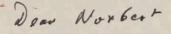


From Warven S. McCallock Whippoorwill Rd. Old Lyne - Conn.



Gon asked the to drop a hote to gon or your Decretury to remind you that you are going to Write for me notes of the advertising to Turing and to Haldon - of there is any one sha to Supland or Sectland you think I should contract please don't has if the to suggest it

Ica. July, 19497

and send me a nore to him or them.

Walter and I are parting the time Toucher on our paper before the american Neudopieal Which is Now To appear in the new domal of Electro Encephalography - its November issue-

We have been working on the licture ton the Section Pagelisty of the Royal Society which I muset in sung September. and we have still to tacker the one on signs of action at a distance in the RMS. For the Sutmational Stacto-Success. Fromp in France in late august.

It was good seeing son at - Even at. Atlantic Cif- Walter Sends his best - or brigs this to you grencin in Old Symme Fill 9 go aboad in Cleyen (say 20 th) grencin in Old Symme Fill 9 go aboad in Cleyen (say 20 th) Karren -Warren -

#### AMERICAN MATHEMATICAL SOCIETY

ASSOCIATE SECRETARY

WELLS COLLEGE

July 2, 1949.

Dear Professor Wiener:

Your Gibbs Lecture is to be scheduled Wednesday afternoon, December 28 at 4:30 in McMillan Theater, Columbia University.

Are you going to use slides in your lecture? We want to know this as soon as possible so arrangements can be made for a projector if you will need one.

I shall be glad to receive the exact title of your Gibbs Lecture at any time not later than Sept.1. We shall need it for the Preliminary Announcement.

I trust that you are cooler than some of the rest of us in New York and numerous other ovens.

Yours sincerely,

J.R. Holleroft

# THE ENCYCLOPEDIA AMERICANA And THE AMERICANA ANNUAL

Office of the Editor 2 WEST 45TH STREET, NEW YORK 19, N. Y. VANDERBILT 6-0600

July 5, 1949

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

Dear Professor Wiener:

In the absence of Mrs. Dudley on a brief vacation, I have to acknowledge and thank you for your letter of June 26.

We are delighted to hear that you will go over your article on Aesthetics during the summer and make any changes you think desirable.

With all best wishes,

Sincerely yours,

Frake de Kay

Drake de Kay Staff Editor

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J. J. SMITH, Editor of The Americana Annual :: ROBERT C. WALLACE, Advisory Editor for Canada

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Dear morbut :- This should have been enclosed in the letter brant your earlier t - day.

Luciens

Robert .

#### AMERICAN MATHEMATICAL SOCIETY

J. R. KLINE SECRETARY UNIVERSITY OF PENNSYLVANIA PHILADELPHIA 4, PA.

July 5, 1949

Professor Norbert Wiener Massachusetts Institute of Technology Cambridge, Mass.

Dear Norbert:

I have received a letter from Davenport which contains a statement made by five leading Mathematicians concerning your article on Hardy. As I wish to handle this situation with unnecessary publicity, I believe that the fairest thing is to send a copy of Davenport's letter and enclosure to you directly without first consulting the Bulletin editors. You will undoubtedly wish to make some statement in the Bulletin with or without first communicating the balletin with you inform me concerning Daruport. the steps you are taking.

We are staying here at the University of Colorado for the Summer Term during which I am teaching one course daily, It is a most pleasant place and I surely hope that, if you and Gretel are driving to Mexico for your semester with Rosenblutt, you will arrange matters so that you can be here fore the Summer Meeting of the Society. It gets very hot here in the middle of the day, but at night the cool air from the mountains takes over and it is really delightful. Of course we miss New Hampshire very much and shall surely look forward to seeing you there next summer.

We were sorry to hear of the death of Lizzie Graves so soon after Isaac's death. Then Yesterday morning we were stunned to receive a telegram from Miss Mills that Dolly Schoenberg had died on Saturday, July 2nd. She was in the hospital a little over two weeks for a blood ailment, but we had not dreamed it was so critical. Dolly was a remarkable woman for her courageous manner of meeting the great changes in fortune which her being transplanted from Germany to this country involved. Also did you know the German philosopher, Eric Franck, who, after leaving Germany was successively at Harvard, and Bryn Mawr before coming to Pennsylvania in 1948. He was killed in Holland last week.

Please let us know all the news of the valley, and still more important the news of your family. I was glad to hear that you were to receive an honorary degree from Juniata College with which you formerly had such close connections. How is Barbara? Is Peggy still at Tufts?

With the best of everything to you and the family from Nan and myself, I am

Always cordially,

J. R. Kline, Secretary

July 5, 1949

Professor Norbert Wiener Massachusetts Institute of Technology Cambridge, Mass.

#### Dear Norbert:

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With the best of everything to you and the family from Nan and myself, I am

Always cordially,

J. R. Kline Secretary

JRK: BRI Enc. The undersigned consider that some points in the lively and interesting article of Professor Norbert Wiener on G. H. Hardy need correction. They offer no comment on what is matter of opinion, but wish to mention the following facts.

(1) Hardy was not a conscientious objector. In the First World War, he volunteered for military service under the Derby scheme.

(2) Bohr and Landau cannot correctly be described as students of Hardy. The work of all three overlapped.

(3) To say that "Hardy chose as big field of analytic theory of numbers" is to leave out of account his important work on Tauberian theorems, on Diophantine approximation, and on Fourier series.

> J. E. LIPTLEWOOD G. POLYA Z. J. MORDELL E. C. TITCHMARSH H. DAVEMPORT

# GASTROENTEROLOGY

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July 6, 1949

Professor Norbert Wiener Massachusetts Institute of Technology Boston, Massachusetts

Dear Professor Wiener:

Just a note to congratulate you on the book Cybernetics which I think marks the beginning of an era of research and thought. Even without a mathametical training, I was able to get a great deal out of it.

I was much interested in what you say about the rising thresholds for memory circuits. Many years ago I watched my father-in-law go down hill after a series of little strokes. He had been a brillant college president with a magnificant memory. As usually happens, the little strokes made it more and more difficult for him to break into that old memory. I used to use the simile of a man with a huge house and many rooms. In his early years he could get into anyone at will; as he grew older it became harder and harder. What interested me is that the rooms were still there even towards the end of life when my father-inlaw became too mentally changed to do his work. He lost his grooming and did not keep himself clean.

One night he heard that his old college mates were having a reunion in San Francisco. He sneaked out of the house in his carpet slippers, went over and they told me that he had made one of the most brillant after-dinner speeches of a brillant career. Sometimes also when a distinguished visitor dropped in, he would be himself for a half an hour and then he would slump and be unable to get into his nice rooms.

This may be of use to you. For years after I was a student of Doctor Cannon, I used to cut the vagus and sympathetic nerves to the bowel, and I found then that the bowel was extremely irritable. It seemed to have the bracks taken off of it. It responded to every stimulus. This was true for the rabbit particularly.

I do hope that you can go on with your splendid work.

FRONTIER POWER COMPANY 300 NORTH COMMERCIAL STREET TRINIDAD, COLORADO

IN REPLYING, PLEASE REFER TO

FILE NO.

SUBJECT

TELEPHONE 590

July 7, 1949

Mr. Norbert Wiener c/o John Wiley & Sons 440 Fourth Avenue New York 16, New York

Dear Sir:

Pursuant to your book on Cybernetics, I would like to propound this problem.

Do you believe it possible for the waves generated (probably audible sound waves to the human ear) by the movement of a meteorite through the upper atmosphere to be transmitted to the earth's surface on a beam of light?

There has come to our attention circumstances that can only be answered on the supposition that such a transmittal would occur. If you are interested and have time for any investigation in this matter, I would greatly appreciate hearing from you.

Very truly yours, Kinstrong

R. T. Armstrong Vice President

RTA: IVP

## BURDEN NEUROLOGICAL INSTITUTE.

TELEPHONE: FISHPONDS 53221-2.

STOKE LANE, STAPLETON,

BRISTOL.

Professor Norbert Wiener, Massachusetts Institute of Technology, Department of Mathematics, CAMBRIDGE, 39. Mass. U.S.A.

7th July 1949.

Dear Professor Wiener,

Many thanks for your letter of 16th June, which I have only just seen on my return from Italy.

I am truly delighted to learn that you may be coming to Europe next year. You may be sure that a great many people here will look forward to your visit with great excitement and you will be kept particularly busy in discussing the new field which you have done so much to cultivate.

I visited several laboratories in Italy and France during my vacation, and found a great and rapidly growing interest in Cybernetics wherever I went. I am enclosing herewith an article from the Corriere Della Sera which appeared while I was there. You may already have seen this, as I understand Colonnetti has visited you, and may have sent you a copy of his article, but I was most impressed by the fact that it appeared at all in the extremely attenuated pages of that newspaper, and by the most able treatment of a very difficult subject.

You may be interested to hear that we have also been making some mechanical animals and I should very much like to have a chance of comparing our breed with yours. We have included in ours features inverse feedback which gives to it an exploratory and ethical attitude to the universe, as well as a purely tropistic one. Its scale of values is quite interesting, determined of course, but unpredictable. Since it was built in the winter, it aestivates, which is convenient because it allows us to take a holiday without anxiety for its safety!!

With best wishes always.

Yours sincerely.

to. Cpay balls.

W. Grey Walter, M.A., Sc.D.

July 9, 1949

Dear Norbert: .

Your welcome letter was very much appreciated, because I know how busy you must be and I only wonder how a mind occupied with such varied scientific interests can concentrate on such very nice letters as you write. And yet I'm not surprised since I do remember that the Norbert I knew was always a cousin who could take an interest in other people, mountain-climbing, picnics, and who would even put aside his books to go berry-picking, along with your father and me and the smaller barefoot ones.

The best part of your letter contained the good news that you'd be in New York this summer and that we could again renew a very pleasant acquaintance and cousin-ship. I'll be here all summer and we have a small outdoor terrace, so perhaps you might even have time for a lunch or dinner so I could return some of that wonderful Wiener hospitality which I so much enjoyed that summer at Top Of The World.

Most cordially,

Trances

321 East 43rd Street New York City

TELEPHONE 41001 EXTN. 37



PROFESSOR M. BORN, F.R.S. DEPARTMENT OF MATHEMATICAL PHYSICS (APPLIED MATHEMATICS) THE UNIVERSITY DRUMMOND STREET EDINBURGH, 8

10th July, 1949.

Dear Professor Wiener,

I take the opportunity of some visitors from the other side of the Atlantic to send you kind regards and many thanks for your book "Cybernetics." It was very kind of you to send me the copy and I am just starting to read it. It seems to be a very fascinating book.

The young man who is bringing you this letter is the son of a cousin of my wife, who lives in Mexico City. The young fellow is studying at the M.I.T., and will deliver this letter. I should be grateful if you would keep an occasional eye on him. He is a very nice chap.

With kind regards,

Yours sincerely,

M. Bon.

Consul Frofessor Richard A. Parske

## Wuppertal-Elberfeld: 10. July 1949 Jaeger - Strasse 12 + West=Germany

### Sehr verehrter Herr Professor Doctor Wiener !

Das Gleichnis zwischen Schlüssel und Schloß, die zueinander passen müssen, prägte einst Emil Fischer. Dies gilt immer noch, insbesondere für das Studium aller mit Denk-Processen irgendwie zusammenhängenden Fragen: Sei es um die gemeinsamen Elemente in der Wirkungsweise des menschlichen Nervensystems und der vollautomatischen Maschinen zu ergründen. Sei es im besonderen um gemeinsame Züge zu finden zwischen der verwickelten Tätigkeit des menschlichen Gehirns mit dem ihm verbundenen sensoriellen System, das aus einer sehr großen Anzahl von Atomen besteht, damit sein physikalisch wechselnder Zustand in naher und engster Beziehung mit einem hochentwickelten Denkvermögen steht, und den electronischen Großrechenmaschinen, die zwei Arten von Gedächtnis, ein permanentes und ein circulierendes, haben.

Einen Universalschlüssel stellt die Cybernetik dar, und so mußte sich durch die Cybernetik eine Tür zu unbekanntem Neuland auftun, wie es durch den magnificenten Professor Doctor Norbert Winter in Wirklichkeit geschah.

Dem Begründer der neuen Wissenschaft: Cybernetik eignet in einzigartiger Weise das fortiter in re und das suaviter in modo; denn es ist immer die Leistung des menschlichen Genies, in einem genialen Einfall indirect bildhaft der Wahrheit nachezukommen und von dort aus direct forschen oder - im begnadeten Falle - eine Wissenschaft ableiten zu können.

Alle der Cybernetik zugrunde liegenden Mechanismen gehören zum Typ des feed back. Diese feed-back-Mechanismen sind für den Verstand eines demütigen Denkers sehr interessante und complicierte Dinge, sie sind einez der fascinierendsten und complexsten materiellen Structuren, über die ihn die unbelebte Natur sich den Kopf zerbrechen läßt. Dieser in der Cybernetik verankerte feed-back-Mechanismus ist das feinste Meisterstück, das jemals nach den Leitprincipien von Gottes Quanten-Mechanik vollendet wurde.

Es ist nicht zu verwundern, daß die Cybernetik eine gewisse Reife erreichen mußte, bevor die Beziehung sich zeigen konnte. Rückschauend ist der Erfolg nur zu erklären, wenn man in der Cybernetik den Universalschlüssel zu dem bis dahin nicht zu öffnenden Schloß erblickt. Die Cybernetik wurde so zum Leitstern eines

Seiner Magnificenc dem Professor Doctor Mr. Norbert Wiener Massachusetts Institute of Technology

> Cambridge ————Massachusetts United States of America

vollständig neues Zweiges der Wissenschaft, möglicherweise des allerinteressantesten unserer Tage im beginnenden Atomzeitalter. Nach allem mögen wir geneigt sein, sie vollständig annehmbar zu finden. Kurz gesagt, wir sind Zeugen des feed-back-Principiums, wie bestehende Ordnung die Kraft in den verschiedensten Systemen ubiquitär in der belebten Natur beim Menschen, bei Pflanze und Tier, sowie auch in der mechanisch-electronischen, sich selbst zu erhalten und geordnete Vorgänge zu erzeugen, offenbart. Das klingt plausibel genug, obschon, indem wir es plausibel finden, wir ohne Zweifel Erfahrungen mit dem feed-back-Mechanismus und anderen Vorgängen, die die Azctivität von Organismen in sich schliessen, heranziehen, und so könnte es scheinen, daß im gesamten Feld des Controll- und Nachrichten-Wesens ( im weitesten Sinne des Wortes ) in vollautomatischen Maschinen wie in lebendigen Organismen so etwas wie ein circulus vitiosus vorhanden ist. Wie dem auch sein mag, der immer und immer wieder zu betonende Punct ist, daß die Cybernetik nicht nur plausibel, sondern höchst anund aufregend ist, da sie beispiellös dasteht. Cybernetiker werden sogar bei der Erforschung Zeugen von Phaenomenen, die sie auf diese Meise interpretieren.

- 2 -

Aus Wiener's allgemeinem Bild der Cybernetik geht hervor, daß das mechanisch-electronische System - während es den bis jetzt aufgestellten physikalischen Gesetzen nicht ausweicht - wahrscheinlich bisher unbekannte andere physikalische Gesetze in sich birgt, die jedoch, wenn sie einmal offenbar geworden sind, einen ebenso integrierenden Teil dieser Wissenschaft bilden werden wie die ersteren.

Es scheinen zwei verschiedene Mechanismen, durch die geordnete Ereignisse verursacht werden können, vorhanden zu sein: Der statistische Mechanismus, der "Ordnung aus Unordnung" erzeugt und der neue "Ordnung aus Ordnung" schaffende Mechanismus. Dem unvoreingenommenen Verstand erscheint das zweite Principium viel einfacher, viel eher plausibel. Ohne Zweifel ist es dies. Mir dürfen aber nicht erwarten, daß zwei vollständig voneinander verschiedene Mechanismen den gleichen Gesetztypus hervorbringen man wird auch nicht erwarten, daß der eigene Hausschlüssel ebensogut die Tür des Nachbars öffnet. Damit würde scheinen, daß das feed-back-Principium, auf das ich so feierlich als dem wirklichen Schlüssel zum Verständnis der Cybernetik hingewiesen habe, der Universalschlüssel ist. Miener's Haltung dank seiner schöpferischen Arbeit beansprucht sogar die Priorität für sie.

In der Tat erwarte ich, daß durch diesen Universalschlüssel in nächster Zukunft viele Erkenntnisse von der Cybernetik kommen werden. Der Fortschritt im mechanisch-electronisch System geht aus der Cybernetik unter der Führung des excellenten Dr. Miener vorwärts und wird - ich bin dessen durchaus sicher - dies auch weiterhin tun. Deshalb sind so umfassende Anwendungen wie die Mechanisierung ganzer Industrien durchaus vorstellbar. Die Gesetze des Zufalls werden durch die Cybernetik nicht verletzt; nur ihr Ausgang ist modificiert. Auch müssen wir bereit sein, in ihr vielleicht einen neuen Typus physikalischer Gesetze vorherrschend zu finden. Oder sollen wir ihn ein überphysikalisches Gesetz nennen ?

Ob der richtig functionierende Teil einer mit ungeheurer Geschwindigkeit arbeitenden high-speed-Großrechenmaschine dem dynamischen oder dem statistischen Typus gesetzmäßiger Ereignisse (um Planck's Ausdruck zu verwenden) zuzuschreiben ist, hängt von unserer Hal-tung ab. Diese kommt hier in höchst interessanter und verwirren-der Weise ganz von selbst und wird uns durch vollständig andere Ueberlegungen aufgedrängt.

- 3

1 0 .

Aus realer physikalischer Materie bestehende (im Gegensatz zur Vorstellung) high-speed-Größrechenmaschinen sind keine wahren "Rechenmaschinen". Das Zufallselement mag mehr oder weniger zu-rückgedrängt; die Wahrscheinlichkeit, daß die Rechen-Operation (trotz verschiedener Vergleichsmechanismen) plötzlich vollständig falsch verläuft, oder der Vollautomat in eine Art Kreis-Froceß verfällt, gegebenenfalls durch zufällige Schwankungen der Schwin-gungsenergie, etc., mag unendlich klein sein, aber die Wahrschein. lichkeit bleibt im Hintergrund. Sogar in der Bewegung der Him-melskörper fehlen unumkehrbare Reibungs- und Thermal-Einflüsse nicht. Eine ganze Reihe anderer Eigentümlichkeiten wird aus die-sem Bilde, wenn auch nicht voraussagbar, leicht verstanden.

Nichtsdestoweniger bleibt die Tatsache, daß die high-speed-Groß-rechenmaschine sichtlich sehr auffallende "Ordnung aus Ordnung-Merkmale" zeigen – der Art, die den Cybernetiker in Aufregung versetzen, als er im Organismus ihnen begegnete.

High-speed-Großrechenmaschinen sind fähig "dynamisch" zu functionieren, weil sie auf dem feed-back-Principium beruhen uns aus festen Körpern, deren Form durch London-Heitler-Kräfte zusammen-gehalten werden, gebaut und widerstandsfähig sind. Sie werden durch die Cybernetik ein Meisterwerk höchst differencierter Ord-nung, beschützt durch den Zauberstab der Theorie von Wiener, den in diesem Zusammenhange zu erwähnen ich mich nicht erhalten kann. Es ist beinahe undenkbar, daß die derart entdeckten Gesetze und Regelmäßigkeiten nun gerade sofort auf das Verhalten von Systemen anzuwenden sind, die nicht für jene Gesetze und Regelmäßigkeiten grundlegende Structur zeigen.

Nach Ansicht der Cybernetiker sind im Lichte heutiger Erkennt-nisse alle höher organisierte Lebewesen ebenfalls mit feed-back-Mechanismen in fundamentaler Weise ausgestattet. Denn tatsäch-lich braucht es keine dichterische Vorstellungskraft, um den Gleichklang, den ich eben fundamental genannt habe, zwischen den beiden Systemen, den mechanisch-electronischen wie den menschlich-tierischen, in Erimerung zu rufen und im Falle der biologischen Cybernetik die Adjectie neu und noch nie dagewesen zu rechtferti-gen. Daher ist auch nicht weiter verwunderlich, daß der Cyberne-tiker schon Vieles und Wichtiges zu diesem Problem beigetragen hat. Es ist dies ein Wunder - nur eines noch ist größer, eines, das, obschon es in engster Fühlung und Beziehung zu diesem steht, doch in einer anderen Cybernetik-Sphäre liegt. Ich meine die Tat-baren Wechselspiel eben dieser Art beruht, doch die Fähigkeit be-sitzen, darüber ein ansehnliches Wissen zu erwerben. Das dies Cybernetik-Wissen bis sehr nahe an ein vollständiges Verstehen des feed-back-Principiums fortschreiten könnte, erachte ich als möglich. Das zweite Winder mag weit jenseits menschlichen Ver-stehens liegen. Nur wenige Denker, ob sie nun mit der Cyberne-tik vertraut seien oder nicht, werden anderer Meinung s**Ben**.

Als Belohnung für die ernsthafte Mühe, die ich mir zu Darlegung

des rein wissenschaftlichen Aspectes des Cybernetik-Problemes sine ira et studio genommen habe, bitte ich um die Erlaubnis:

- 4 -

. ....

RAP: M

a) mich in Deutschland als Cybernetik-Wissenschaftler zu bezeichnen,

b) hier in West-Deutschland eine vorläufige Contact-Stelle einzurichten, die sich mit der Cybernetik befaßt und alle diesbezüglichen Probleme beachtet und erforscht, um so die Grundlagen für eine Ausbreitung des Cybernetik-Gedankens zu ermöglichen. In einem künftigen Cybernetik-Forschungs-Institut in Deutschland gehören aber nicht etwa die Vielen, die da sagen, das hätten sie längst schon gewußt oder geahnt - und auch nicht die Vielen, die mit ihrem Fachwissen die Cybernetik-Wissenschaft verkleinern und in ihr großes Fachwissen stillschweigend hinübernehmen, sondern nur die Männer der Wissenschaft, die sich zur Wiener-schen Cybernetik bekennen - und von hier aus ihre specielle Forschungsarbeit ansetzen.

c) daß die künftige Cybernetik-Forschungsstelle den Boden vorbereiten helfen soll, daß demnächst ein Export der highspeed-Großrechenmaschinen nach Europa stattfinden kann, wenn ein solcher wünschenswert erscheint und auch möglich ist.

d) Es wird hinzugefügt, daß ein Cybernetik-Wissenschaftler sich sein vollständiges und gründliches Wissen nur in dem Massachusetts Institute of Technology in Cambridge aneignen oder vervollständigenkann. Um die Gesamtheit meines Wissens mit der Cybernetik zu einer Ganzheit zu verbinden, bitte ich mir die Möglichkeit zu geben, in Cambridge das Cybernetik-Wissen zu vervollständigen, damit ich wesentliche Beiträge zum Cybernetik-Problem hier in Deutschland beisteueren kann.

Trotz der Mannigfaltigkeit des behandelten Gegenstandes sind diese meine Ausführungen nur sehr kurz auf einen einzigen Gedanken ausgerichtet - einen kleinen Beitrag zu dem großen und wichtigen Cybernetik-Problem !

Dear Brother Wiener: Ich glaube und hoffe, daß Sie meine Ausführungen mit großem und besonderem Interesse gelesen haben, und ich bitte Sie daher, mir die Ansichten zum Ausdruck zu bringen, die Sie über den Gegenstand haben.

Darf ich Sie noch bitten, mir Ihre Antwort per Luftpost und nach Möglichkeit in deutscher Sprache zu senden ?

Es ist mir angenehm, Ihnen - sehr verehrter Herr Professor Doctor Wiener die Versichezung meiner vorzüglichen Hochachtung zum Ausdruck zu bringen:

A. Pourske

22 Rodney Street Hartford 5, Connecticut July 10, 1948

Dear Professor:

I hope to begin with that you're in better shape now than when I last saw you. You had just had a slight relapse and they had you packed away so tightly in Homberg that I had to all but claim I was President Truman to get to see you. Then the nurse timed me with a stop watch for exactly two minutes and out I went. It was probably all for the best though, and I trust that you convalesced that second operation with no more mishaps.

I'm spending a very pleasant summer on the Connecticut shore at South Lyme. I use Hartford for an address only for purposes of simplification. But pleasant as the surroundings are, I miss the daily contact with you and the gang that I had grown quite used to. I've been unable to find anyone down here with even remotely similar interests. I've always heard that Einstein summered around Lyme, but so far - no contact. Do you happen to know about that? In spite of the virtual isolation, my work is progressing fairly well along the lines planned this past spring. I'm studying neuroanatomy from Krieg and Ransom with satisfaction, (although the laboratory end is lacking), as well as working on a very special entropic theory which I want to see you about as soon as possible. On top of that I'm whipping up a course on operationalism to teach at Amherst this fall. So together with correspondence, I'm managing to keep out of trouble.

I see by the advanced notices that you are delivering a paper (I think the key one) at the AMS Symposium at M.I.T. on July 31. I'm going to do my best to make it to that meeting, both to hear that paper and to see you about other things, but since anything might happen to change those plans, I want to ask a favor of you -- namely; it would be greatly appreciated if you asked your secretary to mail me a copy of that paper. I'm most anxious to collect your work on negative entropy.

Dr. Abbott, (Mass. General Hosp.), has written several times about his desire for the supper club which I mentioned to you the last time I saw you. He recognizes the potentialities of a fairly well organized program of meetings between logicians and neuropsychiatrists, and has offered several tentative ideas for the organization of such a program, to be passed on, of course, by everyone concerned. I shall relay what I know about it to you when I next see you. I hope you'll mention this to Walter, since naturally his presence is greatly desired.

Please give my regards to Walter as well as Mrs.Wiener. How about taking a few minutes off and sending a little news of your progress, etc., to this set of eager eyes and ears?

Yours,

William Q. Stallman

The New York Times Times Square The Machine age-

18

July 11, 1949

Dear Mr. Wiener:

There is very good material in that piece of yours on the machine age, but it seems to me that it would be helped if you would do these things:

1. Give a little more indication what high speed electronic computing machines look like and how they operate. This, of course, would have to be very elementary, but I think it would help the reader to understand the piece.

2. Explain in more detail what machines can do and what they cannot do. Could machines run an automobile factory, a department store, a steel plant; how would they do it? What jobs would still have to be done by men?

Does this seem sound to you? I hope so.

Sincerely yours,

Daniel Schwarz Sunday Department

DS:bd encl.

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



## THE INSTITUTE OF RADIO ENGINEERS

INCORPORATED

SECTION CORRESPONDENCE

PLEASE ADDRESS REPLY TO

July 12, 1949

Professor Norbert Wiener M. I. T. Cambridege, Mass.

Dear Mr. Wiener:

\* / \*

The Kansas City Section of the IRE desires a talk for the 1949-50 season on "Cybernetics" or something of a general nature in the field of information transmission, computers, such as is treated in your text.

Is there a possibility that you would be in this region any time next year? Incidentally, I am writing a similar letter to Dr. W. G. Tuller, Melpar, and Dr. W. S. McCulloch, University of Illinois. If you find that you can not favor us with a talk, perhaps you can suggest someone in this area who is in a position to travel a relatively shorter distance, but who could do justice to the subject.

Sincerely,

Lew H. morse

Lew H. Morse Meeting & Paper Committee Kansas City Section of IRE

LHM:sb

### YALE UNIVERSITY DEPARTMENT OF PHILOSOPHY NEW HAVEN, CONNECTICUT R. S. COHEN 17 ELMU ST. JULY 13, 1949

Dear Professor Wiener:

At the suggestion of Dr Eugene Gross, I have had a copy of a bibliography of Marxist philosophy, which I compiled recently, sent to you. It is highly informal and for the personal use of a small seminar at the Yale Law School, but the apparent lack of such lists made it seem desirable to give it a limited circulation in this form. Your comments, additions, corrections, etc., would be very welcome. I hope it may be of some use or interest to you.

> Sincerely yours, Robert Colum

Robert S. Cohen

ROBERT P. KEMBLE, M.D. 224 NORTH DUKE STREET LANCASTER, PA.

TELEPHONE 8356

July 14, 1949

Dr. Norbert Wiener, Mass. Inst. of Technology, Boston, Mass.

Dear Doctor Wiener:

As a psychiatrist I am moved to express my great appreciation of "Cybernetics", to add some reverberations, and to ask a question.

In this field of complex human behavior I believe that we see oscillations of various periods get out of hand for lack of effective governing. Perhaps the most striking of these is the manic-depressive psychosis, the cycle runs wildly in one direction or the other, with the chance of going so far in either that it can never get back. Commonly, when we see an individual in depression, we apply our meager techniques to lifting him out of it. Perhaps we would do better to make sure first of the course of his depression, and only if it is deepening try to relieve it, but if the depression is slackening, then try to impede the recovery in order that we may diminish the force of the oscillation. It is less clear but probably equally applicable to do something similar in the other oscillations we see: fatigue and enthusiasm, alcoholism with alternations of debauch and sobriety, criminalism with oscialations between remorse and outbreak, among others.

Your deductions pointing to the probability of traffic jams among the commissural and intervalated axones are also quite applicable. In addition to the amnesic and hysterical kinds of dissociation, there are also the schizophrenic processes. We need not argue whether these are organically produced or not. There they are, and man seems peculiarly susceptible to them. Our problem is to achieve reintegration. In this connection your deductions are remarkably consistent with the beliefs of Lancelot Law White, as put forth in "The Next Development in Man". He foresees a new scientific method to achieve reintegration of man's dissociated functions. He even feels that the memory of man has outgrown its usefulness, thus paving the way for the next step.

Your discussion of psychotherapeutic methods as related to your own findings is excellent. The methods you mention do in fact deal with memories. I would like to point out that the metohd of Rank, and those derived from him, is to draw the patient out of his memories and to face him with problems and decisions of the present. The supposition is that the patient needs to be freed from a pattern that is too set, and that dwelling on his memories only ploughs the rut deeper. Your last pages were devoted to the difficulties of applying your concepts and methods to man at his own level. You describe the unmistakeable advantages in the loose coupling we have with events removed from us, from their being too large or too small to be influenced by us. I wonder, though, if we may not have some advantage in dealing with events at our own level, in that we are more aware of the tremendous complexity therein. This complexity is confusing, of course, but we know it is there, all our senses remind us of it, and it lessens the danger of conclusions based on over-simplification. This danger exists when we have little material to work with, and we try as we can to simplify our own personal problems so that we can deal with them as easily as we can the atoms or the stars. We are happy when we think we have simplified, only to find it was an illusion. Here, of course, I am rationalizing and trying to justify my own fields of endeavor.

The question I have is this: Is a system that is overloaded with respects to its internal communications more apt to be subject to uncontrolled oscillations? I can see that a breakdown in the form of dissociation would be probable, but would oscillations also be more likely and more extreme?

That fraction of your book which I could understand was certainly rewarding.

Gratefully yours,

Obert Keuble

Que Willy

Mississippi Southern College

Station A **Hatticshurg, Mississippi** July 14, 1949

Division of Education The Reading Clinic

> Dr. Wiener Mass. Institute of Technology Boston, Mass.

Dear Dr. Wiener:

Kindly send me information about your book, "Sybernitics," publisher and price.

Yours truly,

A. J. Pellettieni, Director

The Reading Clinic

AJP/lm

Inter-American Peace Congress Madero 47 Desp. 201 Mexico, D.F.

Mexico City, July 15, 1949

Mr. Norbert Wiener Mass Inst. of Tech. Cambridge, Mass

Dear Mr. Wiener:

I have the honor to send you the enclosed call and initial list of sponsors of the Continental Congress for Peace to be held in Mexico City on September 5th to the 10th.

At the present time the delegates from national committees and groups of friends of peace, established in Mexico City in order to work for the Congress, are sending the call to leaders of public opinion in North and South America who we know are using their influence to work for world peace. We feel that your name, known throughout the Americas should be among those endorsing a Congress calling for peace in a war-threatenedd world. We also hope it will be possible for you to attend the Congress.

As we plan to publish the call with the complete sponsor list by July Bth and time is short, I am enclosing a form and envelope addressed to Maxime Wood who has agreed to forward the names of the Americans who are endorsing the Continental Congress for Peace. I trust that yours will be among them.

I look forward to writing to you from time to time to inform you of the preparations for the Congress and to meeting you in Mexico City on September 5th.

Alandelloca ' Palamede Borsari

PAUL ANDREW CAMPBELL, M. D. 700 N. MICHIGAN AVENUE SUITE 314 CHICAGO 11. ILL.

PHONE SUPERIOR 7-7184

July 15, 1949

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

Dear Dr. Wiener:

I have been asked to give a short presentation on a general subject to the Aero Medical Association at their meeting in New York, August 29th or 30th. The meeting will be held at the Statler Hotel in New York.

For my subject I have chosen "Cybernetics and Aviation Medicine." The paper is now in rough form and consequently I am attaching a copy for you to read if you can spare a few minutes. I would like very much to have your reaction to the paper and for you to point out any glaring blunders which I may have made. If you will be so good as to note your criticisms on the margin it will be most helpful.

My friend Dr. Ross McFarland suggested that possibly you might be willing to discuss this paper at the meeting. A period of five minutes will be allotted to this discussion. If you could find the time to do so the entire Association, as well as myself will be most appreciative. I could let you know the exact date and time a little later.

You might be interested to know that during World War II I was Director of Aero Medical Research at the USAF School of Aviation Medicine at Randolph Field, Texas. My work during that period has interested me in the type of work which you are doing.

Very sincerely.

Foure a Comput Paul A. Campbell, M.D.

PAC:cm Enc.

Technion Mearbook

PUBLISHED BY AMERICAN TECHNION SOCIETY (Incorporated as American Society for the Advancement of the Hebrew Institute of Technology, in Haifa, Palestine, Inc.)

154 NASSAU STREET . NEW YORK 7, N. Y. . Digby 9-0256

July 19, 1949

Professor Norbert Wiener Massachusetts Institute of Technology Cambridge, Mass.

Dear Professor Wiener:

On behalf of the Editorial Board of the Technion Yearbook, I take pleasure in inviting you to write an article for the 1949 issue of our publication.

The Yearbook, now in its eighth year, has been concerned with the promotion of scientific and technological training and research in Israel and the Middle East. It has also endeavored to interpret and review trends in science and technology, with special reference to the social implications of scientific and technological progress.

Among the contributors to our previous issues were: Albert Einstein, Karl T. Compton, Harold C. Urey, James Franck, Arthur H. Compton, I. I. Rabi, Walter C. Lowdermilk, A. A. Potter, Alexander S. Langsdorf, and other scientists and educators of note.

To better acquaint you with the scope and nature of our publication, I am sending you a copy of our 1948 issue.

For the subject of your article, you may choose any theme which, in your opinion, would fit into the frame of our publication. A paper dealing with some aspect of the work you are engaged in, will be particularly welcome.

The forthcoming issue will be printed in more than 10,000 copies and will reach an important cross-section of scientists, engineers and industrialists in this country and in Israel. The issue will go to press on September 5th, which is the deadline for all editorial copy.

We will be most grateful to you for accepting this invitation. Your participation in the Technion Yearbook would be a source of encouragement to all who are interested in fostering close ties between America and Israel through science and industry.

Sincerely yours,

delle Wattenberg

Judah Wattenberg, Editor

JW/rs enc.

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AMERICAN CONTINENTAL CONGRESS FOR WORLD PEACE Suite 71, 49 West 44 Street, New York 18, N.Y. Telephone: Murray Hill 7-4292

July 20, 1949

Dear Prof. Wiener:

Living today in a war-threatened world, we feel that you are one of the distinguished Americans who wish to use your influence for world peace.

Here is an opportunity to do just that.

Enclosed is the call to the Continental Congress for World Peace to be held in Mexico City on September 5th through September 10th. At this important gathering prominent individuals, men and women representing organizations in the fields of the arts, sciences and professions, church, women, youth groups and trade unions will meet together to discuss their common problems in order to work out a cooperative program for peace.

The enclosed list of some of the initial sponsors from Latin and North America will give you an idea of the hemisphere-wide support for this meeting.

We hope you will join with them -- and us -- in the United States sponsorship and that it may be possible for you to attend the Congress.

Sincerely yours,

V.E.B. X. Bois

B. Du Bois John Clark

Uta Hagen

Lune Pauling

Linus Pauling

0. John Rogge

For the American Continental Congress for World Peace

## THE GRADUATE FACULTY OF POLITICAL AND SOCIAL SCIENCE organized under the new school for social research 66 WEST 12TH STREET • NEW YORK CITY

July 22, 1949

Dear Norbert:

A question from a non-mathematical, antimetaphysical philosopher:

I have seen references to E. A. Milne and his work. The references indicate that he has been able to undo Einstein's relativity to the point where his variable is time only and the space of space-time is dispensed with.

Is this a correct report? Who is Milne? What is his story, and what improvements in fact has he made in the concept of relativity, if any?

I am up here for a check-up and will be returning to Truro as soon as the M.D.'s release me.

I trust you will yourself be getting some sort of holiday. Do keep cool and have all the fun there is doing so.

Yours always,

Horace le. Kalle.

Horace M. Kallen

Professor Norbert Wiener Massachusetts Institute of Technology Cambridge, Mass.



#### THE STAR WEEKLY

EDITORIAL DEPARTMENT 80 KING STREET WEST TORONTO, 1

July 22, 1949.

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

Dear Dr. Wiener:

We thought you might be interested in seeing this recent article which appeared in The Star Weekly.

Yours very truly,

aul

EWC:CH Encl. TORONTO STAR WEEKLY E. W. Cuthbert THROUGH FAITH IN MAN AND THE METHODS OF SCIENCE TO A GOOD LIFE FOR ALL.

## THE HUMANISTS

6128 SELMA AVENUE Los Angeles 28, California Telephone: HOllywood 9-8736 OFFICE HOURS: 10-12 AND 2-4 WEEK DAYS 10-12 SATURDAYS

July 26, 1949

Dear Dr. Weiner:

When I talked with you last, at your Saturday forenoon lecture at the University of California, the enclosed account of your lecture on the previous night was not yet ready. Since then, a review of it was prepared and published in our bulletin, "Looking Forward," and I am sending you a copy of it here.

The Humanists, with the participation of many instructors and research men at the various universities in California, are preparing now for a large local Conference on Science, Art, and Education, to take place some time in the late fall, probably around the end of November. We will have round tables, panel discussions, and general conferences, with the participation of the public at large, and the results of the Conference will be printed in pamphlet form, to be distributed by mail in tens of thousands of copies.

I know that you cannot be present personally at this California Conference, but we would appreciate it very much if you could send us a paper on Cybernetics, to be read in the Science section of our meetings.

The Humanists, with 3500 members in Los Angeles alone, are organizing new groups in San Diego, Oakland, and Berkeley, in addition to the ones now going in Los Angeles and Seattle. Dr. Meiklejohn in San Francisco, and Dr. Sanford at Berkeley, are very much interested in our fast-developing Adult Education program, which we hope, in the next five to ten years, will extend to other parts of America. As a matter of fact, at the International Seminar at Lake Tahoe this summer, one of our members from abroad discussed our program with students there from South America, Europe and Asia, and they in turn will take our program to their respective countries and try to make it known in ever-widening circles throughout the world.

I am enclosing also a copy of our April bulletin, in which, under the title of "The Humanists," our general aims and purposes are summarized. Since the fall Conference will tend to establish working principles for a cooperative adult education system that is free of national, racial, or other similar distinctions, I believe that Cybernetics is a subject which would be of great interest to the Conference, showing, as it does, the similarities between human behavior and that of machines, especially as concerns control and communication. For this reason, a paper from you would be much appreciated. It may be ten or twenty minutes long, and it does not need to be addressed to the expert. In fact, if you wish to strike a middle road between the expert and the layman, your paper, I believe, would constitute a singular contribution to our program.

With many thanks,

Cordially yours,

D. M. Morandini, Ph. D.

Chairman, Board of Directors

DMM-lrt Encl.

#### July 27,1949

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

Dear Professor Wiener,

With hearty thanks I received your "Cybernetics" and was happy to follow your recent work creating the new field in science. Your Cybernetics will prove the God father of knowledge which will flourish in the 20th century. And happily I found in your book so many names familiar to me: Levinson, Lee, Pitts, Vallarta, Dubé and others. To do justice to your book as a reviewer, however, is indeed difficult. I proposed Kosaku Yosida to review your book, but he admitted his incapability.

From the recent John wiley bulletin I have learned that you are about to publish "Extrapolation, Interpolation and Smoothing of Stationary Time Series". I am always proud of myself and happy to remind everybody that you are my teacher, but my efforts to deserve the name of your pupil seem always sadly lacking.

Some time ago Paul T. Bateman of the Advanced Institute gave me a pamphlet by Van der Corput on the new proof of the prime number theorem. I do hope to hear your recent work in this field ,too.

I have sent you the first two issues of the Kodai Mathematical SeminarReports, and a little book of mine on the elementary number theory. We shall appreciate your comments and advice for our modest attempt.

I am glad to hear that Kakutani is now on the staff of the Yale University. Next fall Kodaira of the Tokyo University will be at Princeton. On September 1 Professor Marshall H. Stone will be in Japan for two weeks stay. We are grateful to his kindness of sparing his time to see our conditions. I am doing my best to arrange a pleasant itinerary in conjunction with the Technical and Scientific **p**ivision, ESS, GHQ.

My family are all well, and my wife and three sons will visit their grand parents, 82 and 75 years of age, who are living near Kobe. On my desk is your photograph with Barbara taken by the Asahi Shimbun on your arrival at Yokohama, July 26,1935. As I look at the picture, my desire to visit the United States again burns as intensely as any young college student here.

We are sending our best wishes to your family.

Sincerely,

Shikas Ikehang

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THE INSTITUTE FOR ADVANCED STUDY SCHOOL OF MATHEMATICS PRINCETON, NEW JERSEY

July 27, 1949

Dear Norbert,

It is a very great pleasure for me to have this occasion to extend to you an invitation to deliver an address at the Conference on Applied Mathematics, to be held as part of the International Congress of Mathematicians at Cambridge, from August 30 to September 6, 1950. This invitation is on behalf of the Committee on the Conference on Applied Mathematics, of which I am the Chairman, and it has been approved by the Organizing Committee for the International Congress.

Your talk will be part of the session of the Conference to be devoted to Statistical Mechanics, and it is expected that your address will not exceed 50 minutes in length. If at all possible, the title of your address should be available by September 1, 1949. We hope that G. I. Taylor will be able to preside at this session.

Hoping that you will find it possible to accept this invitation, I am

Faithfully yours,

JOHN VON NEUMANN Chairman Committee on Conference on Applied Mathematics

JVN:LD

Professor N. Wiener Massachusetts Institute of Technology Cambridge, Massachusetts

CC: Prof. J. R. Kline Prof. Garrett Birkhoff



( . t ~ -

24 West 40th Street New York City 18

LOngacre 4-0330

## July 29 1949

Dear Dr. Wiener:

You have probably read "The Mind of Mechanical Man" by Geoffrey Jefferson. It is the lead article in the British Medical Journal, June 25, 1949.

Although we have not definitely decided on this, we may carry a very brief discussion of this article in one of our future Science and the Citizen columns. It occurred to me that you might be willing to make a short comment on this article--also for a possible inclusion in the column.

If so, the following quotation is an excerpt from the article:

"Although electronic apparatus can probably parallel some of the simpler activities of nerve and spinal cord ... it still does not take us over the blank wall that confronts us when we come to explore thinking, the ultimate in mind. Nor do I believe that it will do so. I am quite sure that the extreme variety, flexibility, and complexity of nervous mechanisms are greatly underestimated by the physicists, who naturally omit everything unfavourable to a point of view. What I fear is that a great many airy theories will arise in the attempt to persuade us against our better judgment. We have had a hard task to dissuade man from reading qualities of human mind into animals. I see a new and greater danger threatening--that of anthropomorphizing the machine. When we hear it said that wireless valves think, we may despair of language."

We shall certainly be interested in any comment you care to make. I have had a long talk recently with Warren McCulloch about prevailing misunderstandings of cybernetics, and feel that some remarks are certainly called for.

Cordially,

John Gerffer

JP: jag

John Pfeiffer

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