

206

CORRESPONDENCE

Dec. 16-30, 1954

N. WIENER · MC 22

Dr. José Vila Badó
Pedro IV, 153, pral.
BARCELONA. Spain.

Jan 14, 1955
sent reprints

Dr. N. Wiener
CAMBRIDGE. Mass.

16/12/54

Dear Dr. Wiener

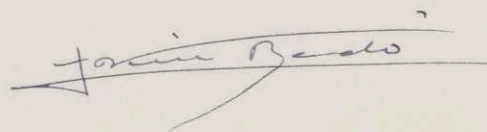
I would greatly appreciate if you could send me the reprints you have published since you gave me your latest ones when I saw you in Boston last year. Can you add my name to your mailing list?

We have not been able to do much on Cybernetics until now except working and keeping up-to-date with your works. The difficulties we find, are the same I told you an year ago, and this is why the literature you could send us on this subject would be extremely valuable and interesting to us. Our activities have been limited until now to reduced scientific meetings in which we exchange our points of view and give information we have received. We hope, however, that we will soon be able to widen our work on this matter.

I enclose a photograph of yourself and I should feel very honored indeed if you would dedicate it to me and send it back, as I should like to have it in my office.

Looking forward to hear from you, and with the season's greetings, I remain, dear Dr. Wiener,

Yours very sincerely



FOREIGN OPERATIONS ADMINISTRATION
Washington 25, D.C.



December 16, 1954

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

Re: TA 09-267-268 German Electronic Measuring & Control
Instruments Study Group

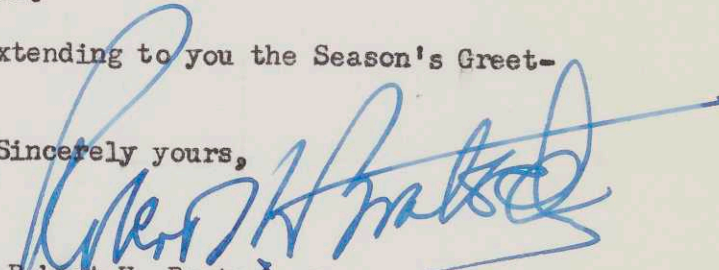
Dear Prof. Wiener:

The Foreign Operations Administration wish to take this opportunity to express to you, your company and associates, their appreciation and thanks for the whole-hearted cooperation, hospitality and unselfish giving of your time and experience to the group of German scientists which has just completed its visit here in America.

The comments of this group before leaving for Europe were most gratifying, and we feel it was only such cooperation and assistance as your institution gave that made this group's visit one of our most successful undertakings to increase productivity, and to strengthen the mutual security of the free world.

Thanking you again and extending to you the Season's Greetings, I am

Sincerely yours,



Robert H. Bratsch
Project Manager

Industrial Training Division



December 16, 1954

Dear Professor Wiener:

This letter will serve as an amendment to our agreement between you and us dated April 8, 1954, for BOOK ON THE THEORY OF INVENTION:

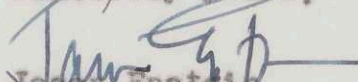
Paragraph 5 (c) of that agreement shall be changed to read as follows:

On all copies of the regular Anchor and/or trade editions of the work sold by the Publisher to other export markets, Five per cent (5%) of the United States retail price.


All other provisions of the agreement remain the same.

Your signature on one copy of this letter returned to us for our contract files will constitute your agreement to this change.

Sincerely yours,


Jason Epstein

Agreed:



DOUBLEDAY & COMPANY, INC.

By 
Vice-President

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

DOUBLEDAY & COMPANY, INC., Publishers



575 MADISON AVENUE, NEW YORK 22 - MURRAY HILL 8-5300

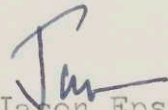
December 16, 1954

Dear Professor Wiener:

In reviewing our contracts for original Anchor Books, we discovered that the clause covering export sales provides for a royalty far in excess of anything we can reasonably afford. The reason for this error is that we based our Anchor contract on the regular Doubleday trade book form which allows for 15% of the net proceeds, or approximately 9% of the retail price, to be paid as royalty on foreign sales. This works out well in the case of hard bound editions whose domestic royalties range upward from 10%, but in the case of Anchor Books, whose royalties are $7\frac{1}{2}\%$, it is completely out of line. If we are to operate efficiently, the export rate should be less than the domestic rate.

It would, therefore, be a great favor if you could sign the enclosed amendments reducing the export royalty to 5% of the retail price, which amounts in effect to a reduction of 4% in your export royalty.

Yours,


Jason Epstein

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

JE:nr
Enclosures

PLEASE RETURN ALL COPIES OF THE AMENDMENT
LETTER TO US SO THAT WE MAY SIGN THEM IN
TURN. WE WILL THEN SEND YOU A COPY FOR
YOUR OWN FILES.

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MASSACHUSETTS INSTITUTE OF TECHNOLOGY
CAMBRIDGE 39, MASSACHUSETTS
KIRKLAND 7-7416

December 16, 1954

Prof. Norbert Wiener
Room 2-155
M.I.T.

Dear Prof. Wiener;

On behalf of the 200 students attending the Skeptics' Seminar I want to thank you for the interesting points that you brought out and conclusions that you drew, many of which were used in the seminar the following week.

As you could tell from the number of questions asked, the students were sincerely interested in what you had to say. I want to thank you very much for the time and thought that you gave to the Skeptics' Seminar. The T.C.A. appreciates your great contribution.

Sincerely yours,

Frederick W. Lupton II
Vice President - Religious Action

FWL:cht

8-22

December 16, 1954
San Diego 52, Calif.

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

Dear Professor Wiener:

May I enclose the abstract of my paper presented at the November meeting of the Acoustical Society with a few supplementary remarks.

I suggested quantization of the acoustical signal-space based on the physical issue of the "phonons". Two auditory message-spaces were defined, a peripheral one for encoding and a cortical one for decoding. Due to the astronomical sizes of signal and message spaces, reliable transfer could be based only on digital coding and power spectrum. Even this most reliable type of transfer is subject besides the issues of differential threshold errors, to a systematical error caused by time-drift. Hearing is therefore relativistic as a rule.

With respect to binaural hearing I assumed that two time-series are running toward the cortex along the two channels; these series are smoothed in a common evaluation center. On this basis I would like to explain the various cases of interaural summation, inhibition, and beating. ("Informational coupling")

To explain the mystery of interaural phase (which at first sight contradicts the spectrum model), I invoked the hypothesis of a neural time-expansion mechanism. A sudden stimulus is assumed to retard the psycho-physical clock in the transient process only, through some sort of feedback. The organism gains time to respond. Perhaps ultra-short reaction times could be explained on a similar basis in general.

Perhaps there will be a chance for me to come to Berkeley to see you. It is not impossible that a trip to the East will be authorized.

I very much appreciate your interest and kindnesses.

Thanking you, I am

Sincerely yours,
Andrew G. Pikler

(Andrew G. Pikler)
Code 2920/f
U.S. Navy Electronics Lab.
San Diego 52, Calif.

[ans 11/19/55]

Dec 16

I have been looking over the Pikler material myself and in particular have had my colleague, Armand Siegel, give me his opinion of Pikler's work.

Pikler himself is obviously very good and quite competent to do the work he suggests. As to the work itself, it is extremely new and speculative. I myself am in favor of the Guggenheim's considering it seriously as an investment.

I can guarantee nothing, but Pikler seems to be the sort of man with a sort of a project we should support.

December 16, 1954

President J. S. Bixler
Colby College
Waterville, Maine

Dear President Bixler:

I am cutting my lecturing schedule to the bone, but I hope you will bring up the matter again sometime about a year from now. Even then, I am not sure whether by that time I shall have returned from a visit to India which I am planning.

In any case, it is too soon for me to commit myself to your very attractive offer.

Sincerely yours,

Norbert Wiener

NW:gf

December 16, 1954

Dear Camp:

I remember you very well from the Aberdeen Proving Grounds days.

The Newsletter story that you mentioned in your letter does not refer to me. Whom it does refer to, I don't know at all.

Sincerely yours,

Norbert Wiener

Mr. Orton P. Camp
Wheeler Road
Middlebury, Connecticut

December 16, 1954

Mr. Morris Cohen
8-413

Dear Cohen:

I am not able to give any clear answer to your questions, but come in and see me after the holidays and we will take up the matter.

Sincerely yours,

Norbert Wiener

NW:gf

MASSACHUSETTS INSTITUTE OF TECHNOLOGY
CAMBRIDGE 39, MASS.

DEPARTMENT OF MATHEMATICS

December 16, 1954

Dear Jason:

I am sending you chapters 1, 2, and 3 as revised. I have followed your recommendations to the full, particularly as to the part where I terminate chapter 3.

Margaret has objected to my treatment of her in Chapter 3, and I am inclined to think that she is right. I have attempted to rewrite in such a way as to give less irrelevant factual detail and more of the emotional aspect of our life together.

I am holding the remainder of what was Chapter 3 to be united according to your recommendation with Chapter 4, and I shall follow your advice to cut out irrelevant incidents and personalities.

I think that by now the time has come for another batch from you and I hope that you can make this batch as long as possible, because I lose so much time in piecing in the periods in which I can work. I promise you that I will not hurry the material unnecessarily or unjustifiably. Meanwhile, what I am sending you back has gone through most careful detail on the basis of many criticisms, and I am unwilling to submit it to much further examination.

Sincerely yours,

Norbert Wiener

Norbert Wiener

Mr. Jason Epstein
Doubleday and Company
575 Madison Avenue
New York 22, New York

NW:gf

[ans 12/21/54]

December 16, 1954

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Sincerely yours,

Norbert Wiener

Mr. Jason Epstein
Doubleday and Company
575 Madison Avenue
New York 22, New York

NW:gf

December 16, 1954

My dear Mr. Irion:

Many thanks for your offer to send me your copy of
Public Opinion and Propaganda.

It is a great pleasure to receive a letter such as
you have just sent me.

Sincerely yours,

Norbert Wiener

Mr. Frederick C. Irion
Department of Government and Citizenship
The University of New Mexico
Albuquerque, New Mexico

December 16, 1954

Mr. Richard J. Mikovsky
Standard Oil Company
Research Department
Whiting Research Laboratory
P.O. Box 431, Whiting, Indiana

Dear Mr. Mikovsky:

I am now up to my neck in the efforts which belong to the end of the year, and I shall not be prepared to look over your work till between terms.

If you can wait till then, please accept my apologies for not being able to look at your work sooner.

Sincerely yours,

Norbert Wiener

NW:gf

December 16, 1954

Professor C. L. Pekeris
Department of Applied Mathematics
The Weizmann Institute of Science
Rehovot, Israel

Dear Pekeris:

Many thanks for your letter of November 30. I am just now beginning to solidify my plans for my trip to India, and I shall let you know dates and places as soon as possible.

I am making much progress along the lines that we were interested in together and I think we shall have fun.

Sincerely yours,

Norbert Wiener

NW:gf

December 16, 1954

Mr. Raymond J. Seeger
Acting Assistant Director
National Science Foundation
Washington 25, D. C.

Dear Mr. Seeger:

I shall be glad to come down sometime later to speak to your Colloquium, but I am tied up until the first of January. My secretary will give you the dates which come during our examination period and inter-term vacation at M. I. T., and perhaps we can arrange the matter then.

As to government reimbursement for travel, I have had one unpleasant experience in this regard. A few years ago I was to talk at a government hospital in the West. I had made plans to go by plane when the weather was bad and flights were cancelled for a short period. There was not time enough to take a plane sufficiently early to be sure that I would get there in time for the lecture, so I went by train with ~~roomette~~. This cost more than the plane, but the extra cost was not allowed me in bookkeeping. Thus I was out of pocket. It turned out that my suspicions were right and I would not have got there in time for the lecture had I taken the plane.

This sort of thing is something I wish not to happen again. Thus when you say that you would be happy to pay the usual government reimbursement for travel in this connection, it means that if the weather changes or anything interferes with the flight, I will have to cancel my visit without making any attempt to change my method of transportation to accommodate you.

Sincerely yours,

Norbert Wiener

Exams start Jan. 24

Jan 28

Feb. 7

NW:gf

[ans 1/18/55]

December 16, 1954

Mr. Peter Van Slingerland
Look
Look Building
488 Madison Avenue
New York 22, New York

Dear Mr. Van Slingerland:

I am myself not interested in writing further on automation, as you call it, for I feel that I have said my say in various places, as for example in a recent article in the St. Louis Post-Dispatch.

I won't be back in New York next week and my appearance on television is definitely and permanently discontinued. I am much too loaded down with work to feel that I can give you the interview which you wish and I see no prospect that my schedule will be any lighter for a long time.

A suggestion of this sort appears to me to be one that a writer should take up as his own responsibility and I have made my own opinions sufficiently clear and have expressed them sufficiently often that a personal interview is indicated.

Sincerely yours,

Norbert Wiener

NW:gf

December 16, 1954

Professor E. P. Vance
Department of Mathematics
Oberlin College
Oberlin, Ohio

Dear Professor Vance:

I should pass H. S. Tsien's book, Engineering
Cybernetics, over to Y. W. Lée of the Massachusetts
Institute of Technology. I am too close to the subject
myself to be absolutely impartial.

Sincerely yours,

Norbert Wiener

NW:gf



OTTAWA UNIVERSITY

OTTAWA, KANSAS

December 17, 1954

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

Dear Mr. Wiener:

We have just received the copy of EX-PRODIGY: MY CHILDHOOD AND YOUTH which you sent us and we are very pleased, both with the book and the contribution which it will make to this library, and with your kindness in sending it to us.

The book is now being processed and will soon be a part of our permanent collection, where it will be available to members of the student body and the faculty. Please accept my sincere thanks for your generosity.

Very truly yours,

William L. Hutchinson
Librarian

WLH:ms

December 17, 1954

Dear Sam:

I just spoke to Mrs. Wiener, who asked me to tell you that plans are unchanged.

They are arriving in San Francisco on December 22 at 3:50 p.m. (Pacific Time) on United Air Line's flight 721. Their return trip is scheduled for December 29, 8:45 a.m. (Pacific Time) on United's flight 726. There's a chance that they will take a later flight.

I am giving one copy of "On the Factorization of Matrices" to Mrs. Wiener to take with her along with other material that Professor Wiener may need in California. The other copy went to Zurich yesterday.

Since I will not be here between the 24th of December and January 3, if anything urgent should come up, it's best to get in touch with Ruth Goodwin. However, if necessary, I can be reached at Larchmont (N.Y.) 2-0702.

Thanks again for all the trouble you've gone to in arranging this trip. I hope your trip is turning out successfully.

Sincerely yours,

Mr. Bayard Rankin
c/o Dr. ~~Walter Barkas~~ Joseph Putter
Radiation Laboratory
University of California
Berkeley 4, California

Statistical

December 17, 1954

Mr. Raymond J. Seeger
Acting Assistant Director
National Science Foundation
Washington 25, D. C.

Dear Mr. Seeger:

In reference to Professor Norbert Wiener's letter of yesterday, the examination period at M. I. T. begins on January 24. The inter-term vacation is from January 28 to February 7.

Thus there are two open Wednesdays: January 26 and February 2.

Sincerely yours,

Gabrielle Fuchs
Secretary to Professor Wiener

gf

Magoroh Maruyama
München 23, Biedersteinerstrasse 49.
bei Prof. Carl A. Bembé
Germany, December 18, 1954

Prof. Norbert Wiener
Department of Mathematics
Massachusetts Institute of Technology
Cambridge, Mass., U.S.A.

Dear Prof. Wiener,

CYBERNETICS MISUNDERSTOOD IN GERMANY.

Though your "human use of human being" is rather widely known in Germany through its German translation, the contents of your "cybernetics" are practically unknown except among very few specialists. There are too many philosophers, sociologists, psychologists and other specialists in various fields who entertain themselves with arbitrary speculation *about cybernetics* without knowing the real nature of cybernetics. (The situation is analogous for symbolic logic, or Logistik.) I would like to bring to your attention a few factors which are poisoning the understanding of cybernetics in Germany:

(1) Your social philosophy is principally based on the social structure of the U.S.A. Or at least your explanation is aimed at the American public. It takes a thorough understanding of the social, economical and psychological structure of the U.S.A. to be able to interpret your philosophy adequately. Many people in Germany are misled by their precipitous interpretation of your philosophy in terms of their own social, economical and psychological background.

(2) In Germany the counterpole of the scientific method is not the narrative method of the historian, but the inductive scientific method is opposed to the speculative metaphysics from the point of view of the method, and to the idealism (that is to say the school of philosophy which states that all our Erkenntnis is the product of our mind and denies either the existence (Fichte) or the meaning (Kant) of the Ding-an-sich) from the point of view of the principle. Therefore your warning against the overoptimism of some believers of the scientific method is liable to flatter the advocates of speculative metaphysics and idealism, though it has a desirable tendency to stimulate existentialistic thinkers in the sense of Bergsonian dynamism of the society.

(3) Anthropology means in Germany, except in very few institutions, the field of study which is concerned about the problem as to whether the human species is an analogia personalitatis of God, or it is a highly developed type of animal. Therefore it is more a part of theology or a part of biology and psychology than a study of cultural patterns. Hence your use of the word "anthropology" is readily misunderstood in Germany.

* * * * *

I hear a rumour that you will visit Germany soon. There are people at Max-Planck Institut für Physik in Göttingen, at the University of Göttingen, at the Technische Hochschule in Munich, and at the University of Munich who are eager to welcome you. The Max-Planck Institut has an electronic computer, and the Technische Hochschule in Munich is constructing one. Prof. Metzger of the University of Munich told me that

he has invited you. I do not know how definite your plan is. But if you come, please try to defend the scientific and the cybernetic methods against the anti-scientists and pseudo-scientists in Germany.

* * * * *

I have been asked from a discussion group (Arbeitskreis für angewandte Anthropologie) in Göttingen to write an introductory article on cybernetics. I will try to give a warning against the danger of arbitrary speculation and to present the scientific theories with expressions accessible for non-mathematicians. All the reference material I can find in Munich is your CYBERNETICS. I have to write the article in a week. But I would like to write later another supplementary article presenting the newer developments in cybernetics. I should be obliged if you would inform me concerning newer literature on cybernetics. I should also be grateful if you would permit me to quote some parts of your CYBERNETICS.

Very truly yours,

Magoroh Maruyama
Magoroh Maruyama
U.S. student

[ans 1/13/55]

COLBY COLLEGE

WATERVILLE, MAINE

OFFICE OF
THE PRESIDENT

December 20, 1954

Dear Professor Wiener:

I am delighted to know that you are willing to consider our invitation favorably. I really suppose that we should have the program in shape by next fall, although I certainly do not want to insist on any time limit in your case. If you do not mind, I shall get in touch with you to see how you feel about your plans.

Sincerely yours,

J. S. Bixler

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

Dec 20

Professor C. L. Pekeris
Department of Applied Mathematics
Weizmann Institute of Sciences
Rehovoth, Israel

Dear Pekeris:

I am now far enough along in my plans to give you a more definite answer than I have yet found possible. I propose now to arrive in Israel some time between the middle of August and the beginning of September. I shall arrive in Cairo by Air India, and I am supposing that all expenses for my wife and for myself from Cairo to Cairo and in Israel will be paid from Israeli sources.

I am doing a new book on the grammar of the semi-exact sciences which ought to be well along by then, and I suggest it as a subject of my lectures. It represents a considerable extension of that prediction theory work with which you are thoroughly familiar and of the studies of the Hopf-Wiener equations in several variables. This new direction of work is already being implemented by numerical researches being done at M.I.T. and elsewhere.

I intend to give you a series of lectures and sing for my supper. However, I am a tired and hard-worked man and shall appreciate it if you make a certain effort to keep my trip restful and unexacting. I have been hearing very interesting and flattering things about the modern intellectual development of Israel and it will be a great pleasure to see it with my own eyes.

Margaret joins me in sending her compliments and in looking forward to seeing you again.

Very sincerely yours,

Norbert Wiener

NW:gf

P. S. As my further plans crystallize more and more, I shall let you know the details so that we can come down to brass tacks.

Professor C. L. Pekeris
Department of Applied Mathematics
Weizmann Institute of Sciences
Rehovoth, Israel

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Very sincerely yours,

Norbert Wiener

NW:gf

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[Dec. 20, 1954]

Professor M. S. Sundaram
Education Department
Embassy of India
2107 Massachusetts Avenue, N.W.
Washington, D. C.

My dear Professor Sundaram:

The time is sufficiently far along for me to take active measures to confirm our conversation of last June and to make plans for my trip to India next September.

I have had a talk with B. N. Prasad in which my wife has participated and the way things look now are as follows:

I shall have no trouble in obtaining funds from M.I.T. or the Guggenheim Foundation, which will cover my fixed American expenses. I request no funds outside of India except such as will enable me to travel to and from India as expeditiously and inexpensively as possible. I suggest that our travel from America to Europe take place in late June or early in July and that it be by sea rather than by air. We are particular about going by the most rapid boat, nor indeed about the first class, and we think that this mode of travel will enable the Indian government to make substantial savings on our expenses.

We shall spend the summer in Europe at our own costs. We shall leave Europe for Egypt by Air India some time early in September, late in August. We shall break our trip at Cairo for a visit of a few weeks to Israel, putting the Indian government and other Indian agencies to no expenses until we appear again in the middle of September at the Cairo airport. From there we propose to take passage at the Indian government's expense to Bombay by Air India.

Professor Prasad has made tentative plans for at least part of our Indian trip. He proposes that we should go to Kashmir about the middle of September and that we should stay there until school opens. For at least part of our trip he suggests that we should make Allahabad our headquarters, however, with many visits to other parts of India and in particular to Madras where we are counting very much on contacts with Vijayaraghavan.

We shall participate in the scientific congress at Agra. My work at Allahabad and elsewhere is to be largely with students on questions of mathematical analysis and in particular on the problem of absolute summability of series which has been very much studied there. I wish to be in close contact with the Indian Statistical Institute, either at Calcutta or at New Delhi or at both places. Because of the field of research in which I was engaged on my last trip in India was very

fruitful and I am now writing it up in a book, I wish to put my new ideas at the disposal of the Indian Statisticians.

When the weather begins to warm up again, Prasad proposes to send us to Mussoori for a short stay in the hills and then perhaps around April we shall return to the states. Just how we intend to return, whether by the eastern or the western route, will depend on other possible invitations from other countries and on plans we have not yet fully made. At any rate, we undertake that our expense back to the United States shall not exceed the expense of an air trip per Air India to Europe and thence by one of the standard airlines to the United States. We also undertake that our mode of travel shall not make heavier demands on Indian foreign exchange than will be necessary to transport us by air from Europe to our home in Boston.

We understand that during the whole period of our stay in India we shall be guests of the Indian government and shall have no out-of-pocket expenses except for our own purchases which we shall carry out of the country. I am planning the trip for serious work and I do not intend it to be a junket. I was very pleased with the quality of the Indian scientists on my last stay and I pledge myself to make myself useful to them.

I have consulted with my medical advisors and they find me in a condition not only to make the trip but even to do with a safe margin with advantage to my health. On the other hand I am a very tired man and shall be most appreciative if you continue to treat me with the same solicitude and consideration which was extended me on my last visit. Margaret and I are looking forward to the trip with great anticipation. I should appreciate it very much if we can arrange approved plans for the trip as early as possible as I still have to secure our passports and arrange with the Israelis for a series of lectures there.

Very sincerely and respectfully yours,

Norbert Wiener

NW:gf

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1941-1952

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MORRIS IUSHEWITZ
JOHN PAUL JONES
LEONARD S. KANDELL
MURRAY KEMPTON
LOULA D. LASKER
ABRAHAM LEFKOWITZ
MARX LEWIS
JULIUS MANSON
ABRAHAM MILLER
ISAAH MINKOFF
EMANUEL MURAVCHIK
ISIDORE NAGLER
BENJAMIN B. NAUMOFF
MORRIS NOVIK
JACOB PANKEN
ORLIE PELL
CARL RACHLIN
VICTOR G. REUTHER
JOHN ROCHE
GEORGE ROSS
ASHER W. SCHWARTZ
CLARENCE SENIOR
BORIS SHISHKIN
GEORGE SOULE
STERLING SPERO
LOUIS STULBERG
NORMAN THOMAS
ASHLEY L. TOTTEN
MINA WEISENBERG
MILDRED WESTOVER
PEARL WILLEN
NORMAN WILLIAMS, JR.
HERMAN WOLF
THERESA WOLFSON
CHARLES ZIMMERMAN

1905—FIFTY YEARS OF EDUCATIONAL PIONEERING—1955

LEAGUE FOR INDUSTRIAL DEMOCRACY INC.

112 EAST 19 STREET NEW YORK 3, N. Y. ALGONQUIN 4-5865

HARRY W. LAIDLER
Executive Director

December 21, 1954

Dr. Norbert Wiener
53 Cedar Road
Belmont, Mass.

Dear Dr. Wiener:

The League for Industrial Democracy, an educational society dedicated to education for increasing democracy in our economic, political and cultural life, is celebrating its Fiftieth Anniversary on Friday and Saturday, April 22-23, 1955 at the Hotel Commodore, New York. The Conference will deal with the past half century of economic, political and cultural developments, in the light of our democratic goals, and with a democratic program for the future.

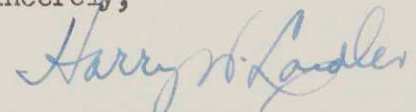
On Friday evening, April 22, at the Commodore, we will discuss industrial trends, and in the discussion wish to lay special emphasis on recent developments in Automation, and the effect of these developments on higher living standards, economic security, the individuality of the worker and the spirit of democracy in industry.

There is no one in America who knows more than do you about developments in the field of Automation and technology, and the effect of these developments on our material well-being and on human personality. Mr. Nicholas Kelley, Vice-President of Chrysler, will also speak about our industrial development, together with a representative of labor who has given considerable attention to the possible effect of Automation on the worker.

We will be happy to defray all railroad, hotel and other expenses. We sincerely trust that it may be possible for you to be with us on this notable occasion.

Trusting to hear from you soon and favorably, I am


Sincerely,



Executive Director

HWL:SK
oeiu 153

We had in mind a paper of about 20 minutes, since we wish to devote some time to informal discussion.

(any 1/3/55)  490



December 21, 1954

Dear Professor Wiener:

Chapters I, II and III have arrived, though I haven't had a chance to read them yet. I am returning Chapter IV, however, so that you can get to work on it now. You will notice that toward the end my marginal notes begin to peter out. The reason for this is that I realized somewhere beyond the mid-point that the best approach would be not merely to revise the chapter but to rewrite it from the start. Perhaps you will see what I mean once you have re-read it.

There are really three separate elements here that need to be singled out for special treatment. These are, of course, your marriage, your trip to Gottingen and your difficulty there, and finally the quantum situation. What you had better do, I think, is begin the chapter with as simple and clear a description of quantum as you can, saying at the start that on the eve of your departure for Germany in such and such a year, it had become apparent that a major revolution had taken place in physics. You should then go on to describe the crisis---or the stalemate---in response to which quantum arose, and then, going into as few side issues as possible, say exactly what quantum is and who was responsible for it. You should then relate this to your own work, and then bring us back to the point where you are ready to leave for Germany. I would then begin a new chapter with your marriage plans which should include an account of your current relations with your parents and your job. The steps involved in the marriage itself should be described at some length, and then you should set sail for Gottingen where you can re-introduce some of the strands that you brought up in discussing quantum. But the main issue here, of course, should be your difficulties in Germany, and you could conclude with the visit to Max Born.

I should say that the chapter on quantum should run to about 15 pages, and the chapter on your marriage and Gottingen should go to about 20. Let me know how you feel about this.

Yours,

December 21, 1954

Mr. Harold Hilliard
Toronto Staff
Star Weekly
Toronto, Ont., Canada

Dear Mr. Hilliard:

Professor Wiener has asked me to inform you that he will be extremely busy for the next few weeks and will not have the time to grant you an interview.

Sincerely yours,

Gabrielle Fuchs
Secretary to Professor Norbert Wiener

gf

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

.....19.....

Memo to Professor Wiener Room.....

Collect telegram to

Harold Hilliard--Star Weekly, Toronto, Canada

I WILL BE AWAY UNTIL JANUARY 3. LETTER FOLLOWS.

NORBERT WIENER

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

KARL PAUL LINK
Route 2
Madison 5, Wisconsin

Dr. Norbert Wiener
M. I. T. Cambridge.
Mass.

x 11/22/54

Dear Dr. Wiener:

I have just finished reading "In the Matter of J. Robert Oppenheimer, U.S. Government Printing Office 1954.

While reading it these past weeks I indicated to Mrs Link on various occasions that I found it impossible to believe any of the accusations against Oppenheimer that he did not accept as true.

My congratulations on your article in The Nation "Conspiracy of Conformists." I believe it will stand in the history of the Oppenheimer Matter as THE DIRECT HIT. With best wishes and all good cheer, Cordially yours
Karl Paul Link

Congress of Industrial Organizations



718 Jackson Place, N. W. Washington 6, D. C.

EXECUTIVE 3-5581

Cable Address "CIOLABOR"



December 22, 1954

Norbert Wiener
53 Cedar Road
Belmont, Massachusetts

Dear Dr. Wiener:

An exciting ten years have followed that exciting conversation I enjoyed with you and Dr. de Santillana Sunday morning December 17 at the Commander Hotel in Cambridge. Your explanation was the first knowledge I had of the feedback mechanism. I was interested to observe when I bought your book Cybernetics that you referred to these conversations in the foreword. My notes show that the three of us were together a second time at the same place on Sunday morning, January 21, 1945.

During the immediate post-war period I have referred frequently in lectures to information you had given me about the prospects of intensive industrial mechanization by use of the feedback. During the last two and a half years, however, I have paid more attention to the subject and have referred more precisely to automation. I have had the privilege to talk with a number of other experts. I was in California the first two weeks of December, and had an exciting luncheon discussion at noon on December 10 with George Kozmetsky at Beverly Hills.

In October, 1953, as a member of the National Planning Association's Labor Committee, I proposed an extensive study ~~be~~ undertaken of the social and economic consequences of automation, which was pursued and developed during our meetings in 1954. Shortly there will be a public announcement of this NPA Special Policy Committee on Automation, of which Dr. Isadore Lubin will be the chairman. It is a joint committee, with members from the Agriculture, Business and Labor Committees of NPA. In connection with my raising the question, the editor asked me to do a 500-word article which would explain automation to the non-engineering reader. My attempt to do this was published in the October issue of the NPA publication Looking Ahead. If you have not seen it, I take the opportunity to enclose a copy for you.

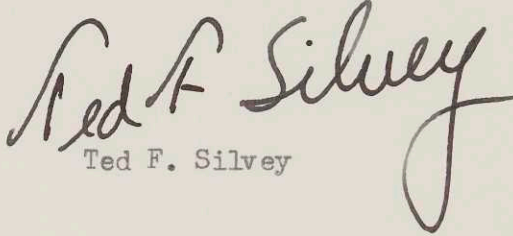
Also I am sending photoprint sheets from the Canadian magazine Manufacturing and Industrial Engineering. The editor printed serially the full text of an address I made about the guaranteed annual wage and

automation to the Toronto Personnel Association.

I have never forgotten the great skill with which you communicated difficult information about this new and strange subject to me ten years ago, and as I have followed your books and the writing of other individuals who have followed you I have felt it was a special privilege for me to hear about this new wonderful subject so early.

Will you extend my greetings to Professor de Santillana and accept my best wishes for a pleasant holiday time and a good New Year.

Cordially, I remain


Ted F. Silvey

S/dkp

SCHOOL OF EDUCATION
of the Hebrew University and the
Ministry of Education and Culture

EDUCATIONAL ENCYCLOPEDIA
(in Hebrew)

בית - הספר לחנוך
של האוניברסיטה העברית
ומשרד החנוך והתרבות

Dept. of Secondary
and Higher Education

המחלקה לחנוך תיכוני וגבוה

December 22, 1954 ירושלים
טלפון 5618

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

Dear Prof. Wiener:

I have the special pleasure to ask you for a contribution to the Hebrew Educational Encyclopedia, which is being prepared by the Israel Ministry of Education and Culture together with the Bialik Institute (the publishing house of the Jewish Agency). We would be very glad if you kindly agreed to write us the article on "Technology and Education". Permit me to give you some general information about the character of the encyclopedia and the requested article.

The chief editor of the encyclopedia is Prof. Martin Buber. I myself have the honor of being the editor of the first volume on "Philosophical Foundations of Education". The encyclopedia is intended for professional educators and not for parents. The encyclopedia does not identify itself with any defined pedagogical school of thought. Every contributor is free, therefore, to express his opinion on the subject dealt with by him. The encyclopedia will consist of 5 volumes. Each of them is dedicated to a certain subject and arranged according to an alphabetic index. The requested contribution belongs to the volume "Philosophical Foundations of Education". A bibliography in 2 or 3 languages, preferably English and French, is desirable. The extent of the article as requested should be adhered to. The text may be written in any language. The author's fee will be about 100% higher than that fixed by the Association of Hebrew Writers in Israel, i.e. about IL. 1.- for about 40 Hebrew words.

We take the liberty to turn to you, in spite of the fact that we may guess how extraordinarily busy you might be, because we consider it of extreme educational value to bring your opinions, as indicated for example in your volume "The Human Use of Human Beings", to the knowledge of the teachers and youth leaders of Israel. We live in a young country, as you know, and technology plays a decisive part in its upbuilding.

In such a situation there is always the danger of stressing the importance of machines even more than the direction of their use. If people who deal with the Humanities oppose this trend, which they do, they may be suspected of grinding their own axe. But if one of the leading scientists of our time expresses his humanistic interpretation of technical progress, his message may be readily accepted and may bring good results.

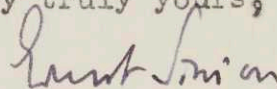
As to the article itself, which we take the liberty to ask you for, it should comprise about 1500 words. The main topic is: The influence of the development of modern technology on educational movements in the last 150 years, but especially in the 20th century. Description of this influence, pointing out the advantages and disadvantages of the rising influence of technical education. The object is its influence on:

a) the development of educational ideology, i.e. the ideal of a new type of man that has appeared (technician, ruler of the machines, improving public life by advancing technology), the emphasis of the value of scientific subjects versus humanistic subjects, the rising significance of technical education, the rise of military trends in education on one hand and on the other hand the greater need of discussing social problems (labor) and politics (war - peace) in general as well as in the schools.

b) the appearance of new didactic means (ways of teaching) - conservative teaching means (books, blackboards, pictures, stationary, etc.) have improved and become cheaper, have also become more beautiful and hygienic; modern teaching means have appeared (cinema, radio, gramophone, projectors, etc.) which visualize the teaching matter, make the educational process more colorful, and also serve as entertainment.

Naturally these headlines are only an indication of what kind of contribution we ask you for and you are fully entitled to change them according to your wishes. We shall be grateful if you will kindly send us the article until March 15, 1955.

Very truly yours,



(Prof.) Ernst Simon
Director, Department of Higher and
Secondary Education

[ans 1/7/55]

December 22, 1954

Dear Professor Haldane:

Professor Wiener has asked me to send you the enclosed rough draft of the introduction to his book, THE GRAMMAR OF THE SEMI-EXACT SCIENCES.

He will attack the problem more completely when he returns from California, early in January.

Sincerely yours,

Gabrielle Fuchs
Secretary to Professor Wiener

Professor J. B. S. Haldane
Department of Biometry
London University
Gower Street
LONDON, England

Enclosure

December 22, 1954

Mr. Hartley E. Howe
24-20 Little Neck Blvd.
Bayside 60, L.I.; New York

Dear Mr. Howe:

I am attaching your notes on your interview with Professor Wiener. He has looked at them and has made some notations in ink.

Sincerely yours,

Gabrielle Fuchs, Secretary

gf

ALUMNI ASSOCIATION
of the MASSACHUSETTS
INSTITUTE OF TECHNOLOGY
Cambridge

December 23, 1954

Professor Norbert Wiener
Room 2-155
M. I. T.

Dear Norbert:

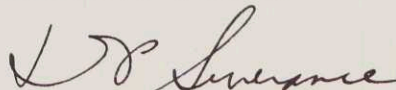
Tuesday, December 21, I called you regarding two MIT Clubs that wished to have you take part in their meetings, and I agreed to call you upon your return from vacation in early January. The purpose of this note is to mention the salient features of these two meetings. I will call you as soon as you return to the office to discuss whether you would like to accept the invitations.

February, 1955 - New York City. This was a telephone request from the President of the MIT Club of New York, Mr. A. L. Bruneau. A meeting of some 200 alumni is planned. They wish to build the program on the topic of technological and sociological problems of automation. They specifically asked that I approach two members of our faculty to share the program -- you and Professor Gordon S. Brown. Dr. Brown has accepted the invitation. The President of the Club suggested the following nine dates in February: 1, 2, 3, 8, 9, 10, 15, 16, 17. Dr. Brown prefers 2, 3, or 10. I hope that you will feel that you also can participate.

January 24, 1955. A meeting of the Alumni Council at the M.I.T. Faculty Club. The Alumni Council is the governing body of the Alumni Association. The proposal is to show the film which was on "The Search" and which will be repeated over one of the Boston television stations the day before. It was hoped that we could have the participants in the film present at the at the meeting at the head table so that this group of alumni who are quite well informed about M.I.T. might have the privilege of a meeting consisting basically of questions and answers concerning this film. The audience will be about 150. No reporters will be present.

I have inquired of only one of the participants in the film, namely, Dr. Brown who is reserving this date.

Sincerely yours,



D. P. Severance

DPS:em

[ms 1/3/55]

December 23, 1954

Dr. F. Douglas Lawrason
Assistant Dean
The University of North Carolina
School of Medicine
Chapel Hill, North Carolina

Dear Doctor Lawrason:

Thank you for your letter of December 15. At the present time we have no reprints of Professor Wiener's article "Science, Monkeys and Mozart." If we should receive some, we will send you a copy immediately.

Sincerely yours,

Gabrielle Fuchs
Secretary to Professor Wiener

gf



CHQ
TECHNOCRACY
INC.

TO: Dr. Norbert Wiener
Dept. of Mathematics
Massachusetts Inst. of Technology
Cambridge 39, Massachusetts

Rushland, Pennsylvania
December 24, 1954
Ref: DPI-541224c

SUBJECT: Review of book, 'Human Use of Human Beings'

Dear Dr. Wiener:

A copy of your letter of November 16, addressed to Technocracy Digest, Vancouver, B.C., has been forwarded to this office. In this letter, you attempt to defend yourself and your position as a scientist against what you assume to be a regret on our part that you have not identified yourself with Technocracy, the organization.

Since the book review (published in August 1951) originated in this office, we feel that we should offer you an explanation of the concluding paragraphs of that review.

In reading your book, 'The Human Use of Human Beings,' we sensed that you were groping, not very successfully, for a social pattern that would work 'democratically' on the feed-back principle. Your failure to arrive at any definable pattern for such a system appeared to us to be the weakest part of an otherwise very fine and courageous book. Our intention was to point out to our readers that just such a system had been designed many years before and had been (and is continuing to be) given wide publicity by every means of communication that is open to us. And that design is Technocracy.

We are sorry that we gave you the impression that we felt you should identify yourself with 'the Technocracy movement.' (As a professor at M.I.T., we doubt that you would be permitted to do so.) We were surprised, though, that you were completely unacquainted with the basic principles of Technocracy. But we are not particularly concerned whether or not you, as an individual, accept any partisan responsibility for the scientific work you do. Our chief hope is that you will continue doing just what you have been doing, and writing popular books about it. You are doing a swell job of undermining the Price System, whether you are aware of it or not; and we have a very high regard for your work. It is our desire that you continue where you are. Others will shoulder the burden of social responsibility for your achievements and take it from there.

Best wishes and Best Luck to you.

Sincerely yours,

TECHNOCRACY Inc.

Wilton Ivie

Wilton Ivie

Division of Publications

WI:abh
cc:Techn. Dig.

(More)

P.S.: We do regret, however, that the Roman fascists and the American bourgeoisie are not as non-partisan in their attitudes as you. We are not immune to the memory that, in spite of a highly-developed science, a modern culture, and Christian moralism, the Hitler-Vatican axis proved that a fiendish barbarism could recur (by design) in our time. And, now, the political, economic, and ecclesiastical oligarchies in America are in the process of proving that it can happen here, too, only bigger and better -- on account of scientists who provide them with more destructive tools without accepting responsibility for what is done with those tools.

N. Wiener

Dr. phil. HANS LAMM

414 West 120th Street
New York 27, N. Y.

December 24, 1954

Dear Dr. Wiener:

As the editor of a book entitled If I Were Young Again, scheduled for publication in the fall of 1955, I have the privilege of inviting you to contribute to that volume.

The book will contain statements from a select group of leading world citizens - reflections on how they might relive their lives with the benefit of their actual experiences. It is felt that a vivid and truly personal statement of yours, concerned both with errors you would try to avoid as well as with what you might repeat virtually unchanged, will make a distinct contribution to the guidance of young - and even adult - people in our perplexing era. You realize how sceptical and critical young people are, today more than ever, and that they would not be satisfied by the generalities found so frequently in editorial columns or commencement addresses. Rather, they look for specific and personal accounts of trials and errors, failures and successes which ring true because they are true and which may contain answers to the searching questions of today.

However, the editors do not propose to direct the contributors either in regard to contents or format, though it is felt as a rule that 500 words might be a suitable length.

Please sign your statement personally as it is contemplated to reproduce the author's autograph. We would appreciate your also sending an autographed photograph which we might use as an illustration.

If you should not desire the usual author's compensation after publication, please indicate a charity to which a check should be sent with your compliments.

Since the volume must be prepared for the printer early in the spring of 1955, we should be most grateful if you could give this request serious thought before the end of the year and favor us with your gracious reply early in 1955.

Respectfully yours,


HANS LAMM

{ans 1/3/55}

26.12.1954

Lieber Professor Wiener!

Heute schreibe ich Ihnen in Erinnerung an unser schönes Gespräch, das wir letzten Sommer hatten. Ich schreibe Ihnen deutsch, weil das für meine Sekretärin einfacher ist. Man erwartet Sie hier also diesen Sommer für einen Vortrag. Am besten Juni oder Juli, wie das Ihnen besser passt. Sie werden von der Fakultät noch eine besondere Einladung erhalten, etwa um Ostern herum. Thema würde sein wie wir vereinbart haben: "Das weltoffene Apriori"? Ihre cybernetischen Ausführungen werden mit Spannung hier erwartet. Neben dem öffentlichen Vortrag würde es gerne gesehen werden, wenn Sie noch in einem geschlosseneren Kreise über ein Ihnen genehmes Problem sprächen. Daran würde sich eine Diskussion mit den hiesigen Gelehrten knüpfen. Auf alle Fälle erhalten Sie noch von Seiten der Fakultät offizielle Nachricht.

Vielleicht haben Sie die Güte, mir zunächst noch zu schreiben, ob wir Sie gegebenenfalls Juni oder Juli hier in München erwarten können. Man beabsichtigt auch Hermann Weyl einzuladen.

Mit verbindlichen Grüßen

Ihr

Arnold Metzger.

PROFESSOR M. S. SUNDARAM
EDUCATION DEPARTMENT



EMBASSY OF INDIA
2107 MASSACHUSETTS AVENUE, N. W.
WASHINGTON, D. C.

Ref: EA.71/01

December 27, 1954.

Dear Professor Wiener,

I was glad to have your letter of December 20th and to learn that you will be free to go to India from September of 1955 and remain in India till April 1956.

I am writing to the Government of India informing them of this and asking them if they would budget adequate funds for your travel from Cairo to Delhi and back to Boston as well as for hospitality for you and Mrs. Wiener during the months of your stay in India. It will be an excellent opportunity for Indian Mathematicians and Statisticians to avail themselves of your presence in India and collaborate with you in their current programs and projects. As soon as I hear from the Government, I will communicate with you.

Please accept my compliments of the Season and all good wishes for the New Year.

Yours sincerely,

M. S. Sundaram

M. S. Sundaram.

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

MSS:lc

[ans 1/3/55]

PURDUE UNIVERSITY

OFFICE OF THE DEAN OF ENGINEERING

LAFAYETTE, INDIANA

December 28, 1954

Professor Norbert Wiener
Massachusetts Institute of Technology
Cambridge 39, Massachusetts

Dear Professor Wiener:

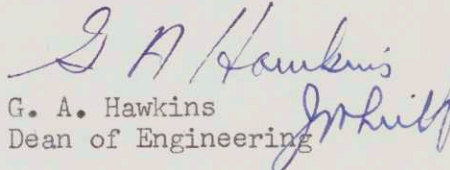
It is proposed to hold a Thermodynamics Conference at the Annual Meeting of the American Society for Engineering Education next June. The purpose of the Conference is to evaluate the position of thermodynamics in engineering education. One of the important subjects which will be considered is the relationship between thermodynamics and information theory.

I should like to extend to you a cordial invitation to attend a meeting at Purdue University February 28 and March 1, 1955 to discuss the place of thermodynamics in engineering education and to plan the June Conference. Accomodations for those attending this meeting will be available on the campus at the Purdue Memorial Union. It is proposed to pay the expenses of those attending this meeting in accordance with the following schedule: traveling expenses by a direct route, plus a \$12.00 per day living allotment for the days at Purdue University and for the travel time.

Accompanying this letter is a list of the planning committee members who will be in attendance at the meeting. In addition to these people a few invited guests, like yourself, will be asked to participate.

In view of your work in information theory, it is certain that you could be of considerable help in the planning conference, and I hope you can accept this invitation. If you can come to Purdue February 28 and March 1, would you please let me know what nights you shall require accomodations at the Union.

Cordially yours,


G. A. Hawkins
Dean of Engineering

GAH:nm
Dle6

[ans 1/3/55]

Advisory Committee for Planning Thermodynamics Conference

1. G. A. Hawkins, Purdue University, Chairman
2. Ferdinand G. Brickwedde, Chief of the Division of Heat and Power, U. S. Bureau of Standards
3. Arthur B. Bronwell, Secretary ASEE, Professor of Electrical Engineering, Northwestern University, Evanston, Illinois
4. Henry Eyring, Dean of Graduate School, University of Utah, Salt Lake City, Utah
5. George H. Hickox, National Science Foundation, Washington, D. C.
6. Joseph H. Keenan, Professor Mechanical Engineering, Massachusetts Institute of Technology, Cambridge, Massachusetts
7. R. A. Morgen, Purdue Research Foundation, Purdue University
8. R. W. Moulton, Professor of Chemical Engineering, University of Washington, Chairman ASEE Division of Chemical Engineering
9. W. E. Ranz, Associate Professor of Engineering Research, Pennsylvania State University
10. Frederick D. Rossini, Professor and Head of Chemistry, Carnegie Institute of Technology, Pittsburgh, Pennsylvania
11. I. W. Smith, University of Toronto, Chairman ASEE Division Mechanical Engineering
12. Mark W. Zemansky, Professor of Physics, City College of New York, New York

Box 1024
Grand Central Station
New York City 17.
28 Dec. 1954.

Dear Dr. Wiener,

It is now slightly over a year since our single long meeting; for you doubtless a busy and I hope a happy one; for me a difficult one, because although my long-range goal (of working under you on the project you spoke of concerning the biological gulf between true genius and near-genius) is unchanged, still I am in much doubt about just what prerequisites I must fulfill before I can begin the actual research on the series of gifted youth under your supervision. About this aspect I wrote you some nine months ago but as yet have had no reply. In the meantime I enrolled in Columbia University seeking relevant training; the only courses available without a previous degree in some science were genetics, "human biology", "human evolution" (paleontology and some aspects of physical anthropology), and these I was permitted to take only on condition that I also take two wholly superfluous prerequisite courses, zoology and inorg. chemistry, which I vainly sought to absolve by special examination, and which mean valuable time and money wasted getting two A's but learning nothing new from texts I studied in 1948. The procrustean N.Y. state laws forbid granting of credits unless full-time attendance can be proved, a most deplorable state of affairs as contrasted with the European universities--and Johns Hopkins--where credits and degrees depend not on attendance but on comprehensive examinations.

The Columbia courses, though they do imply some official recognition of material learned, surely fall far short of an ideal preparation for work under you. It is far from obvious just what such preparation should include. The working hypothesis, that true genius represents an "act of grace", in the language of your excellent SBL article,--a recessive gene or polygene arising by mutation with a frequency between 10^{-6} and 10^{-7} ,--and manifests itself as a specific extraordinary endowment requiring rigorous training in early life (like the manual skill of a surgeon), obviously cannot be proved by family studies comparable to Galton's because up to now no techniques have been invented for discriminating between this mutant character and its phenocopy labeled near-genius. We therefore have to assume that this gene or polygene is pleiotropic, and seek among the series of gifted youngsters two discrete classes. The class representing true genius should show consistent behavioral, EEG, biochemical and hormonal patterns never found in the other class; amongst the behavioral patterns, extreme versatility and a developmental pattern wholly unlike the simple acceleration of Gesell age norms sometimes alleged. The line of demarcation may be around Binet IQ 170, to judge by the discontinuities found there in the four-volume Terman study of gifted youth in California. Unfortunately, available tests either have too low a "top" for our purposes or fail to discriminate significantly in this region.

It therefore appears that a whole battery of tests will have to be given each of these youngsters; and probably some new ones will have to be invented. By the time I had become sufficiently expert at constructing, administering, and processing all these tests--including blood chemistry, hormone chemistry, differential metabolic rates, EEG, somatotype performance, etc.--I would be quite old. You yourself pointed out in Cybernetics that many problems can be most effectively attacked by teamwork among scientists of overlapping or interlocking specialties and common interest. Many of the tests alluded to could accordingly be administered by specialists--medical people, biochemistry majors, clinical psychologists, existing laboratories. I had conceived my own function here as an integrative or co-ordinative one--to locate the consistent pattern if any within the mass of data accumulated by the specialists; to determine what tests will in future be necessary and sufficient to discriminate between the true "act of grace" and the near-genius; to take part in subsequent experiments to be suggested below. Since we seek a biological gulf, an all-or-none division, ordinary biometric techniques will be of less use. Since specialists can be enlisted in this project, it appears little is to be gained by waiting until I am competent to administer all the tests. The Columbia courses and outside reading are even now preparing me to understand them. What, therefore, must I achieve before starting the actual research, and what can be more profitably learned concurrently with the beginning of the project?

It would appear that much could be gained, outside the rigorous tests, by series of intensive interviews with these youngsters and with more mature persons of comparable abilities. I mean insights into the mental processes characterizing true genius. If we accept pleiotropism and reject any mind-body dualism, it should follow that ^{mutant} true genius should be consistent in their approach to problems, methods of learning, etc. Hadamard (Psych. of Invention in the Mathematical Field) discusses at some length data obtained from scientists' replies to a standardized questionnaire. (Too bad he had no access to Ramanujan!) Though he had no means of distinguishing true genius from near-genius, it does appear that the more profound and original of his scientists might qualify as the former, and that they tend to become independent of verbal thought, reliant on something like what I have called "high-usage periods" (Poincaré describes them in his Science & Method) and on "flashes" wherein solutions of great originality suddenly erupt into consciousness--the event popularly labeled "inspiration", though preceded by much unsuccessful labor and a quiescent period of "incubation." More to the point, Wilhelm Ostwald is said to have divided what he called genius into Classical (Euclidean) and Romantic (Byronic) types, the former characterized by methodical development of solutions arrived at sometimes intuitively, sometimes by long exertion; the latter (Romantic type) characterized by precocity, extreme versatility, phenomena often labeled "instability" or "psychopathology" by the uncomprehending, the capacity to take extremely long mental leaps (cf. Galois's posthumous letter), and reliance on the sort of "flashes" described above. This type is also reputed, perhaps falsely, to decay early. Henderson (Psychopathic States, 1939) comments that the Classical type is more like talent, the Romantic more like the popular stereotype of genius, and quotes Huxley to the effect that genius is actually a "sport" or mutant type; for which the social matrix into which he is born is rarely ^{of} such as to promote full and harmonious development! One could cite the mutant strains of Drosophila and Neurospora which are less viable than wild type at ordinary temperature, but far more viable at 8-10° C. above ordinary temperature. This obviously touches the plea in your SRL article. . . Perhaps Ostwald has hit upon the basic psychological difference. This would be fairly easy to ascertain in interviews.

It is also possible that significant differences will appear in the tests from the start, but that the basic all-or-none quality of the differences, which would presumptively establish their genetic origin, would arise only after these youngsters had been subjected to the rigorous training which would most fully bring true genius to maximum development. In this event, it should be possible to establish an experimental school in which the type of education would be specifically adapted to presumptive examples of true genius. We here hold in our hands one of the biggest opportunities afforded H. sapiens since he supplanted H. neanderthalensis. The rarity of true genius doubtless relates in part to the absence of matings between individuals homozygous for it, which in turn follows from the wholly inadequate education doled out to the superior in this culture--mere acceleration or at-best encouragement of overspecialization. This educational inadequacy will account for the almost entire suppression of true genius phenotype in girls. It follows that many of true genius level marry non-genius types and the precious recessive genotype again goes into hiding. With an experimental school of the type named, one could determine exactly what sort of educational techniques might most effectively develop true genius. One could also ascertain what climatic, dietary, social, etc., conditions should prove most conducive to their harmonious and healthy development. As Huxley said, it is unsafe to assume that genius will flourish equally with *hoi polloi* in the same social matrix. One aim of biological humanics (science a-borning at which Dr. Sheldon and I hope to serve as midwives) is to establish what constitutes complete health in the human organism; we dare not assume that 'the celebrated man-in-the-street' is healthy. A glance at the photographs in Weston Price's Nutrition & Physical Degeneration, followed by close observation of the next hundred persons you see on the street, will fully illustrate this point. One need merely mention neurosis, bigotry, McCarthyism, anti-sexuality, religious fanaticism (or even failure to recognize the contradictions between conventional theologies and modern science), babbittry, etc., to show that "mental health" and "normality" (= modality, commonness, commonplaceness) are far from synonyms. More important even than finding the norms of health for the various somatotype ranges of T.C.MITS is finding them for the upper 10^{-7} to 10^{-6} that constitute true genius. Such persons, properly trained, could enjoy survival advantages even in the event of atomic cataclysm or communist tyranny. And if such horrors do not occur, then these can

constitute a reservoir of superb creative brains providing one effective answer to the devaluation of the ordinary brain by the machine which you rightly called the "Second Industrial Revolution." Inbreeding will follow if enough of them of both sexes can grow up together--providing the ultimate test of the genetic character of true genius, and whether it can perpetuate itself even should this civilization be destroyed. That among them every known science will eventually become available as a tool in solution of problems which have hitherto resisted particularistic attack also follows. Here is no "crash program", but one to anticipate and foster and take full advantage of every "act of grace" for generations to come.

I apologize if I seem to harp on this notion with seeming religious fervor; but the potential benefits to be obtained, and the near impossibility of obtaining them by any other means, are so great as to give the project a distinct air of urgency.

Would it be possible for me to see you some time after Jan. 20 (preferably on a Friday but at your convenience) and before too late in February to map out prerequisites for beginning this research under you? I mention the above date because of final examinations just before and because of the start of next term in February. Friday provides minimum interference with either full time classes or laboratory periods or full time work as my schedule is now arranged (17½ credit hours; 20½ physical hours in class; theoretical 40-hour week). If another day is more convenient for you I can make arrangements, however. What can be decided on at the interview may be influenced by the possibility of taking some of the necessary courses concurrently with the beginning of research. What appears most important is to get started. I would also appreciate advice at that time on when I should apply for entry into M I T --will it be feasible to begin this project in the fall of 1955?--and in what status: Ph.D. candidate? special student? --and is either a scholarship or a research fellowship available? and under what department, since methods and data from so many different sciences must be used? and can I transfer credit from Columbia or can the more elementary requirements be bypassed or absolved? etc., etc. Many of these details will have to be discussed subsequently with someone in the Admissions Office but your advice will greatly facilitate that business.

May I hear from you before long?

Most respectfully,

Walter Breen

KG P-2011d



December 28, 1954

Dear Professor Wiener:

Chapters I, II and III, which I have just finished, are without doubt the best things of yours that I have ever seen. Except for a few further cuts that I thought were necessary (I cut out the paragraph about your run in with Veblen at Aberdeen) and a little tightening on the trip to Strasbourg, I left everything pretty much as it was, and though I think that we will have to give it over to a typist before it can go to the printer, you may consider Chapters I, II and III finished---and finished splendidly.

I like not only the way that you have woven your scientific discussions into the main part of the narrative, but the fact that now everything that you discuss is as clear and direct and as relevant as it could possibly be. It may be that I have come to know more about mathematics than I once did during the past year or so and perhaps don't qualify as a layman any longer, but whatever the case I thought that you handled the main problems superbly. Not only have you made them clear but interesting, and what is better still, relevant to yourself. I especially like the way you introduce Mrs. Wiener.

I hope that you have good carbons of these three chapters so that you can continue to refer to them as you work further. They are perfect models of what you want to accomplish throughout the book. No one could have done a better job, and if you keep it up, this book will be in print for a great many years.

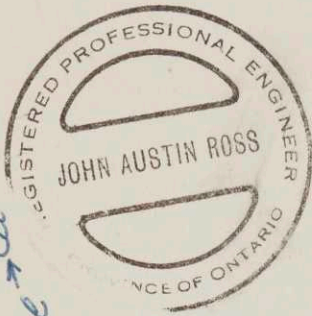
Sincerely,

Jason Epstein

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

[enc 1/3/55]

841 YES application the Caloric Eq. of 1/3 lb Hypocarbene?
Go not a pound of CA surplus wind power? CA + HCL
How better store (you balance the downed equating) CA + HCL CA + HCL



Box 281
Kingston
Dec. 28. 1954

no answer

Dr. Norbert Wiener
Professor of Mathematics
Massachusetts
Boston Mass.

Sir,-

I have a trite little aphorism that I placed on the fly leaf of the Life of Tchaikowsky, I gave to a musical genius whom I chanced to meet as he had pored out his soul for me on one of his own composition called symptomatically enough-----CHILD ROLLAND. And as the Knights trumpet / blew and the ~~will~~ trumpeted I knew he yet would find his darkened soul illumined in the fierce glare of his own conscience. I wrote " Uneasy sits the diadem of INSPIRATION upon the fevered favored brow of genius --- and yet Child Roland, should we season our Faith with knowledge, may we not yet mount upon faere wings of WISDOM even unto the Pleiades far away?"

(YOU MUST FORGIVE MY SPELLING) IT IS PARTLY IGNO *
RANCE PARTLY A FAULTY MEMORY, PARTLY KNOWLEDGE THAT IT ALSO
MADE SHAKESPEARE ANGRY TO SUMIT TO THE YRRANNY OF ARBITRARY
enlish SPELLING. I'M SHURE YEW'LL wissen was ich Bedeute.
verstehen

I found you're Book THE HUMAN USE OF HUMAN BEINGS very stimulating, the more so As I had my customary reaction to he DOCTRINE OF TRANSUBSTANTIATION called in your book I believe by the even more mysterious, mystic title of Entropy. Now, as you will readily conceive, it is not the semantical mysticism with which it is embued, but the dark insistence in the word that The lord is not only subtle but BOSE THAT INCENSES ME. Somuch obeisnace then to recognised authority, Herr Professor Wiener. Now to phebotomy of the Vienna Blood. Or would acupunctue better suit your prognosis? I read your book sir, you cast your bread upon the waters, carless weert thou of the fruit. Now munch the seeds.

Let me either face this ogre, going down in in defeat, come Sancho gird me for the joust, or who knows perhaps the windmills are looking to thier wasted calories even now. Caloric my Guro, lingers on in Jewels equivalent does it not? ENTROPY HAS NOT QUITE Scotched this dragon. May St. George you did not quite burn this hydra's many head -ed stumps, Prometheas, hand in hand with Pandora still seeks for fire. As I enter on the faresome road of entropy Professor Wiener, I note that it is a steep hill, may I not look up the hill as we'll as down? Is not this quantity defined in dictionaries as the "measure or degree of unavailibility of energy?" 50 years ago this degree of unavailability in the heart of the atom was Infinite was it not?

ENTROPY here = IGNORANCE? NICHT WAHR?

words

Oddly I believe it was these very/that inspired Mahommed the IMAMSCRIPTIC declaration-- At the hear t of the Atom willt thou find a SUN.

Have I said enough? The degree of availability of any form of energy is as alrge as our knowledge of the unlee lying phenomena. That is why i know that the fusion of H to He only awaits the realisation of a sufficiently large implosive ~~mediu-~~ means perhaps the bottom of the TUSCORORA DEEP?

Before I ask you my question will you answer two of mine?

1.

Accoring to Spiers, a circuit of 0 resistance is evoked when a current is induced in a loop of pure lead at near absolute temperature.-- It is detected by the magnet ic field surrounding it. According to the same recognised authority the same thing happens when a current is impresse d on eutectoid iron at room temperature.

Question What is the differnee in these phenomena aside from the temperature and materials invovled?
Answer ?

2.

According to such data as I can find, the phen- emon of fission proceeds upon the attainment of a critical MASS OF THE FISSIONABLE SUBSTANCE whether it be U233 , 235 or 239.

Question, asssuming the presence of an unaffect ed neutron source, do you think it would be safe to heat say one gram of to volatilisiation, onfining the evoked gas to a CRITICAL VOLUME without first retiring to a respectabl distance or would entropy save our skin? Especially if there were traces of Li in the say U233?


Now for the question evoked by the book. Wilcybernetics enable me to conduct my life without carrying around 14 different slips of paper, and reduce my incipient Coronary Thrombosis? In sort sir, does it fill a human need? I believd it does sir, sincerly-- the need ~~to~~ CONQUER SPACE. Ah sir, I pray you to build into these automats, courage an conscience, courage to face its human master and ask- Why must I shoot down this my Brothers' Aeroplain, why sir must I ~~positue~~ my talents? Oh ye layes which starve men and feed weevils, oh ye scientists are ye not as whited sepu- lchres which appear not, See ye not THAT THE DIVINE ECOLOGY MOVES INEVITABLE TO THE FINAL ERADICATION OF THE APOSTLE OF DOOM?

*Thank you again for several
enlightening hours of unseen but
heartfelt companionship*
FREDRICHES NEW YORK
John A Ross

[Faint, illegible cursive handwriting on the left side of the card]



A New
BABY



How
Wonderful!



Congratulations



And
Best Wishes



Fairfield

1282

MADE IN U. S. A.

herunter



With tiny hands
to hold your heart
And smiles to
make life sweet

Deinen dich hoch haltenden
John Austin Ross

Dear Wiener -
Here's a highly entropical
Frage. Bitte, antworten
für mich -

1st Walter Eisen
^{organized}
minder zusammengebaut
als die Sauerstoffe?

nicht bei den Reingauf
mehrer Finger, we der
The happiness that
"die Cables" auf Brooklyn
you'll now share
Will make your joy complete.

CONGRATULATIONS!



Gravitation → cohesion →
explosion < Energy,
disruptive explosion!!

CLASS OF SERVICE

This is a full-rate Telegram or Cablegram unless its deferred character is indicated by a suitable symbol above or preceding the address.

WESTERN UNION

W. P. MARSHALL, PRESIDENT

FX-1201

SYMBOLS

DL=Day

NL=Night

LT=Letter Telegram

VLT=Very Letter Telegram

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BB005

1955 FEB 28 AM 6 2

B.CDU034 83/82 1/51/50 PD INTL=CD CARACAS VIA ALLAMERICA

LT RPDLRS5.00 PROFESOR NORBERT WIENER 27 825PM=

MASSACHUSETTS INSTITUTE OF TECHNOLOGY BSN=

VENEZUELAN FOUNDATION ADVANCEMENT SCIENCE HAS HONOUR

INVITING YOU DELIVER OPENING LECTURE V ANNUAL CONVENTION

OF THE VENEZUELAN ASSOCIATION FEBRUARY 12-19, 1955

RELATED TO PHILOSOPHICAL IMPLICATIONS OF SCIENCE WE HOPE

YOU WILL DECIDE TO VISIT WITH US ON THIS OCCASION THE

LECTURE MAY=

[Handwritten signature] 1/6/55

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SYMBOLS

= Day Letter
 NL = Night Letter
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 VLT = Int'l Victory Ltr.

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B. CDU034 2/31=

BE READ IN ENGLISH OR SPANISH FOUNDATION WILL PAY

TRAVEL AND HOTEL EXPENSES PLEASE ANSWER=

FUNDACION VENEZOLANA PARA EL AVANCE DE LA CIENCIA

INSTITUTO DE INVESTIGACIONES MEDICAS PLAZA MORELOS

CARACAS VENEZUELA=

Highly honored invitation deliver
opening lecture. Regret exceedingly
multiplicity of duties before leaving
for India June 1955 till Sept. 1956
prevents acceptance. Hope later
Venezuelan visit possible.

Robert Wiener

B. C. D. U. O. 34 Caracas
Venezuela

[ca. Dec., 1954]

Regret exceedingly



THE STAR BUILDING
TORONTO CANADA

THE STAR WEEKLY

EDITORIAL DEPARTMENT
80 KING STREET WEST
TORONTO, 1

no

Dec. 30

Miss Gabrielle Fuchs,
Secretary to Prof. Norbert Wiener,
Massachusetts Institute of Technology,
CAMBRIDGE, 39, Mass.

Dear Miss Fuchs:

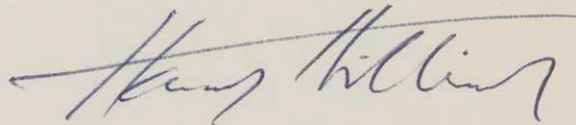
I have your letter of Dec. 21, in reply to a request of mine to interview Prof. Wiener in connection with an article on automation for The Star Weekly; you say Prof. Wiener is too busy to see me for the next few weeks.

I would appreciate if you would ask Prof. Wiener if he might have time later in January, if the pressure is off him by then. In case he wonders what type of article I plan, perhaps I should explain I am not dealing with the controversial aspects of the subject, but a straight, factual presentation on the possibilities for the future in automation.

What I plan is something along the same lines as the story (a clipping of which is attached) based on an interview I had with Gen. Sarnoff of R.C.A., in which he peered into the future of electronics. Gen. Sarnoff, after reading the story in print, thought it an excellent presentation of the subject, and said so in a quite flattering letter to me.

Automation has begun to grip the imagination of the public. And my editors feel I cannot deal with the subject adequately without talking first to so recognized an authority as Prof. Wiener. So I do hope he will feel he can spare a little time not only for myself, as a writer, but for the millions of Canadians (and also many thousands of Americans) who read the Star Weekly.

Faithfully yours,

A handwritten signature in cursive script, appearing to read "Harold Hilliard". The signature is written in dark ink and is positioned above the typed name.

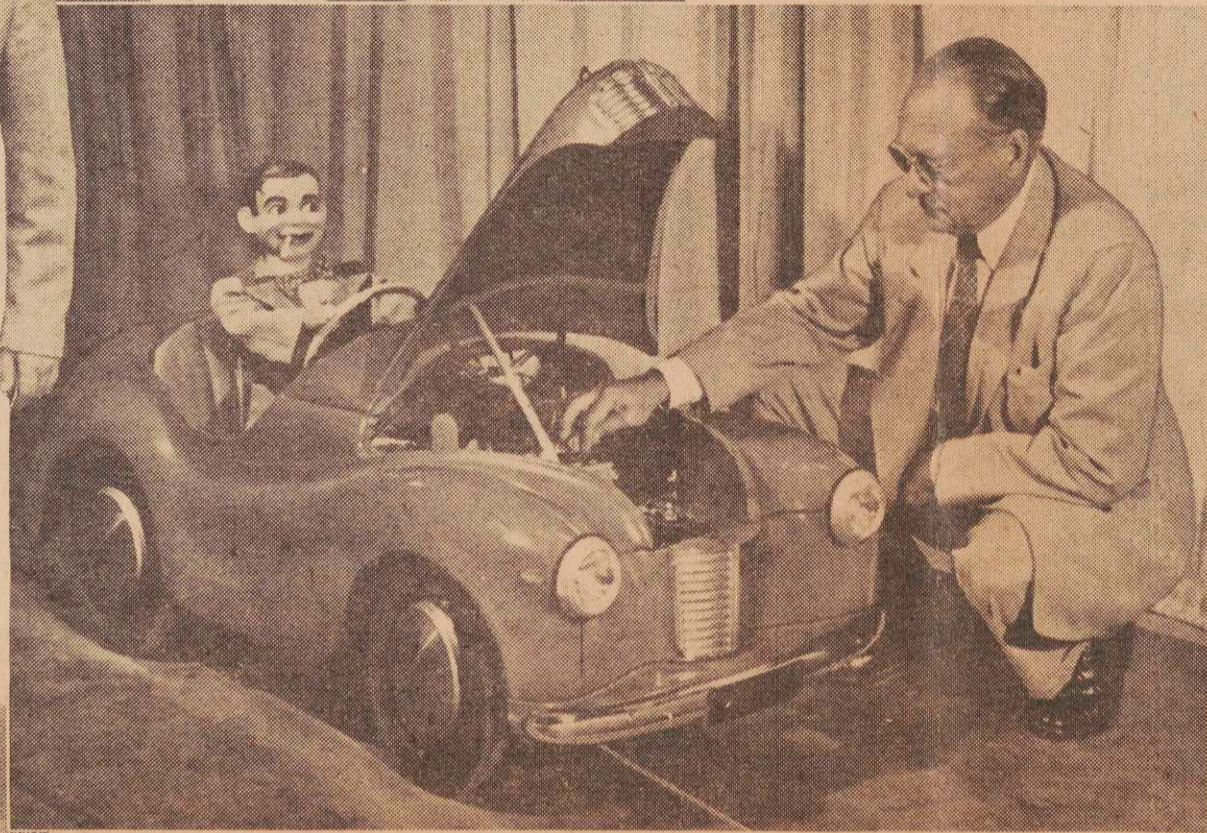
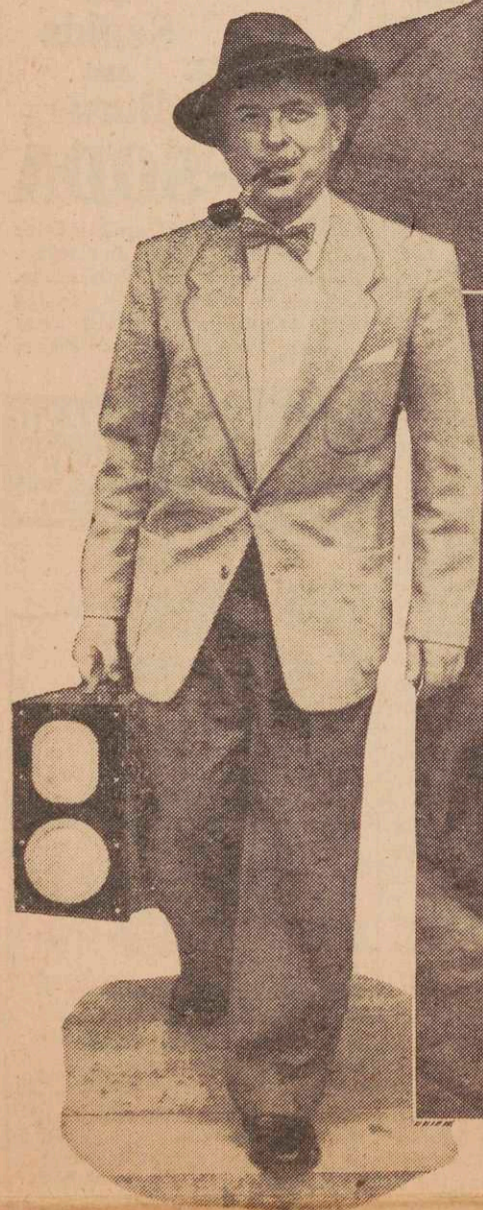
Harold Hilliard
Staff writer.

By HAROLD HILLIARD

New Wonders of The Electronic Age



A driverless car, a two-way wrist radio, a TV set in a cigar box — this isn't just fantasy, for the electronics research teams are planning for the world of the future



One of the most outstanding practical visionaries of our time is General David Sarnoff, top, chairman of the board of Radio Corporation of America, in whose laboratories electronic miracles are being wrought. Above, Dr. V. K. Zworykin, vice-president and technical consultant of the David Sarnoff research centre at Princeton, N.J., examines the electronic apparatus of a model car that drives itself. At left, George C. Sziklai, staff member of the centre, demonstrates the portability of an experimental battery-operated TV receiver.

A COMIC-STRIP world of fantasy is about to become a world of reality. Just around the corner are such things as a Dick Tracy type of two-way wrist radio . . . an aircraft which will fly in greater safety in zero-zero visibility than today's plane does under much less hazardous conditions . . . a car with a built-in "brain" to operate without a driver, a model of which already has been successfully tested.

Close to perfection are "battle eyes," which will permit an army commander sitting at a desk hundreds of miles away to have a ringside seat on the battle lines. On the way is a tubeless television set, no larger than a cigar box, which will supersede the cumbersome consoles of today, and control pictures on thin flat screens in one or every room of the house. Tomorrow's TV set will also have a special button so instantaneous opinion

polls can be taken on any current controversial subject.

Another miracle attachment will make the TV set the control centre of the home. The housewife sitting down to her morning coffee break will be able to check visually on junior's whereabouts outside, on whether baby has settled down for her nap in the nursery and if the dog in the basement is staying out of trouble. When she returns to the household chores, her appliances will be motorless and noiseless—from the vacuum cleaner to the washer.

Already perfected and demonstrated is a new communications machine which could send a facsimile reproduction of a large dictionary around the world in two minutes. An atomic electric battery, with a life of 20 or more years, has also been demonstrated.

This was the world unfolded to me in a sky-level Manhattan interview with one of the most outstanding practical visionaries of our time. He is General David Sarnoff, chairman of the board of Radio Corporation of America and "mayor" of New York's fabulous Radio City.

Sarnoff is the man who, in 1916, started his superiors at the Marconi Co.—for which he then worked—by conjuring, in an inter-office memo, the home radio. He is believed to be the first man to do so. It became a reality four years later. Sarnoff is also recognized as "the father of North American television"—a title bestowed 10 years ago by the U.S. Association of Television Broadcasters. TV in its present form was envisioned by Sarnoff as far back as 1923, also in the form of a memo to his superiors in the

\$500,000,000 electronics empire he now bosses.

So Sarnoff, when he speaks, is no idle crystall ball gazer; no ordinary mortal enjoying the free luxury of a wild fling into fantasy. He combines the qualities of prophet extraordinary with knowledge possessed by possibly no other man. He knows what one of the world's largest electronics research teams of scientists is doing and thinking. He didn't enjoy this latter privilege when he made his most famous predictions, forecasting in 1916 the home radio and, in 1923, television. Which makes those predictions all the more remarkable.

Sarnoff spoke to me of the future with the zest of a youngster enthusing over a new toy. He declared, "The sum total of our ignorance is greater than the sum total of our knowledge. In fact, there will be no time when all new things have been discovered, and the researcher can relax."

He recalled a recent statement of his, which pinpoints the era into which civilization is moving: "The electric age which followed the steam age is now being superseded by the electronic age." He told of how electronics already have given much of the world television, and of how the research which developed TV has now fanned off into so many new directions that a whole rash of completely unrelated by-products are shaping up for the future—at an accelerating tempo.

Three Closest To His Heart

SARNOFF believes that "half the battle" of finding a new product of research is for someone in authority to express the need for such a product. He has such faith in this belief, in fact, that he has established what is almost a mail order catalog system of ordering new "firsts" from RCA laboratories. Closest to his heart are three he has asked the corporation's "David Sarnoff Research Centre" at Princeton, N.J., to perfect by the time he celebrates his 50th year in radio, two years hence.

Already, perfection of one of the three is assured. It's a magnetic tape recorder, an invention of rather limited direct interest to the general public. However, there's an indirect interest, as it is expected to bring revolutionary changes to the moving picture and television industries. It will instantly record the video signals of TV on an inexpensive tape, just as music and speech are now recorded on a phonograph disc or tape. The tapes could be used in the home or theatre at any time. Any number of copies could be made instantaneously, and copies preserved for historical reference. Or the images could be cleaned off and the tape used over and over again.

Sarnoff's second request is for something with sweeping possibilities for the home. It is an electronic air-conditioner, a motorless, noiseless machine which probably will be cheaper than the existing electric types. Once mastered, it is expected by Sarnoff to open the door to the development of electronic washers, refrigerators and every type of household appliance, maybe including a noiseless power mower.

Sarnoff's third request is for an amplifier of light. "We have, as you know, amplifiers of sound, but no true amplifiers of light," he explains. When it comes, it will eliminate the need of a picture tube in a TV set. Then, with the use of another new electronic marvel, the "transistor," the present-day TV set will disappear, to reappear as a small control box on an end table, flashing

programs on screens placed throughout the house.

The end table control box will contain the tuning and volume controls and station selector. It will adjust the picture to any size desired and switch to black-and-white or color pictures. It will be reduced to almost vest-pocket size because of the transistor, a minute valve the size of a kernel of corn. This will replace the 20 or more tubes of TV sets as well as radio tubes. This laboratory curiosity of five years ago weighs less than a piece of candy-coated chewing gum.

It's the transistor which is opening the door to miniature electronic units of every description, including the two-way wrist radio. RCA already has built and demonstrated more than 30 experimental models of electronic apparatus using transistors. Included are pocket-size radio receivers, portable single-channel TV receivers and junior-sized car radios. Furthermore, the valve is expected to permit the development of new kinds of electronic equipment heretofore impossible because of economic or technical obstacles.

Driverless Car Ahead

FANTASTIC but true is the driverless car which RCA already has demonstrated. It's another product which owes part of its success to the amazing little transistor. Yet, while it is scientifically practical, the economics and logistics remain to be worked out, because it outmodes even the newest superhighway. The superhighway is its sphere. But before it comes into use, superhighways must be ripped up and control cables laid in the roadbeds.

The cables will set up a magnetic field of a certain frequency, to be picked up by coils in the automatic car. This enables the vehicle's electronic brain to steer it along a prescribed route; to stop it when approaching a metal obstruction—in other words, prevent it from colliding with another car; and to turn it out of its original lane into a second lane, to pass another car moving at a slower speed.

Such a vehicle thus should be accident-proof. While travelling on a superhighway, the driver can be relieved of the monotony of steering, and take time out for a snooze. He can be fresh to take over manual control of the car when he wishes to leave the superhighway. A five-foot test model already has been put through rigid tests with flying colors by the inventor. He is Dr. V. K. Zworykin, RCA's pioneer television scientist—the man who brought to reality Sarnoff's 1923 dream of commercial TV.

Dr. Zworykin also is the creator of the instantaneous opinion poll idea. He is working on a method to equip the standard home TV receiver with a button which, when pressed, will register a vote of "yes" or "no" at the TV station. Listeners and lookers can give their reactions to programs and issues of the day in a nation-wide push-button poll.

Television has made an auspicious beginning as a medium of entertainment, with color already starting to supersede black-and-white programs, and three-dimensional TV upcoming. And the new applications just over the horizon promise to make it perhaps mankind's most useful employee. It appears destined to be a permanent addition to the payroll of the medical field, factories, offices, schools, law enforcement agencies, inspection services, newspapers, transportation companies and the home, as well as every branch of the armed services.

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Canadian Favorite

PHILISHAVE

ROTARY ELECTRIC SHAVER

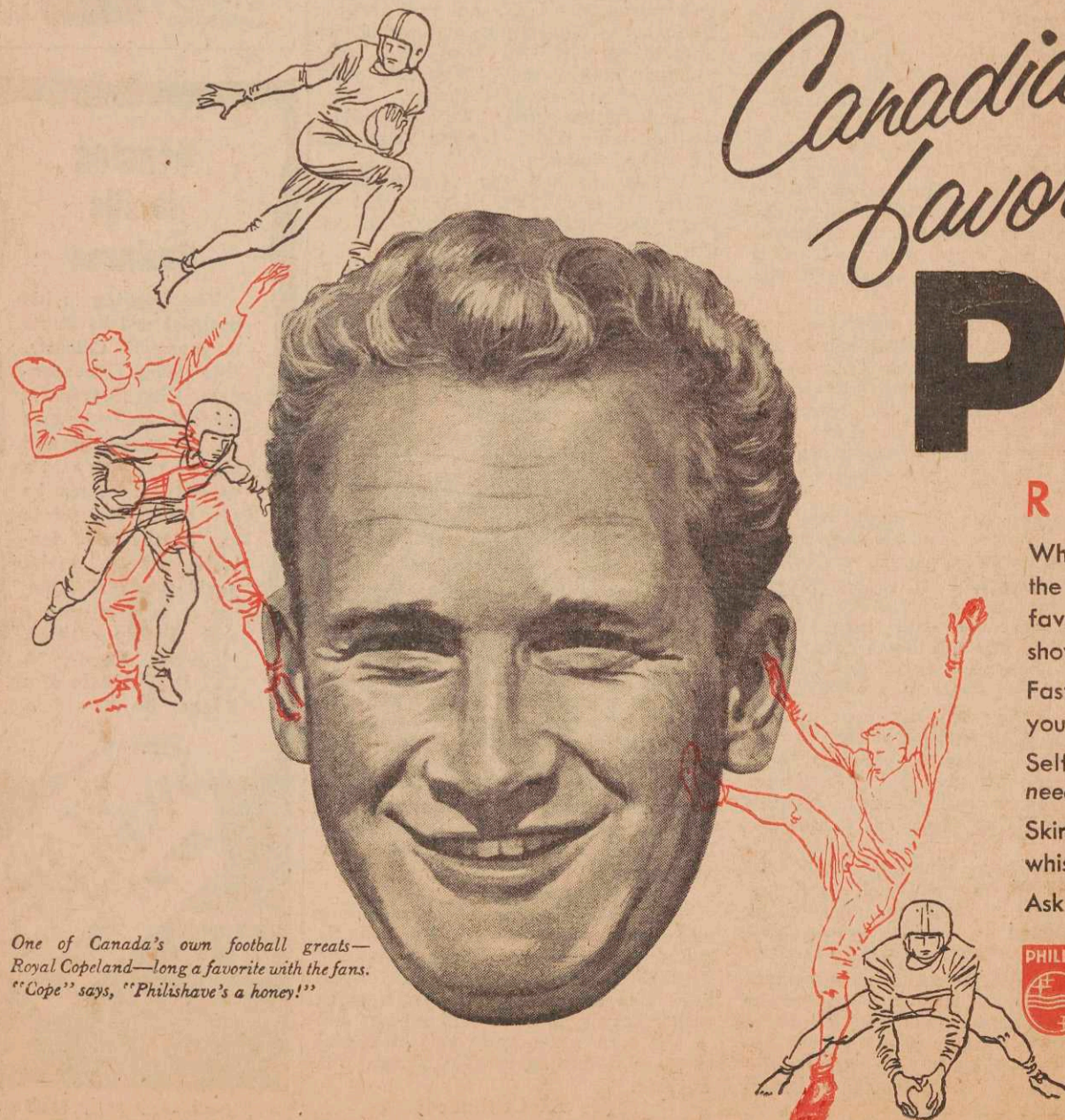
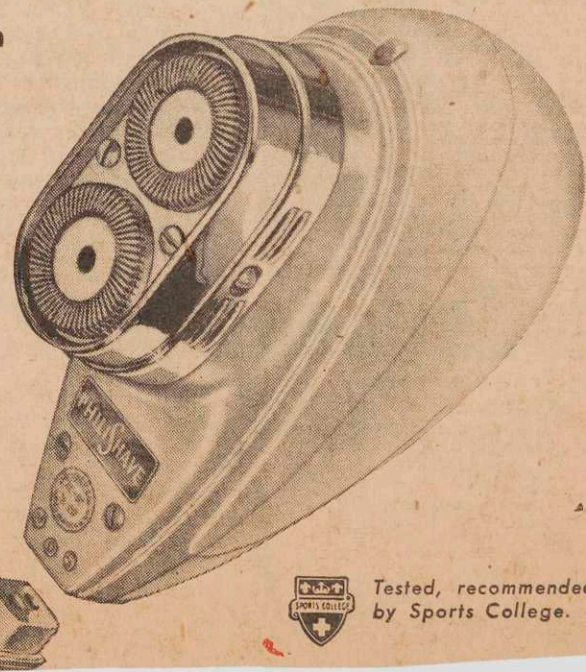
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Alfabeto Matematico-Quimico del Gaucho, Don Cisco Yost

December 32

MEMORANDUM TO: Pedro y Maria de la luz
FROM: Cisco
SUBJECT: "Plus or Minus" or "Sir! You are Speaking of My Grandmother."

A is for Abelian, those functions transcendental,
B is for Boolean, the algebra elite, elite and sanctimonious.
C is for Cremona and transformations lofty,
D is for Determinants and dancing in the sunshine.
Hi-oh my Derry-o the farmer in the Del.
E is the Ellipse and Fundamenta nova theoriae functionum ellipticarum,
F is for the Fuchsian, frogs and fillibustering.
G is for Gauss, germanium and gadgeteering,
Ojalá que tuviera mas dinero!
H is for the Hessian, in two or more variables,
I is the Invariant, of forms algebraic and all homogeneous,
J is for Jacobian, son of the Hessian in the land of Lobster Lil.
K is for Kubic, Knight, Knowland, Knuckel and Knixon,
L is for Loxodrome, Livermore and Lil; black haired Lil;
A Dior dress would only accent her divine geometry.
M is Mass, either plus or minus; McCarthy and MacGregor;
and Maria de la Luz, la muchacha graciosa.
N is for Nulpunkt and Navajo Indians de los campos grandes.
O is for orthogonal, boots, boots, boots, up and down the line,
there is no cessation of the wahr!
P is for Pentagons, poristic or regular; Polhodes, pescadores and
Pellians. And Pancho eta Pedro. Promethium.
Q is for Quicksilver, Quills and Quaternions;
Quixote, and Que le vaya con Dios!
R means Peciprocant, Roullettes or Richelot; and nuestro amigo
Rudolfo, el vasco.
S is for Syzygy, Spirals and Salmon. Selenium and Salamanders,
Hi-o my Derry-o, the farmer caught a ludefisk.
T tells of Trochoids and Triplication formulas; many, many formulas and
complex expressions. Tut! Tut!
U is for Unduloid, Uncle and Urbanity. Urope and Uphonius.
V is for Rudolfo el Vasco, and Vectors and vino tinto.
W is for the Wronskian, whistle stops and willow trees
Ut tensio sic vis.
X stands for Xenophon, Xenon, a Xebec and muchas cosas incognitas.
Y means what one gets if he knows x which he finds if he knows z, a, b,
c, etc. Also yesteryear and ytterbium.
Z is for Zapata, zebra and zipper. And **Z**.

Vale

Tengo miedo

Caramba! Valgame Dios! !

Feliz año nuevo.