sincerely yours,

Norbert Wiener

hb

[ans 3/16/52]

March 13, 1953

The Manager  
The Hotel Chatham  
Vanderbilt Avenue and 48th Street  
New York, N.Y.

Dear Sir:

My daughter and I spent several days at the Hotel Chatham after Christmas, and enjoyed our visit very much.

I am to be in New York later this month and hope that you will be able to put me up again. I shall arrive in the mid-evening of ~~Wednesday~~, March 25, and shall leave at about noon on Saturday, March 28. I hope you can give me a single room with bath for the nights of March 25, 26, and 27.

I look forward to hearing from you soon.

Sincerely yours,

Norbert Wiener

h

Title: "The statistical point of view in messages."  
MASSACHUSETTS INSTITUTE OF TECHNOLOGY

Send Abstract to Miss Marean, Sec. to C. Adams, at  
Whirlwind.) \_\_\_\_\_ 19\_\_\_\_\_

Memo to Thurs, March 12, 301, 7-270 Room \_\_\_\_\_

~~Wednesday, March 18, 3:00, room 7-103. (Auto-correlation)~~

Seminar on the Integral of the Product of 2 Functions.

People from digital computer lab, servo-mechanisms,  
interested in noise analysis, meteorology, geophysics,  
but mostly in servo-type applications.

Would like non-technical, historical talk on how problem  
of using auto-correlation in time series differs from  
classical harmonic analysis, where does its main use  
lie, what will be its use in the future? To acquaint  
people with ideas which started all this, what it is  
capable of doing for them. Talk like the programming  
talk.

from \_\_\_\_\_ Room \_\_\_\_\_

Abstract of Professor Wiener's talk, "The Statistical Point of View in Messages," to be delivered on Thursday, March 12, 1953.

A message is primarily a way of conveying choices. It is therefore necessary to consider in sending a message not only the individual message but the ensemble of messages which might have been sent. The purpose of this lecture is to develop the consequences of this point of view with respect to communication engineering, and to indicate how this is essentially a branch of statistical mechanics.

hb

B'NAI B'RITH HILLEL FOUNDATION

5 BRYANT STREET  
CAMBRIDGE, MASSACHUSETTS

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

SIMMONS COLLEGE



TUFTS COLLEGE

JACKSON COLLEGE

TRowbridge 6-5894

RABBI HERMAN POLLACK

Director

JUDITH ALPER

Assistant

March 15, 1953

53 Cedar Road  
Belmont, Massachusetts

Dear Dr. Wiener,

We wish to thank you for being with us at our Oneg Shabbat on Friday evening. Your talk was interesting, enlightening, and entertaining. We enjoyed listening to you and were very glad that you could come. You are a busy person, a fact which we realize and which makes us appreciate your coming all the more.

Thankyou, once more, for coming to speak. We are looking forward to seeing and hearing you again.

Sincerely yours,

*Barbara Eckstein*

Secretary, MIT Hillel



# The Chatham

VANDERBILT AVENUE AT 48<sup>TH</sup> STREET

NEW YORK CITY 17

ELDORADO 5-5400

F. BURTON FISHER  
VICE PRESIDENT AND  
MANAGING DIRECTOR

March 16th, 1953

Mr. N. Wiener  
Massachusetts Institute of Technology  
Cambridge, 39, Mass.

Dear Mr. Wiener:

We received your kind letter of March 13th,  
and it will be a pleasure to have you stay  
with us again. It was a pleasure to read  
that you enjoyed your last visit at The  
Chatham.

A nice single room with bath will be reserved  
for your arrival on Wednesday evening, March  
25th through the 28th.

Looking forward to your arrival with pleasure,  
and please be assured of a warm welcome to  
The Chatham, we are

Sincerely yours,

THE CHATHAM

F. Burton Fisher

Vice President & Managing Director

FBF:ac



Dr. Meint Harms

(24a) Lübeck

Drosselweg 19

(F. 238 96 Diederichs)

Lübeck, den 16. März 1953.

Sehr geehrter Herr Prof. Dr. Wiener!

Anlässlich eines Vortrages, den ich im hiesigen Naturwissenschaftlichen Verein (vorwiegend Physiker, Chemiker und Mediziner) an Hand Ihres Buches über Kybernetik hielt, sind mir einige Gedanken aufgestoßen, die mir der Mitteilung wert erscheinen. (Ihr deutsche Buch "Mensch und Menschmaschine" habe ich noch nicht durchsehen können, sein Erscheinen ist mir erst nachher bekannt geworden).

Sie führen Klage über die mangelnde Stabilität einer "freien Wirtschaft," die nach einem viel verfochtenen Glaubenssatz sich selbst am besten regelt. Sie nennen auch einige Einflüsse, die die 'homeostasis' stören. Die wichtigsten von Ihnen nicht genannten sind meiner Ansicht nach

1, eine Art psychologischer Rückkopplung (feed-back), die so wirkt: Steigende Preise reizen zum Kauf, um nicht später noch teurer kaufen zu müssen. Kaufanreiz bewirkt verstärkte Nachfrage, die verstärkte Nachfrage treibt die Preise hoch.

Dieser Einfluß wirkt auch umgekehrt: Fallende Preise veranlassen Käuferzurückhaltung, um noch weitere Verbilligung abzuwarten. Käuferzurückhaltung gibt weniger Nachfrage und drückt die Preise weiter.

2. Mit noch viel stärkerer Zwangsläufigkeit aber wirkt eine zweite Art von Rückkopplung, die über das Geld geht.

Jedes Unternehmen, ob Fabrikanlage, Farm oder Kaufhaus, wird bewertet nach dem Geldstrom, den es durch sich hindurchschleust. Auf diesem Wert beruht seine Möglichkeit, Kredite zu erhalten. Kredite sind Tintenziffern, die wie neues Geld wirken (Buchgeld), d-h. Nachfrage erhöhen und den Geldstrom verstärken. Damit steigt wieder die Bewertung der Unternehmen.

Gerät umgekehrt der Geldstrom ins Stocken, so geht der Ertrag der Unternehmen zurück, damit ihre Bewertung; (übrigens auch die Preise der Vorräte). Die Kredite verlieren die Basis; Tintenziffern müssen gelöscht/ werden. Die Verminderung des Buchgeldes drückt den Geldstrom weiter herunter u.s.w.

Offenbar haben die amerikanischen Wirtschaftler die zwingende Macht insbesondere dieser letzteren Art von Rückkopplung im Jahre

1929 nicht gekannt, sonst wäre es unverständlich, daß sie von 1929 bis 1932 nichts unternommen haben und im reichsten Lande ~~z~~ der Welt es zu 15 Millionen Arbeitslosen und Hungermärschen kommen ließen.

Ich darf von mir persönlich behaupten, diese Art von Kybernetik so rechtzeitig durchschaut zu haben, daß ich mit allen Mitteln, die einem einfachen unbekanntem Staatsbürger zu Gebote stehen, dahin gewirkt habe, daß der damalige deutsche Reichskanzler Brüning 1931 nach der britischen Abwertung nicht durch eine Deflationspolitik diesen Mechanismus gegen das ohnehin geschwächte Deutschland noch einmal in verschärfter Form in Gang setzte. Aber gegen die Unkenntnis maßgebender Leute war nicht aufzukommen. Das Ergebnis: 6 bis 7 Millionen Arbeitslose und die Machtergreifung Hitlers!

Daß sie durch eine passende Wirtschaftspolitik hätte verhindert werden können, ergibt sich aus dem Beispiel Großbritanniens, wo die in gleichem Aufstieg befindliche Mosley-Partei zerfiel, als die Leute Arbeit bekamen. In der Partei Hitlers kriselte es 1931 bis 1932 auch schon beträchtlich.

Meine Überlegungen haben mich auf eine Modellvorstellung geführt, die ich für ausbaufähig halte und Ihnen deshalb mitteilen möchte. Eine proportionale Veränderung von Geldmenge, Werten und Preisen würde ja an den ganzen Verhältnissen nichts ändern. Fragt man nun, was die Proportionalität nicht mitmacht, so kommt man auf die vorher eingegangenen Geldverpflichtungen aller Art. Dies sind gewissermaßen die gesetzlich sanktionierten Invarianten. Um sie zu betätigen, muß der Schuldner Geld an sich heranziehen, und in dieser Anschauung ergibt sich eine genaue Parallele zur Elektrizität: Geldzeichen  $\bar{E}$  Elektroden, Geldstrom gleich Elektrischer Strom, Preise gleich Elektromotorischer Kraft .EMK. Wenn nun die Preise sinken, so entspricht die Wirtschaft einem Modell mit vielfach verteilter EMK, in der durch besondere Schaltungsvorgänge ein Teil der Stromwege (die genannten Geldverpflichtungen) auf voller Stromstärke gehalten werden müssen, auch wenn die EMK absinkt, und bei der nun für die übrigen (Nutz !-) Stromwege viel weniger übrig bleibt, als der proportionalen Verminderung durch die gesunkenen Preise entspricht. -- Meine auf Grund dieser Modellvorstellung gemachte Voraussage chaotischer Zustände hat sich jedenfalls unerfreulicherweise glänzend bewahrheitet. Ich halte aber diese Modellvorstellung für ausbaufähig und u.U. geeignet, das Verhalten einer geeignet schematisierten Wirtschaft gegen irgend welche Einflüsse zu

prüfen. Da Sie vielfach auch solche Aufgaben bearbeiten, in denen Roboter als Simulaker dienen, so mag dieser Hinweis für Sie von Interesse sein.

Jedenfalls scheint mir, daß man auf diesem Wege weiterkommt, als wenn man sich nur auf Zeitreihen stützt, die nichts von der "Mechanik" der Rückkopplung enthalten.

Die Bemerkungen in Ihrem Buch lassen nicht erwarten, daß viele Amerikaner aus den Erfahrungen von 1929 bis 1932 gelernt haben, sondern nur, daß sie sich an ganz äußerlichen Erscheinungsformen orientieren. Daß auch die scheinbar fortschrittlichen Vertreter der Wissenschaft, z.B. Keynes, heute wieder heftig umstritten werden, mindestens in Europa, ist ja auch bezeichnend.

Ich behaupte nun mit allem Nachdruck auf Grund zwanzigjähriger Nachprüfung meiner Überlegungen, daß die ökonomische Wissenschaft keine Aussicht hat, aus dem Zustande der Charlatanerie herauszukommen, solange sie an dem Dogma festhält:

Geld = Geldzeichen, also ein Gegenstand, und Geld = Geldschritt, eine Zahlung, also ein Ereignis, dürfen mit der gleichen Maßeinheit (Mark, Dollar) sowie mit dem gleichen Wort Geld belegt und konsequent verwechselt werden.

Es ist der gleiche Fehler, den ein Physiker begehen würde, wenn er Elektron (springendes Geldzeichen) und Quantensprung (Geldschritt) nicht auseinanderhalten würde, etwa indem er Voltelektron nur als eine ausführlichere Bezeichnung des Wortes Elektron ansehen würde.

Aus dieser Verwechslung können Sie zahllose Fehlleistungen erklären. Die Handelsusancen, welche die oben geschilderte Art der Rückkopplung durch Geld bewirken, beruhen zum großen Teil auf diesen Anschauungen, die hieraus resultieren. - Die Verwechslung ergibt sich aber, - und das ist das Tragische - mit zwingender Folgerichtigkeit aus den Erfahrungen, die schon das Kleinkind macht, das zum ersten Mal etwas kauft, aus dem Rechenunterricht in den Schulen und den Buchführungsgewohnheiten des Kaufmannes. Die Geisteshaltung antwortet nur auf die Fragestellung: Wie behaupte ich mich innerhalb eines gegebenen Systems?, gibt aber keine Antwort auf die Frage: Ist das ganze System stabil? Wenn nein, warum nicht? Dazu gehört ein völlig neues Begriffssystem, welches folgende Anforderungen zu erfüllen hätte:

1. Geldvorgänge und Vorgänge des Güterkreislaufes sind getrennt zu beschreiben.

2. Dabei ist strengstens auf die Unterscheidung von Geldzeichen und Geldschritt zu achten.

3. Geldkreislauf und Güterkreislauf dürfen nur über die Korrelation «Gütergeschehen entspricht Geldschritten» verbunden werden, nicht über die gesamtwirtschaftlich falsche Buchführungsgleichung «Geld(zeichen) = Ware.»

Meine in zwanzigjähriger Nachprüfung erhärtete Überzeugung geht dahin, daß mit einem nicht allzugroßen Aufwand an Geistesarbeit für die ökonomische Wissenschaft eine Grundlage geschaffen werden könnte, die ihr den Rang einer ernstzunehmenden Wissenschaft verleihen würde. Vorläufig ist sie für den, der in dem angedeuteten Sinne zu sehen gelernt hat, eine reine Hanswurstiade.

Einige andere Gesichtspunkte finden Sie in dem beiliegenden Aufsatz "Sündenkonto der Sprache" Seite 13 ff. Der Aufsatz dürfte auch mit seinem sonstigen Inhalt für Sie von großem Interesse sein. Er ist aber etwas eilig unter <sup>Zeit</sup> Druck zusammengeschrieben und entspricht nicht ganz den Anforderungen, die ich sonst an Aufsätze stelle, die ich aus der Hand gebe.

Die Präzision, mit der die Menschen auf diese Anforderung an ihr Denkvermögen negativ zu reagieren pflegen, ist in höchstem Maße deswegen interessant, weil in keinem mir bekannten Falle so ausgesprochen zusammenstreffen

1. Die dringende praktische Notwendigkeit, den menschlichen Verstand mit dem Höchstmaß seiner Leistungsfähigkeit einzusetzen.

2. Die Klarheit über die Lage des Fehlers, die sich aus vielen Literaturstellen belegen läßt.

3. Die Bekanntschaft mit dem Heilmittel - klarer Unterscheidung und

4. Die Abwesenheit jedes sonstigen Entschuldigungsgrundes, wie er z.B. bei der Zurückhaltung gegenüber einer technischen Erfindung gegeben ist, welche zur Entwicklung große Geldmittel bei zweifelhaftem Erfolg erfordert.

Das Nachdenken über diese Sachlage hat bei mir immer nur eine einzige Erklärung gezeitigt: Erbe aus dem tierischen Stammbaum. Diesbezügliche Ausführungen mit Erweiterung auf andere Gebiete finden Sie in "Der Mensch von heute." Auch hierfür muß ich provisorische Form in Anspruch nehmen.

Es will mir nicht in den Kopf, daß man in Amerika z.B. Stiftungen von 500 Millionen und mehr für den Frieden macht und an dieser Störungsquelle, die den Verlust des kalten Krieges bedeuten kann, einfach vorbeidenkt!

Übrigens habe ich mich nicht damit begnügt, die angegebenen Richtlinien zu erarbeiten, sondern sie in einem Umfang ausgeführt, der meiner Ansicht nach ihre Fruchtbarkeit genügend zeigt. Dieses Buch trägt den Titel "Dolchstoß der Hölle" und ist als Photokopie in mehreren Exemplaren nach Amerika gegeben worden, z.B. an die Hoover Institute and Library on War, Revolution and Peace in Stanford University, California. Ich habe aber den Eindruck gewonnen, daß dort zu viel Papier vollgeschrieben wird, als daß ein Staatsmann, der das alles verdaut hat, noch praktisch etwas zu leisten imstande ist.

Können Sie nicht den Einfluß, ~~den~~ den Ihnen Ihre maßgebende Rolle als Initiator der Kybernetik gibt, dafür einsetzen, daß einmal das hier angedeutete Problem der Gedankensteuerung mit allem Ernst angefaßt wird? Man wird auf manches Problem stoßen, welches mit der üblichen Ausdrucksweise überhaupt nicht zu sehen ist. Und wenn sich das Ergebnis als unbrauchbar herausstellen sollte, so verpflichtet ja nichts, irgend welche Konsequenzen zu ziehen.

=====  
 (Der zweite Teil meines Briefes soll eine andere Art von kybernetischer Betrachtungsweise anschneiden, die Ihnen vielleicht auch noch neu ist.)

Der Mensch, der die Welt mit seiner Anwesenheit beglückt, wünscht sich von ihr in seinem Wert bestätigt zu sehen.

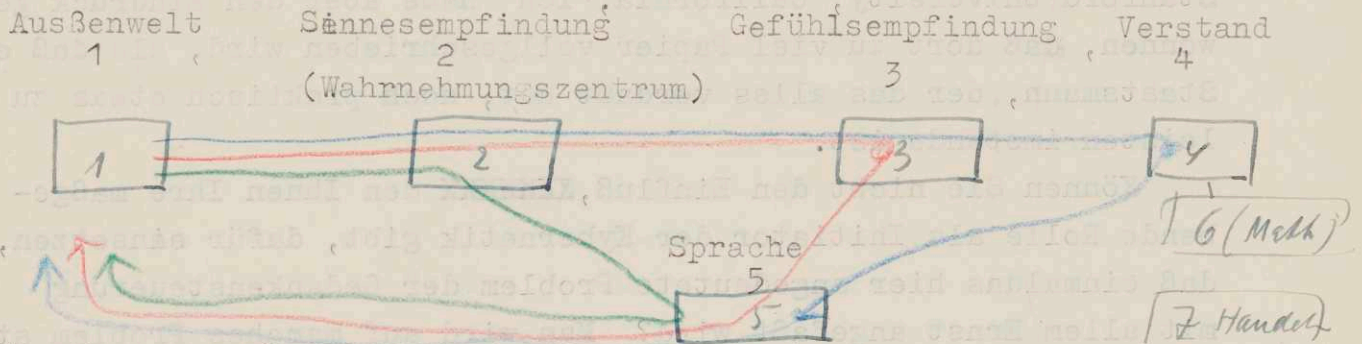
Diese Art von kybernetischer Rückmeldung spielt eine große Rolle. Schon das Kind verlangt, daß man ~~mit~~ es mit seinem kleinen Anliegen ernst nimmt; ungenügende Beachtung kann schwerwiegende Folgen haben. - Die Industriepsychologen haben herausgefunden, daß die Anerkennung der Arbeit oder eine sonstige irgendwie geartete Hervorhebung aus der Masse von den Arbeitern höher gewertet wird als hoher Lohn und auch auf die Arbeitsleistung steigernd wirkt. Man kann in diesem Zusammenhang auch darauf hinweisen, daß bei Ausbleiben jeder Rückmeldung, wie sie z.B. die Anwesenheit in einem schalltötenden Raum zur Folge hat, der Mensch in höchste seelische Bedrückung gerät.

Die Wege, welche die Rückwirkung der Außenwelt im Menschen einschlägt, sind nun sehr merkwürdig. Goethe hat aus seinen Erfahrungen als Theaterdirektor einmal gesagt:

Der rohe Mensch will nur sehen, daß etwas geschieht; der gebildete will etwas empfinden, und nur die allerwenigsten wollen etwas

dabei denken."

Wenn man diese Erkenntnis Goethes, die übrigens ganz richtig aufeinanderfolgende Entwicklungszustände des Einzelwesens, wie der ganzen Menschheit darstellen, wimmal zu einem graphischen Modell zusammenstellt, so sieht das so aus



Man kann nun "kybernetische Wege konstruieren."

Der rohe Mensch: 1-2-5-1: Ein Sinneseindruck (Fußball, Boxen) genügt zur Befriedigung und setzt sich oft in Begeisterungsschreie (über die Sprache 5 nach außen 1) um.

Der gebildete Mensch will Gefühle haben und meist auch darüber reden können: Weg 1-2-3-5-1

"Da die Schüler grundsätzlich erst antworteten und dann nachdenken" ..

(Äußerung eines Pädagogen) - Ob man hierbei den Weg 125 (Hörinddruck regt zur Antwort mit ~~xxxxx~~ gerade greifbaren Phrasen an) oder ob man noch das Gefühl einschalten will (Ich bin gefragt und soll antworten, will ihm auch gern den Gefallen tun), also den Weg 1235, kann unentschieden bleiben.

Das Denken geht jedenfalls den Weg ~~XXXX~~ 1-2-3(3 nicht ganz aus-schalten) - 4- 5 - 1

Dieser Weg kostet im allgemeinen mehr Zeit; es ist die "lange Leitung".

Ich nehme nun für meinen Gebrauch noch dazu 6 (Mathematik als Darstellung der Welt in Zahlen und Formeln) und 7 das Handeln.

Dann kann man eine Art von Ordnung in seine psychologischen Erfahrungen bringen, wenn man die Frage stellt: Wie wirken je zwei

"Ressorts" auf einander ein? - Eine sehr wichtige Fragestellung ist weiter: Verwechselt die Sprache (als Laut- und schriftliche Zeichendarstellung) die Ressorts? D.h. die in ihnen einander zuge-

ordneten Größen? Diese Fragestellung ist z.T. in "Sündenkonto" S. 14 beantwortet. unter Ziffer 5 und folgenden 51,52ff. Besonders

54 dürfte auf Ihr Interesse rechnen.

Ich darf annehmen, daß Ihnen meine Ausführungen nicht ganz überflüssig vorkommen und schließemi

mit dem Ausdruck vorzüglichster Hochachtung!

Ihr

H. M. Karus

P. S. 73-V. 53.

der Brief war an Ihre messianische Fruchtbildung gegangen und ist zum Glück gekommen. Hoffentlich erreicht es Sie jetzt. H. M.

YALE UNIVERSITY  
DEPARTMENT OF PSYCHOLOGY  
333 CEDAR STREET  
NEW HAVEN · CONNECTICUT

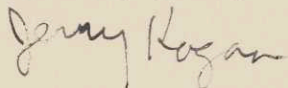
March 16, 1953

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

Dear Dr. Wiener:

I will meet you at 3:30 at the information desk of the Institute on 333 Cedar Street. Some of our students would like to have dinner with you and we promise to put you on the 7:54 train for New York. I hope that this will be convenient for you.

Sincerely yours,



Jerry Kagan

# THE UNIVERSITY OF WISCONSIN

COLLEGE OF  AGRICULTURE, MADISON 6

DEPARTMENT OF AGRICULTURAL JOURNALISM

March 16, 1953

*Mar. 23*

Professor Norbert Wiener  
Massachusetts Institute of Technology  
Cambridge, Massachusetts

Dear Professor Wiener:

We would very much like to have available, for faculty and graduate student use, copies of your article entitled: "Speech, Language, and Learning."

Would it be possible for you to supply us with two reprints of this article? They would be greatly appreciated.

Sincerely,

*Bryant Kears*  
Bryant Kears  
Associate Professor



MacInnes

10 MITCHELL PLACE  
NEW YORK 17, N. Y.

March 16, 1953.

Dear Norbert:

Thank you very much indeed for sending me an advance copy of your book. I was quite unable to put it down once I started reading it. It would take almost a book to outline the various comments that I would like to make on it, and I will spare you that.

Since all of us are essentially egoists I was naturally most interested in the points where your story touched mine. The lawyer named Hall was Robert Hall, an old friend of my parents. I spent a part of a day with him—long enough to realize that he had a brilliant mind. He was a truly tragic figure. I can tell you a bit more of his history if you are interested.

I have met Professor Ransom several times and have liked him. His daughter married Randy Ashton, brother of my sister's husband. Truly the academic world is a small one with numerous and intricate interlinkages.

I was most impressed with your description of the process of mathematical research. It is about as different as possible from the kind that I do. For amusement I liked the story of your connection with the Encyclopaedia Americana. You told me quite a little about it on our canoe trip, and I was glad to get it again.

As I have intimated I could go on like this forever, but both you and I have other jobs.

My regards to Mrs. Wiener.

Sincerely yours,

MacInnes,

C: 545 - bear-31

# COPY

10 Mitchell Place  
New York 17, New York  
March 16, 1953

Dear Norbert:

Thank you very much indeed for sending me an advance copy of your book. I was quite unable to put it down once I started reading it. It would take almost a book to outline the various comments that I would like to make on it, and I will spare you that.

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As I have intimated, I could go on like this forever, but both you and I have other jobs.

Sincerely yours,

(signed) Duncan

Duncan MacInnes

c:hb



SIMON AND SCHUSTER, INC.

*publishers*

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

March 16, 1953

Dear Dr. Wiener:

You will be interested, I am sure, in the enclosed uncorrected proofs of Sloan Wilson's review of EX-PRODIGY to appear as the leading piece in the March 28 edition of the Saturday Review. This means that there will be a picture of yourself on the cover. I hope the art work is good.

Time is also running a review, but we have seen no copy of it.

I look forward to seeing you on publication day - that is, if Allan Morris has left you enough time to say hello to me. Would you prefer to have me send the check due you on publication day or would you like to get it in person down here?

Very cordially,

*Henry Simon*

Dr. Norbert Wiener  
Dept. of Mathematics  
MIT  
Cambridge, Mass.

hws:lf  
enc.

**N**ORBERT Wiener's just published autobiography, "Ex-Prodigy,"\* is interesting chiefly because it is a fragment of an astonishing man. It is only a small fragment—it tells the story of his life from his birth in 1894 until 1926, when at the age of thirty-one he was married. It is a reserved almost reticent account of youth, and it barely hints at Wiener's extraordinary work since 1926. But to anyone who knows anything about the man, it is a fascinating book. For this reason the best way to review this autobiography is to discuss its author.

He is a short heavy man with a beard, a scientist and a professor at MIT. He is known to the public chiefly as the author of a book called "Cybernetics," and of another called "The Human Use of Human Beings." Both volumes deal with communications and control in both man and machine. To people who don't know him very well, he is also thought of as a somewhat eccentric professor—a man who likes to throw peanuts in the air and catch them in his mouth, and a genius who shows an unscientific capacity for overbidding at bridge. There are those who feel glee in pointing out that in spite of his extraordinary mind he is only fairly good at chess.

To point out such foibles is like seeking flaws in the pyramids. As a matter of fact, the title of the autobiography—"Ex-Prodigy"—is ironic, although it was probably not planned that way. Wiener is interesting because he entered college at the age of eleven, but he is more interesting because he is chiefly responsible for the thinking that led to the great electronic brains and calculating machines which, among other things, may cause a second industrial revolution, one in which machines will eventually take over the work of many men's minds just as they have already taken over the work of many men's hands. And what is even more pertinent, he is both a scientist who has helped to devise incredible weapons of destruction and a humanitarian of unusual sensitivity. Because of this, he is confronted by contradictions which every American citizen faces—only he has them dropped right in his lap. He worries about the destruction new weapons may cause, and about the unemployment the unwise introduction of new labor-saving devices might bring about.

In spite of his scientific achievements, he is anything but a "big shot" in the usual sense of the phrase. His office at MIT is less pretentious than that of the junior personnel man at most large corporations. His house in Belmont, Mass., might easily be occupied by the owner of a fairly successful small-town hardware store. His reason for avoiding the trimmings of wealth, power, and prestige is simple: "I don't have time for them."

He has a strong inclination to like and trust people, but he is not a dear, kind old scientist who except for his technical ability has the mind of a child. "Don't make a Little Nell out of me," he says. "They've made a Little Nell out of Einstein, and I think it's insulting to the man."

Although he occasionally gets angry and depressed and terribly tired, he's not a half-crazy genius. He's had plenty of emotional problems, but he's beaten them.

He's very much a citizen of the world, but he's not an internationalist in the sense of putting other countries above his own. He likes to point out that the Russian scientists, even in these days when Russia is inventing everything but the American flag, are careful to give him credit for his published work when they describe their variations of it in international scholarly journals, but that *Pravda* has called him "a fat, cigar-smoking slave-scientist."

"I'm fully aware that I wouldn't last ten minutes in Russia," Wiener said a few weeks ago. "I have no desire to move from the amateur witch burners here to the professional ones there."

Although he is not only a great mathematician, but a physicist, an engineer, and an expert in almost all the physical sciences, he is more than a scientist. He speaks at least six languages, is uncommonly knowledgeable about art and literature, and has a doctor's degree in philosophy. Still, he is not, as a psychiatrist once described him, "A man whose intelligence is so far above normal that he must feel as you or I would if we were living in a world of ten-year-olds—ten-year-olds who were just as big as we were physically, and had the same political and legal rights." Of

\*EX-PRODIGY: *My Childhood and Youth*. By Norbert Wiener. New York: Simon & Schuster. 310 pp., \$4.

SLOAN WILSON

#395

that opinion, Wiener says, "Nonsense! If ladies weren't present, I'd use a stronger word than that. Except for a few highly developed skills, I'm the same as everybody else."

This is the man, then, whose youth is described in the book "Ex-Prodigy." With the author's permission, here is a condensed version of the story the book tells—with some extra material he gave in conversation thrown in, and much fascinating material left out to meet space requirements.

The story of Norbert Wiener really begins with his father, who to some degree, at least, was responsible for making his son a prodigy. The father, Leo Wiener, grew up in Poland. After an impoverished but brilliant scholastic career, during the course of which he abandoned the study of medicine because autopsies offended him, he and a friend tried to organize a vegetarian-humanitarian-socialist utopia in Central America. That dream didn't last long, and at the age of eighteen, Leo Wiener found himself in New Orleans with only fifty cents in his pockets. His first job was in a factory where cotton was baled by an enormous machine. When a friend fell into the machine and was badly hurt, Leo Wiener quit. After working as a waterboy on a railroad, as a farmer, and many other things, he capitalized on his linguistic abilities and got into teaching. In 1894, when Norbert Wiener was born, his father was a professor of modern languages at the University of Missouri. Soon afterward, the father moved to Cambridge, Massachusetts, and joined the Harvard staff, where he became a distinguished professor. He spoke about forty-six languages, not counting the various dialects of many of them. He was a vegetarian and an anti-vivisectionist. He hated killing anything for any reason. This then was the father of Norbert Wiener and, it could be said, an ancestor of the electronic brain.

The Wieners were Jews by heritage, but not in religion—they were Unitarians. Norbert was not brought up as a Jew, and didn't even know he was one until he reached adolescence. From infancy he was different from other children. He doesn't remember now when he began to talk, but at the age of eighteen months he learned the alphabet. He started to read at the age of three. Due to clumsiness, he had a terrible time learning to write, and in arithmetic classes he insisted on counting on his fingers long after the other children had stopped. He was slow in learning the multiplication tables and in memorizing anything. At the age of eleven he was an educational curiosity. He was reading more than the average adult scholar. He was in the fourth grade, had consumed countless scientific books, but was so confused by arithmetic that his father took him out of school and taught him algebra, which he thought might appeal more to his imagination.

That was the beginning of a strange, fruitful, but terrifying relationship between father and son. Wiener discusses all this in his autobiography without bitterness. That is one of the most extraordinary aspects of the book, for most people would have wound up hating such a father. The fact is that the senior Wiener bullied his son, shouted at him, occasionally struck him, and demanded an impossible level of performance. A weaker child undoubtedly would have collapsed under such treatment—but the boy wasn't weak. Looking back today, Wiener with the scientist's concern for truth, does not gloss over the treatment he received from his father, but he understands the "intellectual passion," as he says, which caused it. "There was neither cruelty nor cheap ambition in anything my father did," he said recently.

When Wiener was eight years old, he relates in his book, his overworked eyes began giving him trouble, and a doctor ordered him to stop reading for six months. It was during this period, he believes, that he developed his remarkable memory and ability to do mathematics in his head. "During the next years," he writes in his autobiography, "without excessive difficulty, but with a severely lacerated self-esteem, I labored under my father's tutelage. . . ."

In 1903 his father bought a farm in the country about twenty miles outside Cambridge. A year later the boy at the age of nine entered the local public high school. The next year he was put into the senior class, and graduated the following June.

Wiener was not yet twelve years old when he was enrolled as a freshman in Tufts College near Boston. He arrived at Tufts literally dressed in short pants—he didn't get long trousers until he graduated. In his book he says, "I was not so much a mixture of child and man as wholly a child for purposes of companionship and nearly completely a man for purposes of study." His confusion was compounded by a strange fact which Wiener reports today without the slightest malice; his father said publicly that his son's success was due to the method of training, rather than any exceptional natural ability. He wrote magazine articles saying that. The boy had to shoulder the burdens of

the great speed-up—but his father took the credit.

It took Wiener only three years to go through Tufts, with full academic honors. It wasn't easy. At one time he got terribly disturbed about the amateur vivisection of a guinea pig in a biology laboratory. He was then, as he is now, a vegetarian, and that was one of many things which set him apart from his fellow students. His emotions were difficult to govern, and he was still physically clumsy. "I had not realized until now how much the three years at Tufts had taken out of me," he writes in his book. "I was exhausted, but I could not stop the wheels from going around, and I could not rest. I did not prosper physically. Every time I got a scratch I festered mildly, and I was in a continual low fever."

At the age of fourteen, Wiener entered Harvard as a graduate student. He was so clumsy that he was unable to do laboratory experiments. His handwriting was still so bad he couldn't take effective notes, but he didn't need to—his memory took care of that. He plunged through the most advanced courses in a variety of subjects, and got his doctor's degree at the age of eighteen.

Then began a really hard period. He was much too young to get a job commensurate with his education. He floundered around, sometimes teaching, sometimes working as a hack journalist, sometimes unable to get any work at all. His trials were increased by the belated discovery that in spite of the fact that he had been brought up as a New England Unitarian, the world regarded him as a Jew, and he was subject to the full prejudices of a prejudiced era in New England. When World War I came, he was tormented by fears both of being killed and of killing, but finally tried to get a commission. He was turned down several times on the grounds that he wasn't proper officer material. Convinced that he still had a duty toward his country, he enlisted as a private shortly before the end of the war, and served several miserable months doing petty mathematical jobs for the army. In 1919, at the age of twenty-four, he was honorably discharged, and got a job as an instructor at the Massachusetts Institute of Technology. Soon afterward he married Margaret Engemann, who taught languages at Juniata College in Pennsylvania.

Wiener's autobiography ends at this point, but he makes a few exceptions to the time limitation he imposed on himself. The chief exception is his discussion of another prodigy named W. J. Sidis, and the difficulties Sidis had with the press in general and *The New Yorker* in particular.

The concern Wiener shows for Sidis in his autobiography obviously stems from his application of, "There but for the grace of God go I." In discussing Sidis with Wiener, it is necessary to remember that he still mourns Sidis's tragic life and death, and fiercely protects his memory. It is Wiener's attempts to preserve the dignity of Sidis's reputation which have led him to take up many of his old friend's battles.

Wiener met Sidis when the two of them were among five child prodigies studying at Harvard. Of the five, one died shortly after graduation, one was Adolf Berle, who became Under-Secretary of State for a while, and the third was Roger Sessions, who made a reputation as a composer. Even when he was at college, Sidis, who was two years younger than Wiener, was a tragic figure. His father, a psychiatrist, had given him the same sort of educational speed-up Wiener had experienced, but Sidis didn't have Wiener's bull-like strength. Although he was undoubtedly a mathematical genius, he spent most of his time alone, indulging in his hobby of collecting streetcar transfers. Newspapers and pseudo-scientists were always doing stories on the child prodigies, and special attention was given his weaknesses. The press particularly celebrated two mournful events: Sidis's failure at his first job and his arrest for carrying a banner in a radical procession a little while later.

There are always people who glory in the failure of another, and this tendency is multiplied tremendously when a child prodigy fails. All the jealousies and resentments of the normal individual toward a person with above-normal intelligence found a target in the helpless Sidis. Wiener was keenly sympathetic toward Sidis and resentful of the press. He himself had once picked up a magazine and found an article written by an "educational psychologist" who described him by name and listed all his peculiarities, such as his clumsiness and his difficulty in getting along with people. "It's one thing for me as an adult to look back and discuss these things now, and quite another to see one's weaknesses paraded publicly while one is suffering from them," Wiener said recently. "Sidis was treated with almost unbelievable cruelty."

Sidis had a complete nervous breakdown which lasted for many years. Even when he partially recovered, he refused to go to his father's funeral, and was a ghost of a man who avoided responsibilities of any kind. All during the years when Wiener gradually conquered his difficulties and rose in the world, Sidis went down.

Shortly before World War II, Sidis was working as a calculator at MIT. He had pulled himself together enough to make a living. All he wanted was to go on collecting streetcar transfers from all over the world, and to be let alone. "Let me make it clear: Sidis wasn't a charity case," Wiener said recently. "He was an extremely fast and accurate calculator, but he wouldn't take any responsibility, and still had difficulty working with people."

The men at MIT knew Sidis's history and understood him. He was given jobs within his capacity, and he was protected. His greatest comfort was that the press had forgotten him, and he at last had found privacy.

Then, in 194 , *The New Yorker* ran a series of articles entitled, "Where Are They Now?" and turned the public spotlight on Sidis again. Wiener says today that probably Sidis cooperated with the writer of the article. There certainly are those who feel the article was a fair one, and that a magazine is justified in writing up anyone it chooses. Regardless of that, Wiener said recently that Sidis felt *The New Yorker* article pictured his father as a fiend and himself as a fool. Sidis sued *The New Yorker*, and in full accordance with the strict interpretation of the libel laws the magazine won the resulting suit. The basis of *The New Yorker's* victory, Wiener says, was the last twist of the knife for Sidis: it was proved that he hadn't lost his job at MIT, so the article couldn't be said to have hurt his earning capacity. Soon after Sidis had his day in court, he died. Wiener writes in his book that he doesn't know how he died.

Wiener's own successes have made the tragedy of Sidis seem all the more poignant to him. He hasn't written about his adult successes; his autobiography merely mentions them in passing. He has, however, had two major triumphs—one in his profession and one in his private life. Both represent victories over tremendous odds, and in the light of them his book about his youth takes on added meaning.

The big obstacle he had to overcome in his professional life was his reputation as a child prodigy. A former child prodigy is rarely popular, and he has to accomplish something tremendous to avoid being counted a failure—an ordinary success would be taken as an anti-climax. In a curious way, the scientific world, by placing Wiener in a position where he had to do miracles to get any praise at all, has continued what his father began.

To understand what Wiener has done in his profession, it is helpful to think of the universe as one large continent, only a small part of which has been explored. The frontier is the limit of human knowledge. On one side of the frontier is all the information piled up by countless generations. On the other side is the boundless jungle of the unknown. Most people never get anywhere near the frontier, because they never learn all that is already known about any subject. Wiener's exhausting education had one advantage: his father took him by the hand and led him to the edge of the jungle. Most of his life he's been exploring.

He's made two major discoveries, even the names of which only a highly trained mathematician can understand: Generalized Harmonic Analysis and the Universal Tauberian Theorem. Mathematical theories like these are actually abstract rules of nature which can often be applied specifically to a variety of physical sciences to show new ways things can be done. Wiener has been highly unusual in that he knows so much about physics, engineering, and many other sciences that after finding a new mathematical idea he can show the specialists what to do with it.

It's useless for a person who is not a mathematician to try to understand the ins and outs of Wiener's theories—and he dislikes trying to explain them to people who only pretend to be capable of learning them. He said a few weeks ago that he can get on perfectly well with people who have the training to know what he's talking about, and with people who have no intellectual pretensions in his field—it's the in-between people he likes to avoid. The *results* of his thinking—or some of them, at least—are perfectly understandable to anyone, however.

One result is the electronic brain. Another is the guns which automatically track aircraft. Still another is the "automatic factories" built by the chemical industry, and which other industries probably will construct before long, factories which employ five or ten technicians instead of hundreds of workers. Such worrisome wonders, and many other devel-

opments, are simply the first fruits of Generalized Harmonic Analysis. More can be expected, for there is a tremendous lag between the time a mathematician gets an original theory and the time engineers learn how to use it. In Wiener's case, the time lag is enormously reduced, for he can show specialists what the possibilities are; but even so, it takes a long time for enough people to learn his ideas to allow production of anything the public can see. There are now only five or ten men who can give courses in the engineering uses of ideas Wiener had twenty years ago.

Wiener doesn't spend much time developing the applications of his ideas; he'd rather turn that job over to specialized experts. Science is anything but a one-man show, and literally thousands of men with different skills contribute to "the invention" of something like the electronic brain. Wiener rarely sticks around to get credit for the final stages of anything; as soon as he's sure in his own mind that a machine such as the electronic brain can be built, and has shown the physicists and others the theory of how to do it, he likes to drop it and dive back into the jungle to look for something new.

Lately, however, he has become fascinated with ways in which some of his ideas can be turned to helping the handicapped. He thinks he can show how the iron lung can be improved by taking nerve impulses from the brain to whatever muscles are left in a paralyzed person, and making them control the mechanism of the artificial breathing apparatus. He's thought of a way to translate spoken words into impulses a stone deaf person can feel and understand. Someday he thinks artificial legs and arms can be made with which an amputee can feel. Such artificial limbs could be used in a manner very similar to their natural counterparts. Wiener is sure the development of such things is possible; he says it's just a matter of connecting the right mechanism to the remaining sense organs according to ideas which have already been proved correct.

In addition to trying to help apply some of his theories to aids for the physically handicapped, Wiener is interested in the search for new insight into various forms of nervous and mental disorders. The electronic brain is proving of great help in this respect. To understand how, it is necessary to know something of this machine about which so many sensational tales have been told.

The reason why the electronic brain is so hard to believe in at all is that many of the sensational stories are true. It is not just *like* a human brain in its performance—it really is a crude sort of brain. Fundamentally, it works on the same principles as the human brain. Of course, there are differences. The electronic brain fills a large room, rather than a small skull. It of course works electronically, while the human brain works chemically. It can do some work much more efficiently than the human brain; it is helping to speed up many kinds of scientific research tremendously, for it can do certain calculations in a few hours which generations of human beings would require centuries to do. It has a memory—indeed it can refer to a whole filing system automatically. It even can exercise something like what an executive would call "judgment" by referring to statistical probabilities. There is no particular reason, Wiener says, why it can't eventually be fitted with various electronic and mechanical devices which would in effect allow it to see, hear, and feel. A mechanical, electronic "moth" which automatically seeks light and a "mole" which automatically seeks darkness have already been invented by other scientists. Wiener considers such gadgets rather elementary. It would be rather simple, he says, to fit mechanical hands and legs to an electronic brain. The present ones already type out their findings.

In spite of these fantastic facts, stories of scientists who could actually create living beings, and nightmares of the machines becoming masters of the people are of course poppycock. Although the electronic brains operate on the same principles as human brains, they are a sort of crude parallel development rather than an actual reproduction. There are so many things the machines can't do that a study of them leads to greater awe at the miracle of the human mind and body, rather than a depreciation of it. The electronic brain works at too low a level to produce ideas. It's a rather dull thing, really. It has no imagination. It cannot exercise high degrees of judgment. It has no love, no pride, no shame, no sense of beauty. Although an electronic machine probably could eventually be made to do almost any one job a human being can perform, no machine could even attempt to do the great variety of tasks even the least intelligent adolescent finds easy. The machines are ridiculously overspecialized, com-



pared to a human being, and they're nothing to be afraid of in a fight—anyone could lick one simply by pulling out the plug. The machines will always be slaves, and of course could be dangerous only as the slaves of evil or stupid men.

Wiener's chief immediate interest in the electronic brain stems from the fact that it was constructed with the help of knowledge of the human brain. Some of the discoveries concerning its ills are applicable to human disorders. The result is many new clues to the long hidden secrets of the human mind, and to the dark mysteries of insanity. Wiener is just as anxious to track down these clues as he is to help amputees.

It was Wiener's knowledge of all these possibilities inherent in the original mathematical theories he'd already found, and the itch to get back in the jungle to look for more new ideas which in a curious way gave him enormous obstacles to overcome in his search for a satisfactory personal life. A well-known psychiatrist in New York who has consulted Wiener on brain research described one difficulty when he said recently, "He keeps seeing thousands of things that could be done in science, and he is always aware of the moral, social, and industrial consequences of his findings. He pours an enormous amount of energy into his work, and he gets tired—more tired than you or I could possibly imagine. Often he gets confused and has terrible let-downs. What you've got to remember is that he sees thousands of avenues opening out into the future, and has the mental ability to explore all of them, but only a human amount of energy and strength. Can you get any idea of how exhausting and confusing that could be?"

Wiener's second handicap has been the tendency his mind has to grab hold of a problem and refuse to let go until a solution has been found. The result is that Wiener is *preoccupied* most of the time. This gives him the classic eccentricities of the absent-minded professor, but more than that, he has difficulty in relaxing and getting any rest. His mind often continues to labor away even when he's asleep. Sometimes he'll wake up at three o'clock in the morning with the feeling that a problem he's been working on has just been solved. At such times he'll pick up a pencil and discover that he can put down the answer in a few minutes. One of his family says that she has often awakened at odd hours to find him rifling through her desk in a desperate search for writing materials.

Shortly after completing a lot of work on automatically aimed guns during World War II, Wiener said he didn't intend to work for big Government defense projects. Wiener said a few weeks ago that his reason is in part his horror of the atomic and hydrogen bombs, and in part his fear that he would be too much hampered by the requirements of secrecy. But his main reason is that such work simply isn't his job. Weapons, including the big bombs, are chiefly developed from original theories discovered long ago, and Wiener says he's never been much good at applying old ideas—he likes to roam around in the jungle looking for new ones. Many of the ideas he brings home result in new weapons, of course, and the electronic brain is working away most of the time on defense projects. This Wiener regards with mixed emotions, for although he is undoubtedly a genius, some things are no clearer to him than to anyone else. When he talks about his political ideals and fears, he sounds precisely like any ordinary citizen of the United States. The freedom of the individual must be defended at all costs, he believes, but he hopes there can be a minimum of killing in the process.

Wiener gets particularly angry at those who apparently feel the best way to defend the freedom of the individual throughout the world is to suppress it at home. The occasional abuse of security regulations in science enrages him. "If I were a traitor," he said recently, "I'd play everything carefully and get a responsible job as an administrator of some big defense project. Immediately upon arriving, I'd slap one extra degree of secrecy on every document, thus effectively hamstringing everyone, and ensuring my own reputation as a patriot."

Wiener believes that the best long-range security for the United States lies in the loving protection of the liberty of the individual. "Both our recent scientific achievements and those of Russia are based on ideas found twenty or more years ago," he said recently. "At that time, Com-

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DOYLE—March 12 DOYLE  
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munism was less efficient in suppressing and censoring Russian scientists. It won't be possible for the Russians to get new fruit from old ideas indefinitely."

Wiener engages in no cheap hate campaigns against the Russians, and he doesn't underestimate the capabilities of many Russian scientists, but it's hard to listen to him talk about Russia without getting increased confidence in the United States. Russian science is at a pretty high level now, he says, "but it must soon show the sterilizing influence of a bigoted and compulsory orthodoxy." As Wiener gives more details about Russian science, his meaning gradually becomes clear: a scientist—or any human being—without freedom of thought and action eventually becomes little better than the electronic brain. Like the electronic brain, a human slave can develop old theories and carry on routine tasks, but he can't produce new ideas. "You see," Wiener explains, "you have to be free to explore."

This is the man who describes the first thirty-one years of his life in the book, "Ex-Prodigy: My Childhood and Youth." It's a volume well worth the \$4.00 the publishers are asking.

\$3.95

Dr. Wain <sup>Mass Inst of Tech</sup>  
~~Boston~~

Jan 16-53

The use of the Ill. U. apparatus to shorten & lengthen music speech should have been an apparatus to read aloud from a printed page.

The first speech of a baby is Da Da Da etc. a sort of chant. as a pronunciation Ba Ba is common. In the Annals Indian ugh ugh ugh is noted.

The emphasis or volume of sound is the determining factor in meaning. The scale in music is also a pronunciation form of communication by the use of volume of emphasis or change. This is noted in speech music, chanting & even the Chinese type of music.

In the animal world the birds use pup pup continually at an early age. In pigeon this is shown as well as chicken with a modulated as the word (as in the musical scale) - cluck cluck in the chicken. In a pigeon a rising or modulated scale is used. This speed of volume on first or last cluck or pup or coo in the pigeon must be the manner of communication.

To get back to higher animals (so called) all love songs are the same in any language as are war songs by the emphasis or volume on <sup>the</sup> chant or rhythm or modulation.

The rhythm or chant must have a connection with the natural respiration or heart beat of the higher & low animals.

If in a love song this seem to be slow or  
more than usual music greater possible affecting  
the glands as well as the oxygen content of  
the blood. In common speech a man can  
make himself mad by thinking or speaking  
in an aggressive manner or loud - rapid  
or the way of violent actions or aggressions.  
Love songs usually have a high + low range  
on the musical scale altho slower rhythm.

To test a receptive student or student to  
find out the reaction of individual words  
perhaps in a foreign tongue as well as  
their own as well as sentences of varying  
length + content by volume - effort emphasis  
or modulation of voice ect. of historical usage  
should have some bearing to see if any  
recognition is made by this means. Also  
to have students try to make their  
meaning or comment. etc. in a positive  
manner as in young of the basic language  
as Anglo Saxon, Hebrew, Latin or Greek.  
Examining the volume, modulation, rhythm  
in various modes of statement or urgency  
to make themselves to other person.  
The object to see if there is a rule or  
common manner of communication in all races +  
find out what it is if possible.

The children of 2 to 5 or 6 showing a way  
of communicating or wondering is noted, as  
"Aa eeeen" is supposed to make the dim  
known. Also 'good' or 'bad' in a sentence  
Late modulation or emphasis is used. Still  
later shouting becomes a habit to communicate  
among each other. As the glands grow the  
is unnecessary it seems. Among the blind a  
modulation is used. They seem to be able to  
understand more clearly than others.

The speech or babbling of babies could be  
examined by the apparatus to see if the change  
of volume, rhythm & modulation can be detected  
& studied. This would also apply to all  
young ages of the young both boys & girls  
The girls apparently showing faster progress.

Martial & Love music could be examined  
by the machine by condensing & lengthening to  
note different reactions on subjects, the  
blind would be of help in this regard.

The playing of martial music as a love  
song & vice versa would be of interest as  
the use of bag pipe & violin. The greatest  
progress should be in the young between ages of  
1 yr to 2 or 3 of various races & nationalities

In a paper which lately of vain type to  
 above print papers & printed books &  
 some for methods of determining manner of  
 communication so as to have used in a way  
 to read aloud mechanically from a printed  
 page, a study of the right glabella  
 type would be helpful. I'm sure  
 that the palm of the hand has given this  
 information by the term out of Verny Mars  
 east. This subject matter of improving on  
 a page (as the reverse) which should  
 the study as being more understandable  
 to each of (small types).

In the use of translating mechanically  
 this would also seem useful.

In the animal world all similar  
 species seem able to communicate  
 successfully. It is only in the higher  
 types of animal do we have dialects -  
 perhaps occupations & intending  
reactions probably caused by individual  
 content & climate. (Included also self  
 interest not found in the animals) \*

March 16, 1953

Mr. Richard Cheney  
Assistant Managing Editor, Steelways  
350 Fifth Avenue  
New York 1, New York

Dear Mr. Cheney:

Thank you for sending Lagemann's paper to me. I find it highly intelligent and well done. Mr. Lagemann has consulted with me earlier, and I feel that he knows thoroughly what I am doing. I congratulate you on getting him to work with you on this paper.

Sincerely yours,

Norbert Wiener

hvb

March 16, 1953

Mr. Henry Allen Moe  
John Simon Guggenheim Memorial Foundation  
551 Fifth Avenue  
New York 17, New York

Dear Moe:

After the debacle of Walter Pitts, I am very hesitant to write to you in behalf of another candidate of my own. However, a situation has arisen in which I strongly wish to recommend Dr. Armand Siegel for a Guggenheim Fellowship, to run for next year. Siegel, an M.I.T. Ph.D. and a member of the Boston University faculty, was released from his duties there for this year to do research work jointly with me on a new foundation for quantum theory. The work is coming along splendidly, and Siegel has done his full share and more both in the theoretical work and the writing up. Unlike Pitts, he is a mature man who takes responsibility well, and in his work with me is far from a yes-man. He has been of great value to me, and has shown himself possessed of the guts to disagree with me when he thinks I'm wrong.

I had hoped that we could find a place for him here, either permanently or semi-permanently, at least until our present line of research shows signs of running out--which it won't for several years. But budgets are tight at M.I.T., and it just doesn't seem to be possible to secure additional money from the Physics Department, which has already done me a great favor by letting me have his services so long.

I can confidently say that Siegel is working on a rich field, and has the intelligence, industry, and character to get rich results out of it. I have a very high regard for him, and I hope that you people will be able to do something for him, even at this late date.

Sincerely yours,

Norbert Wiener

hb

[aut 3/17/53]



March 16, 1953

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

Dear Mr. Morris:

So far as I can judge from the cold printed page, I can go through with your program for the 26th and 27th. But don't add anything to it unless you wish to have on your hands the usual murderer's problem of disposing of the body.

I shall come down on ~~Wednesday~~ <sup>Thursday</sup>, the 25th, from New Haven. And, if they'll have me, I shall be staying at the Hotel Chatham around the corner from you.

Sincerely yours,

Norbert Wiener

hb

# HARPER & BROTHERS

PUBLISHERS SINCE 1817



49 East 33<sup>rd</sup> Street, New York 16, N. Y.

March 17, 1953

Professor Norbert Weiner  
Massachusetts Institute of Technology  
Cambridge, Mass.

Dear Prof. Weiner:

Some weeks ago we sent you advance copies of a book we thought would interest you, particularly THE HIERARCHY OF HEAVEN AND EARTH.

Only the other day the bound copy came in and we were glad to post one of these off to you.

We are eager to know your opinion of the book and look forward to any word from you.

Sincerely yours,

  
James S. Best

JSB:cmn

RUTGERS UNIVERSITY

*The State University of New Jersey*

March 17, 1953

DEAN OF MEN

NEW BRUNSWICK, NEW JERSEY

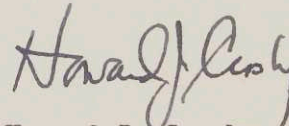
Dr. Norbert Wiener  
Department of Mathematics  
Massachusetts Institute of Technology  
Cambridge, Massachusetts

Dear Dr. Wiener:

It was indeed a pleasure to have you on campus last week. The students and members of the faculty who attended the lecture were greatly stimulated by your remarks and will be looking forward to your further work in the area of prediction theory.

I regret greatly the confusion and uncertainty which preceded your appearance and I hope that we shall have an opportunity of having you on campus again. On the next occasion I can promise you that we shall be certain to avoid any conflicting dates.

Sincerely yours,



Howard J. Crosby  
Assistant Dean of Men

HJC:IR

HARVARD UNIVERSITY  
DEPARTMENT OF HISTORY  
CAMBRIDGE, MASS.

OSCAR HANDLIN

WIDENER 783

March 17, 1953

Professor Norbert Weiner  
Massachusetts Institute of Technology  
Cambridge, Mass.

Dear Professor Weiner:

Many thanks for having sent a copy of your book to me. I read through it again last evening and found it as stimulating reading as I did when I first looked at the manuscript. I have no doubt you are making a genuine contribution to our understanding of a very complicated problem.

Yours truly,

  
Oscar Handlin

OH/sg

[over 7/1/53]

# Internationaal Signifisch Genootschap

INTERNATIONAL SOCIETY FOR SIGNIFICS  
SOCIETE INTERNATIONALE DE LINGUISTIQUE PSYCHOLOGIQUE

29, Cornelis Krusemanstraat, Amsterdam-Z  
Netherlands — Pays-Bas

Secretariate:  
P. O. Box 7017,  
40, Courbetstraat,  
Amsterdam-Z II

Telephone: 25251

AMSTERDAM, March 17th, 1953.

Professor Norbert Wiener,  
Massachusetts Institute  
of Technology,  
C a m b r i d g e (Mass.).

Dear Professor Wiener,

It may be known to you that our Society organizes an international Conference every year. Our Ninth International Significal Summer Conference will be held from August 10 - August 16, 1953 and will be devoted to the theme "Semantic and Signific Aspects of modern Theories of Communication". The Dutch members of the Organizing Committee, which includes J. Clay (Dept. of Physics, University of Amsterdam), G. Mannoury (Dept. of Mathematics, Univ. of Amsterdam), Chr. P. Raven (Dept. of Biology, Univ. of Utrecht), J. L. van Soest (Delft Institute of Technology), H. J. Groenewold (Dept. of Physics, Univ. of Groningen), have asked me to invite you to take an active part in this Conference, which will be held in the International School for Philosophy at Amersfoort (Netherlands).

Most of our members have read with much interest your books "Cybernetics" and "Extrapolation, Interpolation, and Smoothing of Stationary Time Series", and Karl Deutsch and Anatol Rapoport published papers on the subject in our international journal "Synthese" a few years ago.

As the general theme of the Conference applies to your own studies and experiences, we sincerely hope you will find it possible to be present, and we take pleasure in enclosing a short description of the theme problem which, from a signific point of view, may be a starting-point for study and discussion.

We would very much like to have your suggestions regarding the development of the program, and we should highly appreciate if you would be willing to join the international Conference Committee.

We all do hope that you will be in a position to accept our invitation; that we may have the pleasure of offering you hospitality during your sojourn in this country; and that, also with a view to the further development of the program, we may hear from you in the near future.-

Very sincerely yours,  
*W.M. Kruseman*  
Dr. W. M. Kruseman,  
Secretary of the  
Organizing Committee.

[ans. 4/7/53]

4. De Negende Internationale Signifische Zomerconferentie - September 1953.

Algemeen onderwerp:

SEMANTIC AND SIGNIFIC ASPECTS OF MODERN  
THEORIES OF COMMUNICATION

(Can modern exact methods used in theories of communication be extended in order to promote the study of ordinary and scientific language, e.g. to determine the amount and relevance of information contained in single messages, papers, etc.?)

A. THE ANALYTIC APPROACH

- (1) The methods of mathematical theories of information, cybernetics, biophysics, etc.
- (2) The methods of semantics, significs, operational analysis, value analysis, etc.
- (3) Individual and group communication, attitude measurement, etc.

B. THE SYNTHETIC APPROACH

- (1) New terminologies for new theories
- (2) Models as an expedient for constructing new terminologies
- (3) Unification of terminology

LITERATUUR. Technische bijzonderheden met betrekking tot het hier genoemde onderwerp zijn o.m. te vinden, behalve in de signifische literatuur, in de publicaties van Rashevsky, Rapoport, Landahl, McCulloch (mathematische biophysics); Wiener, Rosenblueth, McCulloch (cybernetica); Trimmer (response of physical systems); McCulloch en Pitts (mathematische bewerking); Shannon en Weaver (math.informatietheorie); Brazier, Monnier, Sherrington, Herrick (neurofysiologie).



# Book-of-the-Month Club · INC.

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100 Sixth Avenue, New York 13, N. Y. ☆ *General Offices: 345 Hudson St., New York 14, N. Y.*

March 17, 1953

Mr. Norbert Wiener  
Simon and Schuster, Inc.  
630 Fifth Avenue  
New York, New York

Dear Mr. Wiener:

I am enclosing a copy of the current Book-of-the-Month Club News containing a review of your book. The review appears on page seven.

If you care for additional copies, for any purpose, I shall be glad to forward them.

Sincerely yours,

*Anna Marie Locascio*

Anna Marie Locascio

JOHN SIMON GUGGENHEIM MEMORIAL FOUNDATION  
551 FIFTH AVENUE · NEW YORK · N · Y ·

March 17, 1953

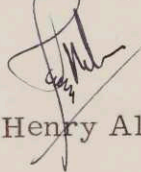
Professor Norbert Wiener  
Department of Mathematics  
Massachusetts Institute of Technology  
Cambridge 39, Massachusetts

Dear Professor Wiener:

It is with regret that I must reply to your letter of yesterday's date that it is now too late for us to consider an application from Dr. Armand Siegel for 1953-54. The Congressional investigation of the foundations delayed us considerably; we are still far behind and are asking more than we should from our staff as well as from ourselves. It is just a physical impossibility to try to add one more application to the list already under consideration. I hope you will understand.

Greetings to you, from

Sincerely yours,



Henry Allen Moe

M:s



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Telegrams  
EXALTEDLY LESQUARE  
LONDON

17th March, 1953.

Dr. Norbert Wiener,  
c/o Messrs. Simon & Schuster Inc.,  
630 Fifth Avenue,  
New York 20.

Dear Dr. Wiener,

I was very pleased indeed, in fact delighted, to receive from Henry Simon a copy of "Ex-Prodigy". I think Simon & Schuster have made a very pleasing production of it and I heartily wish them, and you, all success. You remember my own interest in the typescript, and indeed, I believe I played some small part in introducing it to Max Schuster and Henry Simon. I therefore feel almost an avuncular pride in the book, and with a very partial feeling I do indeed wish it well.

Yours,

  
F. V. Morley.

c: SFS, Mar. 31

[ent 5/31/53]

# COPY

Eyre and Spottiswoode  
15 Bedford Street  
Strand  
London W.C. 2  
March 17, 1953

Dr. Norbert Wiener  
c/o Messrs. Simon and Schuster, Inc.  
630 Fifth Avenue  
New York 20.

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Yours,

(signed) F.V. Morley

c:hb

March 18, 1954: For the next Quantum Theory paper  
with Siegel:

The good ship Quantum Theory is a magnificent  
vessel, but it is kept afloat not by the water-  
tightness of its structure but because all hands  
are manning the pumps. It is time to take it into  
drydock, scratch the barnacles off its plates, and  
do a sound caulking job.

NW

Dr. Wein  
Mass Inst of Tech  
Boston Mass  
Lan Si

Mar 18-53

If each letter were given its phonetic sound on a key board. The speeding up of syllables + lengthening of vowels would seem to give an identical picture of the word to be spoken + used in a method to read aloud from a printed page.

The page to be photographed, transferred to raised letters, an electron scanning device to identify + operate letters on the key board in a shorter + lengthening time sequence determined by vowels + factors determined by practice.

In translating our key board to operate another of different languages

Also

If the letters of an alphabet were divided into the vowels  
A E I O U + A B C D E F G H I J K L M N O P Q R S T U V W X Y Z  
each group to be considered as a unit, as the numbers above

To get the word "March" you would have

(unit) 4 1 5 2 3 4 0 5 using a sound of color method  
5 1 4 3 4

Do - Ra - Me - Fa - So - La - Te - Do

A - E - I - O - U  
Red Orange Yellow Green Blue Violet - Brown Black

A rule or method could be devised connecting the sounds + color waves with vowels + alphabetical group as Agnostic Alphabet + W Papyrus of Seydoux of letters + melodies.

The use of the new chemicals which change color by variation of heat (Goumit fab.) would seem useful.

J.F.

Diocese of ...  
Western Massachusetts

37 CHESTNUT STREET  
SPRINGFIELD 3, MASSACHUSETTS



DIOCESAN COUNCIL

ROBERT W. BOYER  
EXECUTIVE SECRETARY

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PROMOTION: . . . YOUTH . . . COLLEGE WORK

March 20, 1953

Prof. Norbert Wiener  
Mathematics Department  
Room 2-155  
Mass. Institute of Technology  
Cambridge 39, Mass.

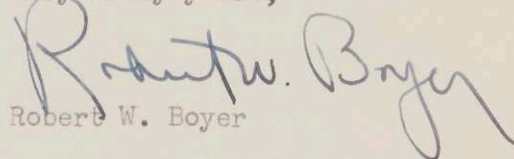
My dear Professor Wiener:

The Assistant Director of Admissions suggested that I write to you concerning the subject of Cybernetics. I am interested in it, particularly from the standpoint of business, and as business relates to the subject.

I believe that the Church has a very serious need for correlation of activity, finances, and what have you. I thought that possibly the knowledge of Cybernetics might be an effective tool to carry out a solution of this problem.

I would appreciate hearing from you in the near future, concerning any suggestions that you may have.

Very truly yours,

  
Robert W. Boyer

RWB/sem

[ans 4/7/53]

Mar. 20, 1953

Dr. Norbert Wiener  
Professor of Mathematics  
The Massachusetts Institute of Technology

Dear Sir:

I am a mathematics major attending Bowling Green State University. The local chapter of the national mathematics honorary, Kappa Mu Epsilon, of which I am a member, meets monthly on our campus. In an attempt to further our knowledge of mathematics and related fields, we have a lecture at each meeting by either a faculty or student on what we feel are pertinent topics. For next month, they have chosen me to speak on "Cybernetics". I have read excerpts from your first book entitled Cybernetics and have read your second book completely. In addition, I have read about your work in an issue of Time Magazine. However, I am still somewhat hazy about how to go about explaining your field to my fellow mathematicians. Therefore, it is for this reason that I am writing this letter.

I would appreciate it very much if you could inform me concerning the following questions:

- (1) What do you feel are the basic mathematical formulas, if any, that would aid in clarifying and justifying the field of Cybernetics? (A short, understandable to an undergraduate, explanation of each formula would also be desirable.)
- (2) You have already expressed views on this in your books-- What effect do you think your field will have on the future life of the American people? In other words, how will Cybernetics affect the layman, the factory worker, etc. socially.
- (3) What, if any, have been the contemporary developments of your field? Has it progressed to any extent since the writing of your latest book? (I believe the title is "The Human Use of Human Machines.")
- (4) Has the Korean War once again diverted researchers in this field to the inventing of military weapons, etc. ?

I realize that you are a very busy individual, Dr. Wiener, and you are probably troubled with numerous such letters daily. I would consider it a tremendous favor, therefore, if you would answer these questions and add any additional information which you may feel is pertinent.

Next fall, I am entering the College of Medicine at Ohio State University; however, I do not feel that my calling is to become a practicing physician. I am hoping that some day I can do some type of research in a field which correlates mathematics and a knowledge of medicine. (Perhaps this background will clarify for you why I am interested in your field.)

I hopefully await your reply.

Sincerely,

*Wm. B. Elderbrock*

Wm. B. Elderbrock  
325 North Prospect St.  
Bowling Green, Ohio

*(ans 3/2/5)*



*The Commonwealth of Massachusetts*

*University of Massachusetts  
Agricultural Experiment Station*

*Amherst*

March 20, 1953

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

Dear Dr. Wiener:

Thank you very much for your letter of March 13 indicating the title of your Sigma Xi lecture.

I am happy to learn that Mrs. Wiener will be able to accompany you, and I have made a reservation at the Lord Jeffery Inn, 30 Boltwood Avenue, which will be available the afternoon of April 15. The other arrangements are as indicated in your letter, and if there are changes, I shall contact you immediately.

Very truly yours,

*S. B. Hitchner*

S. B. Hitchner

Department of Veterinary Science

SBH:H

CLARK UNIVERSITY  
WORCESTER 10, MASSACHUSETTS

HISTORY AND  
INTERNATIONAL RELATIONS

No  
March 20, 1953

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

Dear Professor Wiener:

The Clark University Chapter of the American Association of University Professors would like very much to invite you to speak at their next meeting, in the week of April 27.

We were greatly impressed by the report of your talk in December on "The Breakdown of Communications" and feel certain that our membership would welcome such a stimulating discussion. We cannot, I am afraid, offer much of an honorarium, but can provide enough to cover amply any expenses you might have.

The meeting would be in the evening. As to date, April 27, 28, or 30 would all be possible, in that order of preference.

Hoping that you will find it possible to accept,

Very sincerely yours,

*H. Donaldson Jordan*

H. Donaldson Jordan  
President, Clark Chapter,  
A.A.U.P.

HDJ:hmt

[ans 3/20/53]



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CLAREMONT STREET,  
BELFAST.

20th March, 1953.

Norbert Wiener, Esq.,  
Department of Mathematics,  
Institute of Technology,  
Cambridge,  
MASSACHUSETTS.

Dear Sir,

I have read with interest your  
article "Time, Communication, and the Nervous  
System" published in Annals of the New York  
Academy of Sciences, 1948-50. and I should  
be pleased if you would send me a reprint.

Yours faithfully,

*R. J. Luke.*

R. J. Luke.

[ans 4/13/53]

JANET MACKENZIE RIOCH, M. D.  
17 WEST 54TH STREET  
NEW YORK 19, N. Y.

March 21, 1953.

Dear Dr. Wiener,

I just got a copy of your book to-day and am writing right away to congratulate you. It strikes me as awfully good and I am very happy about it for you. Your publishers have also done an elegant job in the way they have gotten it out.

I was naturally most interested to see the photographs. The one at age seven expresses a most delightful and lively sense of humor.

It was more than generous of you to list me in the foreword.

If you have time I'd be very glad to hear how things are with you.

Sincerely,  
[and 7/11/53] Janet Rioch.