HERMANN LIBRAIRES ÉDITEURS - CAPITAL 3.888.000 FRS -6, RUE DE LA SORBONNE - PARIS (51) TÉLÉPHONE : ODÉON RÉP. DES PROD. 401 SEINE C. A. O. Nº D'ENT. 553-75105-0012 COMPTE CHÈQUES POSTAUX 416-50 PARIS, le 3 Septembre 1956 Monsieur Norbert WIENER Massachusetts Institute of Technology CAMBRIDGE 39 ( Massach.) USA Monsieur le Professeur, Nous sommes heureux de vous informer que nous avons abouti dans nos pourparlers avec les Edi-

tions Iwanami Shoten, de Tokyo, pour la traduction japonaise de "CYBERNETICS".

L'édition, qui doit paraître rapidement, sera tirée à 1500 exemplaires.

Nous pensons vous faire parvenir d'ici peu de temps les droits vous revenant sur cette cession.

Je saisis cette occasion pour me présenter à vous en tant que nouveau directeur de la maison Hermann. Nous avons l'intention de donner une impulsion nouvelle à nos éditions et, au premier chef, nous envisageons d'assurer une diffusion infiniment plus væte à votre ouvrage. Nous vous écrirons d'une façon plus précise à ce sujet d'ici peu. N'avez-vous pas l'occasion de fenir à Paris, je serais très heureux moi-même de faire votre connaissance.

Nous vous prions d'agréer, Monsieur le Professeur, l'assurance de nos sentiments les plus dévoués.

TELEPHONE : KLEBER 52-00 - TELEGR. : UNESCO PARIS UNITED NATIONS EDUCATIONAL, SCIENTIFIC AND CULTURAL ORGANIZATION ORGANISATION DES NATIONS UNIES POUR L'ÉDUCATION, LA SCIENCE ET LA CULTURE 19, Avenue Kléber, PARIS 16º In your reply, please refer to: En répondant, veuillez rappeler : 4 September 1956 No SS/637.874 Dear Sir, I wish to inform you that the forthcoming issue of the International Social Science Bulletin will be devoted to the subject of automation. It will naturally not attempt to review all the various aspects of the subject but will deal with those which are particularly relevant to the social sciences, laying stress on the results of the experience gained to date rather than on 'anticipations'. I visualize this issue as containing, after a general introduction on the nature of automation as compared to the industrial revolution, a number of contributions that will survey the domain of automation, its economic consequences and its impact on industrial relations within the factory, on management in industry, etc. In this context, I should like to invite you to contribute an article on the present domain of application of automation. Such a study would give a short historical account of the introduction of automation in various areas and would describe the types of industry that have already adopted or are likely to adopt automation. The problem of investment as a factor determining the introduction of automation would also be dealt with. For a paper of this nature and which should be approximately 5,000 word long, I am authorized to offer a fee of \$20 per thousand words, i.e. \$100 for an article of the required length. It would be appreciated if, for translation purposes, the article were submitted in triplicate, typewritten double spaced; the date limit for the receipt of all manuscripts is 1 January 1957. I should be most pleased if you were willing to accept this invitation ....

- 2 and I should appreciate any comments or suggestions you might like to make on the above outline. Looking forward to your reply, I am, Yours very truly, S. Friedman Department of Social Sciences Dr. N. Wiener c/o Massachusetts Institute of Technology Cambridge, Mass. U.S.A. SF/pl [aus 10/22/58]

THE UNIVERSITY OF CHICAGO PRESS 5750 ELLIS AVENUE · CHICAGO 37 · ILLINOIS Office of the Dictionary Sep. 4, 1956. Dr. Norbert Wiener, Professor of Mathematics, The Massachusetts Institute of Technology, Cambridge 39, Mass. Dear Doctor Wiener:-For many years here at the University we have been interested in preparing a dictionary of all those terms that appear to have become a part of the English language in the United States. I have of course been aware for some time that your word, cybernetics, should appear in our dictionary, and I am now getting around to including it. It will greatly help me if you will be good enough to let me know in what publication you first used this term. It would be ideal, moreover, if you could supply me with the excerpt in which the term first saw the light of day in print. Ours is a historical dictionary, so we try very hard to get these first examples of use, and to identify them as accurately as possible. This is a service which the commercial dictionaries do not have time or space for, but which all those who use words appreciate. So if your term appeared in some mathematical journal at a certain time, we would appreciate very much having the place definitely indicated and the passage containing the term. I hope this will not be too severe a chorse for you. And I am sure it will be much easier for you than it would be for one of our staff to go searching through the appropriate literature on the chance of turning up your first use of the term. Thanks very much for any help that you may be to us. Sincerely yours, M. M. Mathews

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## THE UNIVERSUTY OF SOUTHAMPTON.

Our Ref: 4/F.15.

4 September, 1956.

Your Ref: GTF/ts

Dear Sirs,

Thank you for your letter of 21 July regarding the inclusion of Professor Wiener's Fawley Foundation Lecture "Time and Organization" in a book to be published by the Masu Shobo Publishing Company, entitled "Cybernetics nine years after essays by Norbert Wiener?

On behalf of the University of Southampton, I waive any rights to royalty payments and have no objection to the proposal made by the Masu Publishing Company. I cannot, of course, give any assurance on behalf of Professor Wiener and I must make it clear that his permission for the inclusion of the lecture in the book should also be obtained.

Yours faithfully,

Paylichettur

Tam Bertan

Secretary and Register.

With reference to your letter of 31 August, I show above copy of letter sent to you on 30 July.

George Themas Folster & Associates, 423-Nikkatsu International Bldg., 1, 1-Cheme, Yurakche, Chiyoda-ku, Tekye, Japan.

ALAN D. WHITNEY auswered Investment Advisor WINNETKA, ILLINOIS Phone WI. 6-3030 543 Lincoln Avenue September 5, 1956. Professor Norbert Wiener, Massachusetts Institute of Technology, Cambridge, Mass. Dear Mr. Wiener: Recently my wife and I both read your "I am a Mathematician" and enjoyed it considerably, altho we perforce did not understand much of the technical parts. Now we are getting into "Ex-Prodigy" and it promises well. On page 35 of the latter, you mention a work by Camille Flammarion and ask for suggestions as to what it was called. Could it have been "Lumen"? I first found and read it in St. Petersburg, Fla., in 1925, at the public library. It made a deep impression on me and in recent years I was able to find it again only at the Library of Congress, thru our local library. I must admit that 30 years later it did not give me quite the same thrill. It is the story of the flight of a departed soul through space. As it can go at any speed, even that exceeding light, (cone trary to Einstein's and others' dicta that that is the ultimate speed,) the sould could see events going backward and far into the past. Many years ago, I read a short story by Maeterlinck, whose name and complete plot have also slipped my mind, that told about souls of men taken in war and long before their allotted time, entering as additional life force into the survivors who remained alive and in their immediate vicinity. I have pondered on that at regular intervals, and wonder if it has any connection with some of your ideas about human values. Maeterlinck said that there is just so much life force in existence, and the more candles that are snuffed out, the brighter the rest will burn. This has led me to many speculative thoughts, but I have never been able to do much with them. We have a son who will be a freshman at M.I.T. this fall. He may never get into one of your classes, but I do hope he has a chance to hear you lecture in open meeting some time. He was top boy in his class at New Trier H.S., altho some few girls beat him out. He won three honoy awards. He worked all summer at Western Electric installing phone equipment and got the job himself, thru the school. Yours sincerely Man De Muriney
[ans 1/21/57]

### ENGINEERING DEPARTMENT OF DOSHISHA UNIVERSITY Kyoto, Japan

September 7, 1956

Dear Professor Wiener,

I take the liberty of writing to you directly without being introduced by anyone. There is not a slightest hope that you may know me but I attended your lecture at Kyoto University and heard your voices quite a number of times on the air.

I am interested in applications of mathematics to various fields of engineering and science. At Kyoto University I majored in mathematical physics and at the Graduate School I specialized in the application of mathematics to aerodynamics and obtained a Ph.D. degree. At the Imperial College of Science and Technology in London I studied the mathematical theory of plasticity. After having read your invaluable efforts on Cybernetics and heard your lectures I was very much impressed by the vital importance of this new science. As a mathematician who is interested in its application to other fields I need a full command of the principles of Cybernetics.

Although I have published over 30 papers of the applied mathematical nature I have not written a single paper on Cybernetics. I have just started in its study. And I wonder if you could accept me as a student, give me a tutorial or let me sit at your seminar. I am a professor of Applied Mathematics here at Doshisha University but there is not a sufficient fund to send me to Massachusetts. So I am wondering if there are scholarships or assistantships at M.I.T. to support me duting my study there. I believe I can teach the mathematical theories of aerodynamics and plasticity to undergraduate students, and so if you could offer a position of research assistant who is to study and teach simultaneously I should be very grateful.

> Enclosed please find my personal history. Waiting for your reply,

> > Yours sincerely,

Nobuo Inoue,

Professor of Applied

Nobus Inoue.

Mathematics.

( Send moterner) P.S. I am particularly interested in the programming for the large automatic digital computer and am wondering if there is a job for me at the Computation Laboratory.

. [ans 10/16/56]

#### PERSONAL HISTORY

1. Name Nobuo Inoue

2. Date of Birth December 7, 1919

3. Place of Birth Kokura-dity, Japan

4.	Academic Training	Years			Water Cubicate	
	Institutions	from .		to		Major Subjects
	The Third High School	April	1937	March	1940	Science
	Tokyo Imperial Univ.	April	1940	March	1941	Applied Mechanics
	Kyoto Imperial Univ.	April	1941	Sept.	1943	Mathematical Physics
	Graduate School of Kyoto Univ.	Oct.	1943	Sept.	1945	Applied Mathematics
	Graduate School of London Univ.	Oct.	1953	Dec.	1954	Applied Mechanics

#### 5. Academic Positions Held

Position	Subject	Institution	from to
Assiatant	Chemical Experiment	Kyoto Univ.	Oct.'45 Mar.'46
Assistant Professor	Applied Mathematics	Doshisha Tech. Coll.	Apr. '46 Nov. '46
Professor	Applied Mathematics	Doshisha Tech. Coll.	Dec.'46 Mar.'48
Assistant Professor	Applied Mathematics	Doshisha Univ.	Apr.'48 Mar.'53
Professor	Applied Mathematics	Doshisha Univ.	Apr. '53

#### 6. Scholarships Received

Special Research Scholarship, Graduate School of Kyoto Univ., from Oct.'43 to Sept.'45. British Council Scholarship, British Council, from July 1953 to February 1955.

7. Names of societies of which I have been a member.

Physical Society of Japan Japan Society of Mechanical Engineers

- 8. List of the pricipal original publications
  - 1) On the drag of the sphere, Doshisha Engineering Review, Vol.1, No.1, 2-10, 1950.
  - 2) On the stability of a pair of vortices between two cylinders, Doshisha Eng. Rev., Vol.1, No.2, 34-46, 1951.
  - 3) Equations of slip lines in the two-dimensional plastic flow, Proceedings of the Physical Society of Japan, Vol.6, No.4, 217-218, 1951.
  - 4) Application of the theory of supersonic flow to the two-dimensional isostatical problem in the theory of plasticity, Journal of the Physical Society of Japan, Vol.6, No.6, 460-465, 1951.
  - 5) General Solution of the two-dimensional isostatical problem in the theory of plasticity, Doshisha Eng. Rev., Vol.2, No.1, 1-10, 1951.
  - 6) The solution of fundamental equation of plastic flow in polar co-ordinates, Doshisha Eng. Rev., Vol.2, No.1, 11-16, 1951.
  - 7) Electro-acoustic constants of piezo-electric vibrators (I) Bending vibration of trapezoidal vibrators, Doshisha Eng. Rev., Vol.2, No.1, 40-48, 1951.

- 8) On some hypothetical gases, J. Phys. Soc. Japan, Vol.7, No.1, 119-121, 1952.
- 9) Mechanics of perfectly plastic and pulverulent bodies and hydrodynamics, Proc. Phys. Soc. Japan, Vol.7, No.1, 45-46, 1952.
- 10) Mechanics of perfectly plastic and pulverulent bodies studied as a kind of gasdynamics, Soshisha Eng. Rev., Vol.2, No.2, 85-108, 1952.
- 11) Theory of hypothetical gases, Science of Machine, Vol.4, No.3, 218, 1952.
- 12) A study of the presumption of the strength of spot weld, Journal of the Welding Sodiety of Japan, Vol.21, No.4, 126-129, 1952.
- 13) Testing of welded material (I), Doshisha Eng. Rev., Vol.2, No.2, 109-113, 1952.
- 14) Statically determinate solutions of elastic-plastic problem, Proceedings of the 1st Japan National Congress for Applied Mechanics, Vol.1, 245-250.
- 15) Study of supersonic gas flow through nozzle by plastic deformation, j. Phys. Soc. Japan, Vol.7, No.4, 431-432, 1952.
- 16) Study of high-speed gas flow by plastic deformation, Science of Machine, Vol.4, No.7, 428, 1952.
- 17) Partial yielding in perfectly elastic-plastic solid of revolution, Doshisha Eng. Rev., Vol.3, No.1, 12-22, 1952.
- 18) New method of studying high-speed gas flow, Science, Vol.22, No.8, 426-427, 1952.
- 19) Some cases of the axially symmetrical flow of perfectly plastic materials, J. Phys. Soc, Japan, Vol.7, No.5, 512-518, 1952.
- 20) A new method of solution of the two-dimensional isostatical problem in the mathematical theory of plasticity, J. Phys. Soc. Japan, Vol.7, No.5, 518-523, 1952.
- 21) Application of gasdynamical method to soil mechanics and theory of plasticity (I), (II), J. Phys. Soc. Japan, Vol.7, No.6, 604-618, 1952.
- 22) Application of gasdynamical methods to determine statically the states of stress in perfectly plastic materials, Dissertation Kyoto University; Doshisha Eng. Rev., Special Papers No.1, 1-52, 1952.
- 23) Statically determinate solution of elastic-plastic problem, Doshisha Eng. Rev., Vol. 3, No.2, 7-14, 1952.
- 25) A new mechanical analogy for the flow of compressible fluid, Journal of the Aeronautical Sciences, Vol.19, No.11, 783-784, 1952.
- 25) Discontinuous solutions in soil mechanics, Proc. 2nd Japan Nat. Congress for Appl. Mech., Vol.2, 1953; Doshisha Eng. Rev., Vol.3, No.3, 51-60, 1953.
- 26) Communication on Sims's "Calculation of roll force and torque in hot rolling mills", Proc. of the Institution of Mechanical Engineers, Vol.168, No.6, 211-212, 1954.
- 27) Experimental investigation of the yielding of cylinders between smooth dies, Doshisha Eng. Rev., Vol.6, No.3, 1955.
- 28) Torsion of cylinders by relaxation methods, Doshisha Eng. Rev., Vol.6, No.4, 1956.
- 29) A new method for calculating natural frequencies of trapezoidal vibrators, Proc. 6th National Congress for Applied Mechanics, Vol.6, 1956.

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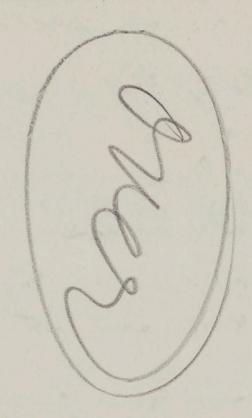
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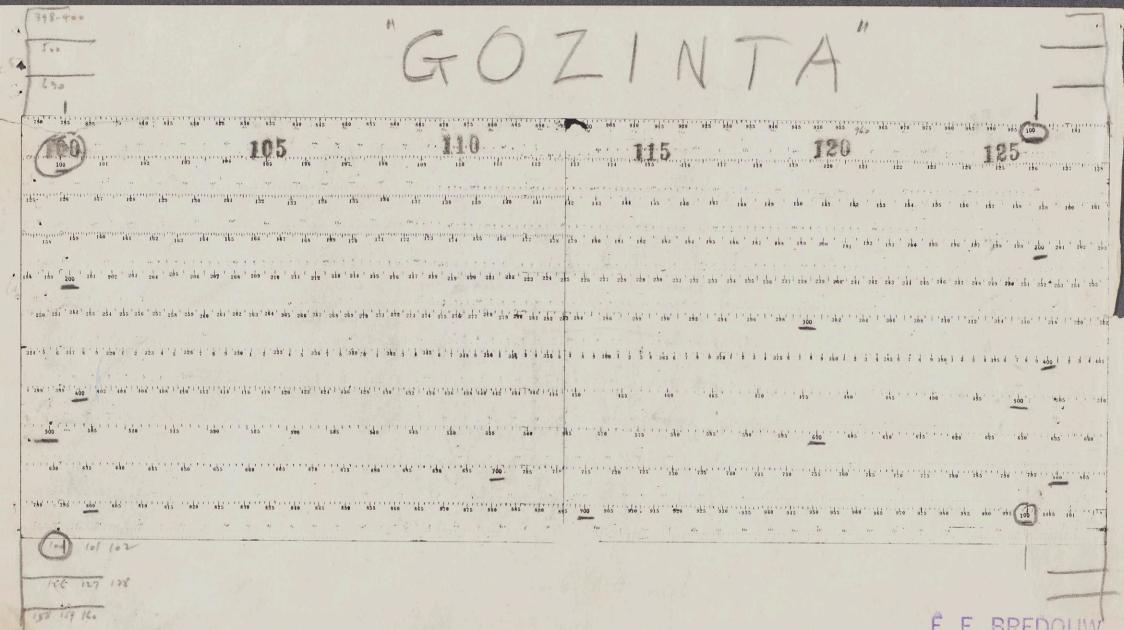


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JAMES M. ROSENTHAL ATTORNEY AT LAW 100 NORTH STREET PITTSFIELD. MASSACHUSETTS September 10, 1956 Dr. Norbert Wiener 53 Cedar Road Belmont 78, Mass. Dear Dr. Wiener: I have just finished reading your autobiography "Ex-Prodigy", and would like to comment on your characterization of Dr. Lowell. To begin with, I am a graduate of Harvard College and Law School, receiving my A.B. in 1909 and my LLB in 1911. By descent and religious faith, I am a Jew. As an undergraduate I took Dr. Lowell's course. Government I, but otherwise had no personal contact with him, either as an undergraduate, graduate or ordinary alumnus. I entirely agree with you in your high estimate of Dr. Eliot. If ever there was an Olympian among educators, he was the man. He exemplified his greatness by his open opposition to Dr. Lowell's ill-conceived attempt to put Jewish attendance at Harvard on a quota basis. But nevertheless I believe that Dr. Lowell in his capacity as president of Harvard College, did much for democracy, both within Harvard and without. In the first place by his furthering the construction of the "Houses" both for freshmen and upperclass men, he did much to break down the vast social barriers which existed in the latter part of Eliot's regime, between the financially limited undergraduates who lived in College House, and the financially affluent undergraduates who lived in Beck Hall or the so-called "Gold Coast". (I roomed in between, in Perkins Hall on Oxford Street.) In the second place, by his initiation of the tutorial system, and his modification of the elective system, he made serious study popular among the undergraduate rich. U plus was no longer considered the "gentleman's mark" as it was in my undergraduate days. The high stand man was no longer looked down upon as merely a "greasy grind." But most important of all, was his defence of academic freedom and freedom of speech among the Harvard faculty. At least three times he threw his weight against the attempt of Harvard alumni to discipline or get rid of members of the Harvard Faculty who had taken up unpopular positions. One was in the days immediately before our entering into World War I, - when Professor Muensterberg outraged important elements of

JAMES M. ROSENTHAL ATTORNEY AT LAW 100 NORTH STREET PITTSFIELD, MASSACHUSETTS -2- September 10, 1956 Dr. Norbert Wiener the community by his pro-German utterances. Another and still more significant, was his defence of the right of Harold Laski to take up the cudgels for the Boston policemen, in the Police strike episode. Finally he stood by Lechariah Chafee, that apostle of freedom of speech, when the latter wrote bitter criticisms of the administration of the World War I Espionage Acts. What Chafee himself thought of Dr. Lowell is shown by the fact that he dedicated the second edition of his book "Free Speech in the United States" published in 1941, in the following language: "This book is gratefully dedicated to Abbott Lawrence Lowell whose wisdom and courage in the face of uneasy fears and stormy criticism made it unmistakably plain that so long as he was President, no one could breathe the air of Harvard and not be free." With great respect, I remain, Very truly yours, James M. Rosenth & jmr/jat [ and 11/7/56]

aus wered BAD PYRMONT/ West Germany, Marcardstrasse 4. 13<sup>th</sup> September, 1956. Professor Nobert Wiener. Mass. Institute of Technology, CAMBRIDGE, Mass. Dear Wiener. I am just reading your autobiographical book and find it most fascinating. I discovered that you also refer to myself in a very friendly way. Your story has revived recollections of days gone by. My wife and I were very amused that you have remembered the story of the little electric train which we bought for our children and which an assembly of illustrious physicists failed to get working. There is only one little mistake in your account on our meeting in Göttingen, namely that my wife is not a pianist. My main partner in playing on two pianos at that time was HEISENBERG. He has now grown-up sons with whom he plays trios and quartetts in excellent little house concerts. We are living here in this remote place very quietly and are enjoying it. Our health is not strong enough for limving in big centres and seeing many people. But I am still doing some work. A book of mine containing popular lectures under the title "PHYSICS IN MY GENERATION" has just appeared, and I am reading proofs of a large text book of optics which I have written with Dr. WOLF, Manchester. I take the liberty of sending you a few reprints by seperate mail. You may be interested in the paper STATISTICAL DYNAMICS OF MULTIPLY-PERIODIC SYSTEMS which has certain relation to your own ideas. With kind regards from both of us, yours sincerely,



THE ENCYCLOPEDIA AMERICANA 2 WEST 45TH STREET, NEW YORK 36, NEW YORK SEPTEMBER 13. 1956 Office of the Editor PROFESSOR NORBERT WIENER DEPARTMENT OF MATHEMATICS MASSACHUSETTS INSTITUTE OF TECHNOLOGY CAMBRIDGE, MASSACHUSETTS DEAR PROFESSOR WEENERS WE REGRET THE PRESSURE OF WORK PREVENTS YOU FROM DOING THE ARTICLE AUTOMATION FOR THE AMERICANA. IT IS VERY GOOD OF YOU TO TAKE THE TROUBLE TO SUGGEST ANOTHER PERSON AFTER YOUR RETURN TO CAMBRIDGE. THANK YOU FOR YOUR CONSIDERATION. SINCERELY YOURS. LPD/ARO [ans 10/10/56]

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September 14, 1956

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

My dear Dr. Wiener:

Several months ago I wrote you about our magazine, LIBERATION. However, your secretary informed me that at the time you were in India.

Under separate cover I shall mail you copies of a couple of issues of the magazine. However, the thing that has triggered this letter is an article which appeared in the September 10th issue of The New Leader and a copy of which is enclosed herewith.

It seems to me that the author, Geoffrey Ashe, has done a fresher and more penetrating analysis than anything else I have happened to see. On the other hand, I do not know enough about the processes which he describes to know whether his descriptions are accurate or the conclusions he draws warranted. My hunch is that he is too optimistic and that there are important factors in the situation of which he has not taken account.

This is a subject to which you have given more profound attention than anyone else in this country. I am wondering whether it might be possible for you to do an article for LIBERATION taking off, perhaps, from Ashe's article. Anything that you would say on this subject, especially, of course, on what it would mean for human beings and for the culture of the future, would be important. I am sure you realize that it has to be pretty non-technical for our readers.

Hoping that we may have some word from you soon as to the possibilities and with high regard. I am.

Sincerely yours,

rusle

AJM:ab

Encl: Ashe

September 15,1956 . My dear Professor Wiener. As per your request, I am sending you further information about our conference on Information theory, statistical decision functions and stochastic processes. I hope that the topics covered will be of interest to you and will be very pleased if you could arrange to attend. A conference on these topics would not be complete without your presence. It may interest you to know that Professor Blackwell of Berkeley has accepted our invitation. Should you decide to come, it may be pleasant for you both to arrange to come together. Originally it was planned to reimburse travelling ex-

penses to foreign participants. Unfortunately, since it was not possible to count on your participation, due to your trip to India, and due to the gratifying response abroad to this conference, our budget for this account has allready been fully committed.

Of course, since Professor Blackwell's promise to attend came in Jannuary, it was possible to include his expenses in the budget. I hope that your inability to extend the same courtesy to you will not influence your decision.

Yours sincerely

Antonin Spacek
Antonin Špaček

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Sincerely yours,

J. S. Barnes Vice President

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## September, 1956

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THE AMERICAN ORTHOPSYCHIATRIC ASSOCIATION, Inc. 1790 Broadway, New York 19, N. Y. JUDSON 6-5690 DIRECTORS PRESIDENT JULES HENRY, PH.D. LUTHER E. WOODWARD, PH.D. ST. LOUIS, MO. BROOKLYN, N. Y. VICE-PRESIDENT FREDERIKA NEUMANN THEODORA M. ABEL, PH.D. NEW YORK, N. Y. NEW YORK, N. Y. RALPH D. RABINOVITCH, M.D. SECRETARY NORTHVILLE, MICH. JESSIE EDNA CRAMPTON ROBERT L. STUBBLEFIELD. M.D. BROOKLYN. N. Y. DENVER, COLO. S. HARCOURT PEPPARD, M.D. ROBERT I. WATSON, PH.D. EAST ORANGE, N. J. EVANSTON, ILL. EDITOR EXIE E. WELSCH, M.D. GEORGE E. GARDNER, M.D. NEW YORK, N. Y. BOSTON, MASS. PRESIDENT-ELECT MARION F. LANGER, PH.D. REGINALD S. LOURIE, M.D. September 18, 1956 EXECUTIVE SECRETARY WASHINGTON, D. C. Norbert Wiener, Ph.D. Massachusetts Institute of Technology Boston, Mass. Dear Dr. Wiener, The American Orthopsychiatric Association is planning to hold its Annual Meeting in Chicago on March 7, 8 and 9, 1957. The Program Committee in reviewing current social problems with particular relevance to orthopsychiatric interest, felt that it would be of extreme value to set up a session on the broad subject of "Automation." We are aware of the breadth of this subject as well as of the fact that the term itself is still relatively poorly defined. It was the feeling of the members of the Program Committee that, perhaps, there was no other person who could bring to those attending the sessions, better understanding of this very complex problem in the broad social scene than you can. We do know that you are very occupied but would appreciate it very much if you would find it possible to consider presenting material on this subject. We would like to plan to include other speakers, particularly from both fields of management, labor, with possibly discussants from the field of clinical practice. We would welcome any questions or suggestions you might have about the format of a session on this subject. We do hope that it would be possible for you to participate in this part of the program. We do feel that this is an extremely important question which has been given relatively little attention in the broad psychiatric field and that there is almost no one else we could call upon who could spark some of the thinking needed on this question. Thank you for your interest and cooperation. Myron J. Rockmore MJR: fh Chairman, Program Committee 1957 ANNUAL MEETING, MARCH 7, 8, 9, HOTEL SHERMAN, CHICAGO, ILLINOIS Ears 9/25/56) Tokyo Institute of Technology Oh-okayama, Meguroku Tokyo, Japan

September 20,1956

Dear Margaret:

It is our hope that you are now happily relaxing in your own home after an extended world tour and that you can recall many pleasant memories, including those of Japan. Our family of three sons and a daughter is keeping its state of welfare. The major concern is the entrance examination for the eldest son to a univeristy in March next year. In our country good universities have freshmen whose 70% have tried more than once for admittance. Thus severe examinations have deformed the educational system to a dried set of required subjects.

At long last your package is on the ocean connected through the Panama Canal to Boston harbor. Disconnected good intentions have failed to produce concrete results for a long time. Mr. Yoshinori Chatani has had troubles with the box undue to its size. You may be surprised to hear that my final note with Everett Steamship Corporation was on September 14th when I finally found out of the shipment and of a certain Mr. H.G.Adam of this company, who was a friend of Norbert in Medford around 1905. By the way he was sorry to have missed opportunities to exchange hellos.

When you receive the box safely in the early part of October, you may write an article entitled: "Box sailed across three oceans". Some time ago I received many photographs and a copy of Norbert's talk at the Japan Productivity Center. Let me mention that I sent a batch of photographs to South Tamworth in behalf of Dr. Yasujiro Niwa of the Institute of Electrical Engineers of Japan.

With greetings from our house to houses of yours, Barbara and Peggy,

Sincerely,

Shikao Ikehara

Tokyo Institute of Technology Oh-okayama, Meguroku Tokyo, Japan September 20,1956 Professor Norbert Wiener Massachusetts Institute of Technology Cambridge 39, Mass., U.S.A. Dear Norbert: You are now back to the familiar ground to resume your work, and we believe that you are finding MIT pleasant and vigorous as ever. I am glad to know that Dr. Julius Stratton has become Chancellor for his matured judgement and far-sighted planning at our old Institute. During August our family enjoyed short trips to mountainous regions, where the sons were delighted in horseback riding, bicycling, and fishing. Our summer has climbed the height in temperature and humidity in step with the record breaking world events, but we were glad to make frequent visits to a nearby pool. The three sons are already back to the formal process of learning. For the sake of completeness I should like to write down some requests made in my last letter. (1) The Masu Shobo is very anxious to start the printing of your book, "Cybernetics Nine Years after", which will be complted with your PREFACE. In July I returned the original preface to have some remarks added concerning the Fawley Foundation Lecture. A copy of the letter from the University of Southampton is enclosed for your reference. (2) We like to know your arrangement of essays, which are: The main ideas of cybernetics Servo mechanism and automatic factory Time and organization The origins of cybernetics Brain waves and the interferometer ausweil. Measure and probability

- 2 -(3) In deriving "bit", do you prefer binary items ( as given in your lecture) to the customary binary digits? (4) The Japanese translation of your lectures will gain prestige if you would give it your Preface to the Japanese edition. To the home edition will be added prefaces by Mr. Tetsuo surukaki, the former president of NHK, and Dr. Yasujiro Niwa. They will explain the whole project for your lecture tour and give due credits to all those engaged in this undertaking. At the present moment it appears that I may be the sole translator since Dr. I. Koga is rather hesitant in releasing his own translation of "The origins of cybernetics". I shall appreciate very much if you are obliged to write two prefaces and to give us further instructions to complete your tour here. With my best wishes to your colleagues, Sincerely. Stilkar Shikao Ikehara

#### MICHIGAN STATE UNIVERSITY

OF AGRICULTURE AND APPLIED SCIENCE . EAST LANSING

DEPARTMENT OF STATISTICS

Dear Prof. Wiener: I arrived in Cambridge on Thursday the 1.3th to find that you a Mrs Wiener, had left for N.J that day. My impression had been that you would return from vacation \$ on the 10th and would be at MIT the meceding week: The letter which His Goodwin said Mrs Wiener wrote me informing me of your change of plans did not reach me in New York . I only learnt about it after calling at MIT. from you for regarding & plans for the future. In the meanwhile I am

you under separate Sending draft of our Non timear production comments. for your Regards Sincerel Kallianpur 20th Sep 56

OFFICE OF THE SECRETARY GENERAL

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

September 20, 1956

TO FELLOWS:

The time has come, as the Walrus said, to talk of many things; but, at this time of the year, I am interested most in talking about one thing: the quality of the 1957-58 Fellowship vintage.

Will you please help to make the vintage fine in quality and large in quantity by suggesting first-rate prospective applicants to us? You know our standards, of the abilities of the men and women we were established to assist. Your suggestions of such able persons, for a prime vintage, will be appreciated.

The due-date for applications for 1957-58 is October 15 next; but this is not a deadline and we shall accept applications for 1957-58 as long after October 15 as we possibly can do so.

If--as the Walrus suggested to the Carpenter, in Wonderland--you wish to talk also of many other things, I shall be interested in anything you may have to say. Perhaps I should call your attention to the fact that, in the enclosed announcement of our 1957-58 Fellowships, we have omitted the statement of previous years that our Fellowship grants were normally \$3,000. for a year. That statement is not now an accurate statement of the amounts of our Fellowship grants, and the present statement accurately represents our practice: "The amount of each grant will be adjusted to the needs of the Fellows, considering their other resources and the purpose and scope of their studies."

Your help will be appreciated; and if you have

any questions, I shall be pleased to try to answer them.

with thanks for your past help and with best regards— Henry Allen I Secretary

Dr. Norbert Wiener

Massachusetts Institute of Technology

Cambridge, Massachusetts

[ans 11/7/56] "

Dear Ikehara:

First let me acknowledge the receipt of your good letter of July 21 which arrived as we were on the verge of leaving Los Angeles to go back to Boston. Not until last week did we get back into our house, and we are now gradually getting our things including correspondance into order. This, I hope, will explain our delay in answering your letter.

As it is, you have probably gone and made the right decisions anyway, but I shall take up each question in your letter just

the same.

- (1) We fully agree with you to mention in the English edition of the published lectures only " the Japan Broadcasting Corporation and the Institute of Electrical Engineers of Japan, representing many other co-sponsoring organisations " to give due weight to the University of Southampton. Include all the names you think necessary in the Japanese edition
- (2) The order of the essays as given by you is perfectly acceptable.
- (3) The only detailed explanation Norbert suggests on the slides of the brain wave lecture is the following:

"This is an example ( or examples ) of an autocorrelogram of an electroencephalogram."

- (4) Mr. Folster is Norbert's appointed agent and it is perfectly proper for the publishers, Masu Shobo to negociate with him regarding royalties.
- (5) We cont care how many collaborators you have just so long as you are in charge of the translation and get due credit.
- (6) We are writing to Dr. Yoshida that since the book on the grammar of the semi-exact sciences is not yet even in the first draft we cannot make any commitments.
  - (7) The name is Bohm and not Boehm.
  - (8) Use binary digits if that is the more usual term.

Are you now in possession of all the corrections done by Gordon Raisbeck and Y.W. Lee and/or others to incorporate in the translation?

With best wishes to you and your family, we remain, sincerely,

to those of a technical mathematical nature. I gladly leave to others philosophical comments on cybernetic matters, with the hope that they feel themselves as unrestricted experience of their apeculations

This book is composed of a series of lectures on cybernetic ginsbasian has soutiting barology and series on cybernetic ginsbasian has soutiting barology and series on cybernetic ginsbasian has soutiting barology and series of 1956 under topics which I was invited to give in the spring of 1956 under the sponsorship of the Japan Broadcasting Corporation and the Institute of Electrical Engineers of Japan, representing many other co-sponsoring organisations.

been necessary for me to avoid as far as possible a technical to vocabulary and the use of mathematical formulae. There has been no attempt attempt in whese lectures to achieve a rounded and comprehensive view of the development of cybernetic sciences and techniques at the present time. The lectures have been rather a series of talks on topics which I found personally interesting and which I regard as important in the technical fields of communication and control and in respect to the social problems arising from the recent applications of these fields in engineering and elsewhere.

An early worker in a new field incurrs the danger of becoming a name about which a new body of doctrine centers, and thereby of becoming the slave of his own earlier work. This danger I wish to avoid as far as I can. I am intensely interested in the development of cybernetics as a science, and I adhere on the whole to some of the warnings which I have given of the misuse in action of some of the new techniques which cybernetic work has made possible, but I emphatically do not wish to be bound by what cybernetics seems to be becoming in certain quarters: a militant propoganda. I have therefore come to the decision to devote my future work in the field as much as possible to new scientific developments and in particular

to those of a technical mathematical nature. I gladly leave to others philosophical comments on cybernetic matters, with the hope that they feel themselves as unrestricted and unbound in their speculations as I did in my earlier ones.

let me express here my profound gratitude and friendship rabnu adel to galage and al avig of belival asw I doldw solgot to my hosts in Japan.

the sponsorship of the Japan Broadcasting Corporation and the Norbert Wiener

Institute of Electrical Engineers of Japan, representing many other co-sponsoring organisations.

For the Japanese preface list the co-sponsoring organizations of Japan by name eldisson as asl as blove of em not vassesen need tometta on need and every . The transfer of th evianederomoe bas behavor a eveldos of servicel esenta al fomejis view of the development of cybernetic sciences and techniques to seizes a redar need evan setures I am . The present the series of talks on topics which I found personally interesting and which noites important in the technical fields of communication mort anistra ameldery latoos edt of toequer at bas fortace bas the recent applications of these fields in engineering and elsewhere. An early worker in a new field incurre the danger of becoming a name about which a new body of doctrine centers, and thereby of becoming the slave of his own earlier work. This danger I wish to -coleveb edt ni beteeretni vienesni ms I .nao I as tal as biova ment of cybernetics as a science, and I adhere on the whole to some of the warnings which I have given of the misuse in action of some of the new techniques which cybernetic work has made possible, but of amees actionredge fadw yd bound ed of dalw fon ob yllacifadgme I be becoming in certain quarters; a militant propoganda, I have therefore come to the decision to devote my future work in the field

Taluoijaso ni bas ajaemgolevab pilijaejos wen oj eldiseog as doum as

First draft of proposed PREFACE The present book is composed of a series of lectures on cybernetic topics which I was invited to give in the spring of 1956 under the sponsorship of the Japan Broadcasting Corporation and the Institute of Electrical Engineers of Japan representing the following co-sponsoring organizations: Mathematical Society The Society of Applied Physics, Japan, Physiological Society of Japan, Society of Instrument Technology, Japan, Japan REG Society, Japan Society of Mechanical Engineers, The Institute of Electrical Communication Engineers of Japan and The Institute of Electrical Engineers of Japan. As the lectures were destined for general audiences it has been necessary for me to avoid as far as possible a technical vocabulary and the use of mathematical formulae. There has been no attempt in these lectures to achieve a reounded and comprehensive view of the development of cybernetic sciences and techniques at the present time. The lectures have been rather a series of talks on topics which I found personally interesting and which I regard as important in the technical fields of communication and control and in respect to the social problems arising from recent applications of these fields in engineering and elsewhere. An early worker in a new field incurrs the danger of becoming a name about which a new body of doctrine centers, and thereby of becoming the slave of his own earlier work. This danger I wish to avoid as far as I can. I am intensely interested in the development of cybernetics as a science and I adhere on the whole to some of the warnings which I have given of the misuse in action of some of the new techniques which cybernetic work has made possible,

MASSACHUSETTS INSTITUTE OF TECHNOLOGY
CAMBRIDGE 39, MASS.

DEPARTMENT OF MATHEMATICS

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but I emphatically do not wish to be bound by what cybernetics seems to be becoming in certain quarters: a militant propaganda. I have therefore come to the decision to devote my future work in the field as much as possible to new scientific developments and in particular to those of a technical mathematical nature. I gladly leave to others philisophical comments on cybernetic matters, with the hope that they feel themselves as unrestricted and unbound in their speculations as I did in my earlier ones.

Let me here express my profound gratitude and friendship to my hosts in Japan.

Norbert Wiener

September 21, 1956

Professor Kosaku Yosida Department of Mathematics Tokyo University Bunkyo-ku, Tokyo, Japan

Dear Professor Yosida:

First let me apologize for the delay in answering your letter of June 23. Not until last week did we get back to M.I.T. to organize the work and all the correspondance.

I am happy to know that you and Professor Iyanaga are looking over the translation of cybernetics and are giving the translators the benefit of your valuable advice.

My new book, with the tentative title " A Grammar of the Semi-exact Sciences" is not yet far enough advanced for me to be in the position to agree on translation rights. When such a time arrives Iwanami Shoten will certainly be among the first to be given consideration.

My wife and I are still reliving our wonderful visit to Japan and wish to thank our friends there once more for all the kindness shown us.

Sincerely,

September 25, 1956

Professor Campbell Chr. Michelsen Institute Nygardsgaten 114 Bergen Norway

Dear Mr. Campbell,

I am again recommending you as the author of an Encyclopedia Americana article on automation, as you will see by the letter of which I enclose a copy.

The address to which I am forwarding it I have from the files of the Electrical Engineering Department. Would you possibly send me the permanent address, so that I could make further referece to you in the future.

My wife and I had a most successfull trip around the world, and when you get back to America, will you get into contact with us, as we have many interesting things to talk about.

Sincerely yours,

Norbert Wiener

Mr Stanley R. Hopper The Graduate School Drew University Madison New Jersey

Dear Mr. Hopper,

I am afraid that I cannot accept any lecturing obligation which involves finishing a manuscript for publication. While I perfectly understand your position, I have generally found that such obligations seriously interfere with the work I want to do on my own research.

I am occasionally willing to talk to general audineces on material I know well, when a lecture is taken for what it is worth and does not involve approving it as a permanent statement of mine.

I find that the habit of those who wish me to lecture, to expect that I embody my lecture in a permanent form, creates a drain on me which is greater than I care to undertake.

Sincerely yours,

Norbert Wiener

NW/ls

[and. 10/5/56]

September 25, 1956 Mr. M. Mathews The University of Chicago Press 5750, Ellis Ave. Chicago Illinois My dear Mr. Mathews, The word, cybernetics, was first used by me in my book, "Cybernetics", which appeared in 1948 under the imprint of Wiley and Sons. I later found out that the word had been used before, in a similar but more restricted sense, by Ampere, and, independently, by a Polish scientist whose name does not come to my mind. The definition of the word, as I have used it, appears in my book on cybernetics and still corresponds to my interpretation of

> the concept. As to such use as others may have made of the word, it is important

> to you to consider whether they constitute a change in the meaning and use of the concept.

> > Sincerely yours,

Norbert Wiener

September 25, 1956 Mr. Edmund H. Merz Monsanto Chemical Company Plastics Division Sprintfield 2 Massachusetts Dear Mr. Merz. As to the lecture which you propose for me before the American Association for the wancement to Science in Springfield, I should not like to undertake it before the next spring season. I also accept it under the understanding that no manuscript for publication is expected of me. I suggest as a subject "The grammar of the semi-exact sciences", as I am at present engaged in writing a book on this topic. Sincerely yours, Norbert Wiener NW/18

Mr. J. A. Redeker Mathenesserlaan, 251 Rotterdam The Netherlands

Dear Mr. Redeker,

As to the distinction between automation and automatization, I have nothing to say.

Personally I per automatization for all its uses, becaus II regard the word automation as badly formed and inconsistent with the best tradition of using words with greek roots for scientific terms.

Sincerely yours,

Norbert Wiener

NW/1s

Mr. Fred A. Reed Schenectady General Electric Engineers Association 1, River Road Schenectady 5, N. Y.

Dear Mr. Reed,

Now that I have a secretary and time to dispose of my accumulation of mail, I should like to write to you about my final decision concerning the request of the General Electric Engineers Association for me to give a lecture on Saturday next.

I find that after so much lecturing for so many years I wish to spend this year as far as possible on new research work. I therefore am turning down almost all such invitations, and I see no cogent reason why I should make an exception in your case.

I therefore regretfully find myself unable to accept your invitation.

Sincerely yours,

Norbert Wiener

Mr. Myron J. Rockmore
American Orthopsychiatric Association, Inc.
1790, Broadway
New York, 19, N. Y.

My dear Mr. Rockmore,

I regret that I find myself unable to accept new lecture engagements on my schedule for this year.

I am at a stage, when I have the pressing duty of writing up past research waterial and embarking on new research. I therefore find it necessary to restrict my activity to these two.

Sincerely yours,

Norbert Wiener

Mr. James D. Scott School of Business Administration University of Michigan Ann Arbor

My dear Mr. Scott,

I find that my policy for a few years past of accepting lectures is wantonly and seriously interfering with my plans for new research.

I therefore am adopting a new policy of respectfully refusing such invitations en masse.

I hope you understand my action in this respect and hope very much that you find another person to give a lecture in my place.

Sincerely yours,

Norbert Wiener

no eb SVENSKA DAGBLADET CHEFREDAKTÖREN STOCKHOLM WAX Sept. 26, 1956. Mr. Norbert Wiener. c/o Messrs. Doubleday & Co. Inc.. Garden City. N.Y. Dear Sir. As the biggest conservative newspaper of Sweden. Svenska Dagbladet is endeavouring to give extensive information in regard to culture and science, being always prepared to open its columns to questions relating to these fields, not least so, of course, in connection with the conferring of the Nobel prizes. Twenty years ago, in 1937, Svenska Dagbladet made an inquiry to prominent scientists all over the world. The result was presented to our readers in a series of articles, later issued as a book. The survey thus given of the aspects of science at that time was met with evident and high appreciation by our public. We are now planning to make an inquiry of a similar kind, with a view to give a picture of the rapid development of science during the past two decades and to give an idea of the most urgent tasks awaiting ahead, and for that purpose we venture to ask for your assistance. We should be much obliged to receive an article by your hand, giving answers, in a form intelligible to all, to the following questions: Which, in your opinion, are the most important events having occurred since 1937 in your field of research? 2) Which gaps of knowledge do you consider most important to be filled, as far as your special branch of science is concerned? Which are, in your opinion, the tasks which should be placed as a goal for the endeavours of the scientists in the near or distant future? What are your views as regards the relations between science and society, now and in the future? We do not, of course, reckon to get an exhaustive or systematic answer to the above questions. Any scientist replying to our questions will do so at liberty, taking up such aspects that seem to him as the most urgent. The length of the article, too, we leave very much at the option of the persons inquired. We should thank you for a manuscript not exceeding 2000 words, which we are prepared to remunerate in accordance with the terms valid for Swedish papers. We should appreciate having your contribution as soon as possible and not later than the 15th of November. Hoping that our inquiry will meet with your kind interest and thanking you in advance for your assistance. I remain. Yours faithfully, ana Hemlis (Allan Hernelius) Editor in Chief

MASSACHUSETTS INSTITUTE OF TECHNOLOGY CAMBRIDGE 39, MASS. DEPARTMENT OF MATHEMATICS September 26, 1956 dentlemen, The enclosed memorial concerning the death of Witold Hurewicz was composed by Dr. Norman Levinson on the basis of various material in his possession and made available to him. It is my opinion that it is satisfactory in its present form. If, however, you have any further comments and suggestions to make on this memorial, please send them to me. If you think it is allright, I shall forward it to proper MIT authorities. Otherwise we shall make arrangements for modifications acceptable to all of you. Sincerely yours Norbert Wiener Norbert Wiener NW/1.5

Prof. Wiener's Gpy RESOLUTIONS ON THE DEATH OF WITOLD HUREWICZ Witold Hurewicz, one of Europe's most gifted mathematicians. came to the United States in 1936 to escape the totalitarianism that was engulfing Europe. He was devoted to the ideal of freedom and human dignity and was always prepared to do battle to achieve these ideals. Professor Hurewicz had a delightful personality both on the human and scientific side. Personally he was open and approachable, and scientifically he was original and venturesome. He was thoroughly at home in the modern and postulational development of mathematics which his native country, Poland, had done so much to foster. He was also active in the development of applications and during the war served in the Radiation Laboratory. He was a topologist and at the same time a mathematician belonging to those old traditions in which mathematical science continually gains renewed strength from contact with other sciences. He is best known as the founder of homotopy theory which became the major branch of topology. His interest in mathematics was broad and his work was highly elegant and aesthetic. He was warm and generous to colleagues and students, offering new and important discoveries of his own for them to develop and publish. He was a gifted teacher who presented even the most complicated notions in simplicity and clarity. After class he would adjourn to his office blachkboard with interested students. He was just as interested in freshman calculus as in advanced research level subjects and he constantly sought to improve the subject matter he taught. His personal loss to the department is only matched by the continuing need which we feel for him in carrying on our plans and ideas for the development of mathematics for its own

sake and for its relationship with its sister sciences and techniques. Therefore Be it Resolved: That the Faculty of the Massachusetts Institute of Technology in recognition of the great loss it has sustained, hereby records its tribute to Witold Hurewicz and its appreciation of his noteworthy contributions to the Institute. And Be it Further Resolved: That a copy of these resolutions be sent to his brother. Respectfully submitted Norman Levinson Lloyd Rodwin Laszlo Tisza Norbert Wiener, Chairman

Mathematics Department The Institute of Science Bombay 1, India September 27, 1956 Dear Professor Wiener: Under separate wers A Herewith two copies of part II of our paper, the first of which may be sent for publication. Sorry for the delay in sending this. The issues involved here are not as clear cut as those in part I, and the presentation is a bit more intricate. Sec.3 is heuristic in scope, but I would favour its retention, as otherwise our P, operator (4.1) will strike the reader rather abruptly. To get our  $P_{\bullet}$  operator (4.1) will strike the reader rather abruptly. To get our  $P_{\bullet}$  we have to use  $\Phi^{-1}$ , where  $\Phi$  is the generating function of the S.  $P_{\bullet}$ , i.e.  $F = \Phi \cdot \Phi^*$  (F = spectral density). Now, cf. Uniqueness Thm. 4.15, we can relate  $\Phi$  to the factor  $\Phi$  obtained from our algorithm, only if the Fourier series of  $\Phi$  has no negative frequencies. To rule out negative frequencies from the Fourier series of  $\Phi^-$  a non-trivial task, since  $\Phi^-$  need not be in any Hardy class—we appeal to the isomorphism between L. F and M., as well as the Boundedness Condition 4.3. This is done in Secs. 5,6, cf. Thm. 6.4. Secs. 5,6 cannot therefore be dispensed with. It is interesting that although \$\overline{D}^{-1}\$ plays an important role, matrix inversion is not encountered at any stage in the actual computation of the predictor (Sec. ?). Sec.8 stands apart from the earlier sections, and may be turned into an appendix. I would not mind its deletion as it touches . on your work with Kallianpur. I refer to a forthcoming paper by Kallianpur and yourself in a footnote on page 46. I hope that you have had an interesting meeting with him, and that this paper will materialise soon. The question is of great practical importance. The only thing I have included which we did not discuss, is how the multiple predictor can be gotten by solving linear equations in which the unknowns are matrices (Sec. 2, pp. 10, 11). I thought it would be good to have this approach on record, albeit its limitations. Please feel free to make any alterations you like. Some of the proofs in Sec. 1 and elsewhere may be omitted. I will soon be on vacation, and hope to be able to give you a better account of my activities in November. With very kind regards, Sincerely yours P. Masani P. Masani Professor Norbert Wiener Department of Mathematics Mass. Institute of Technology [ one 10/4/56] Cambridge, Mass. U. S. A. P.S. To save postage I am sending the popers to-day by registerel book fort airmail. Kindly advandedge their receipt. Sept. 29, 56.

WHEATON COLLEGE NORTON MASSACHUSETTS

to answer

DEPARTMENT OF PHILOSOPHY

September 29. 1956

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

Dear Professor Wiener:

Since talking with you on the phone about the panel discussion on Poetry and Science I have had assurance from Raymond Seeger of the National Foundation that he will be able to take part. This means that science will not lack for a representative. If on second thought you would like to participate our invitation is still open.

The other participants are Richard Eberhart, poet, recently at Princeton and now resident poet at Dartmouth, and Isabel Creed Hungerland, philosopher and critic, University of California.

This discussion is part of the national meeting of the American Society for Aesthetics, whose journal you may know. The Friday sessions are to be in the Little Theatre, Kresge Auditorium, and include a symposium on music, papers on aesthetic theory, and address by Joseph Hudnut on Steel Construction and its Architectural Expression. At 3:30 there is a panel discusion on The Critic's Reasons with Heyl of Wellesley and Aiken of Harvard. After cocktails and dinner in the M. I. T. Faculty Club we shall go up to the Pent House for the Poetry and Science discussion. I very much hope that even though you decide against being a panelist you will come and participate in the general discussion.

The Saturday sessions are at the BMFA and treat of questions in the visual arts and various topics in the philosophy of art.

Sincerely yours,

Holcombe M. Austin

Program Chairman, ASA

Holeowbe M. Austin

Dept 30, 1956

Dr. Norbert Weener, Prof Mathematics M.I.T. Cambridge, Mass.

Dear Dr. Weiner --

Your I A M has just come to me, viaxMaxxkibraryz Mercantile Library. I have skimmed over the index, read pages at random intil 3 am this morning. The decisive base ball games are now on the air, and I am listening with half an air, but I must write what I feel when I feel it.

To thank you for writing this wonderful, human book.

Another of Hilbert's students was my very very dear friend, Henry Blumbers, of Ohio State University, through whom I had the privelege of meeting dear, gay, Otto Szasz

(we put on the Moebius stunt to a brilliant party of Columbia University folks, newspapermen, labor specialists, in Marks all years ago - Marks ago -

Bernstein, (I made the apparatus for him with which he demonstrated the solution of pakymemiakaximaxx binomial coefficients, and solution of La Place bounded equations before OSU math faculty, after which I was "Doctor" O'Hare) and who explained to me that if I read Cantor's memoirs in the original I would have no difficulty in getteing in the theory of point-sets, that text books are simply confusing!

Frechet, who demonstrated solution for real roots of polynomials in x graphically - to the astonishment of same body of mathematicians, and who explained the political situation in France to me --

Barnett, the very dear friend of Blumbergs and his lovely wife Fanny,

I came into mathematics very late-- at the age of 56, through Blumberg's every-loving kindness -- as I do not call what I used as a young electrical engineer working on Tesla a.c. fractional h.p. motors in the then samell shop of Emerson Electric by the name of mathematics. Blumberg thought I could qualify for a degree under him if I could give a year to residence, but I had to spread it over month/h's visits over the years until his death, which robbed me of a large part of myself. He though I had the ability to put in simple language what populizers of mathematics had tried so had at, and failed in. We had a mass of MSS and on his retirement, that is what we were going to do--publish his life work on his specialty, the popular books--

He was found dead at his desk, his will lying on it, distfributing his \$50,000 estate among his five friends, as his brothers were

housekeeper, to provide for publication of his bookas his two brothers were independently wealths, and had always and disposed his ideas and life purpose-

the will lay there, unsigned. His trusted lawyer betrayed hom, by announcing to the friends that the will was invalid. which, was NOT true, under Ohio law. But when the fraud was discovered six month's later it was TOO LATE, under the law, to recover. One brother doed shortly. The other took all y and decided that it is too expensive to publish a mathematical work of that type. Where the MSS is now no one knows. For the brother who inherited also died shortly.

How would enjoy reading your work together -- he, with sophisticated understanding, explaining to me, where necessary,

Steinmetz, also was my friend and comrade, Danzig, Dresden, and in MIT I have a young friend, "Jim" Baldwin, with whom you may be working.

My wife warns me NOT to introduce the subject of mathematics when discussing matters with my friends.

When my son, a business man, was here asking mu consideration and advice in a business area where I am supposed to be competent, I wanted to illustrate how he should think out things on a kigher level. Edison had little or no mathematics, (My wifes grandfather gave Edison his first telegraph key and sounder to practice on) Steinmets had to deal with frequencies.

"Its like the diatonic scale, in the first octave. See what happens when the overtomes in the second octave are lowered one octave and contemplate the construction of a pianok with 8 octaves—and the development of the only partly harmonic "well tempered Klavier"—

I got no further -- for Dick said "Pop, will this pay the rent?"

"A small rent? No. But if your are every prosperous enough to lease a million-dollar plant you certaining will have mastered the technique of thinking in the "upper partials" (

Which may have been a crude illustration on my part, but seemed to be unintelligle, or of no interest, to him.

Or, as mt old mentor in the Electrical business used to tell me "experts", "mathematicixcians" "linguists" are a dime a dozen.
Businessmen hire them. You are training as a businessman."

People cheerfully admit (even graduates in mathematical courses) that they have no use for, and do not care for, nor understand ANY mathematics. This gives me a chance to say that they probably understand no more of politics, economics, history, the tariff, Suez Canal, foreign politics, the English language (semantics) but are long on slogans.

You are a busy man, and I do not want to bore you. or I could say more, write a book as thick as yours, in fact, but could not fully express how rich and satisfying your present work is to me. Enlatging my imagination, clearing up sertain mysteries.

It is with pre-mathematics CHILDREN, whose minds have not yet been abused in schools, that it delightful to explain the beginnings of numbers, making the child tell what idea C appears to him if he knows A and B.

I was deligheted when my twelve-year old grand child told me that he "understood" "exponents." (at that age you now doubt were dealing with theory of groups)

A few steps, and he contemplated

exponent; base 10

and I asked him what the exponent for the number 2 must be?

We determined it roughly as .300. so that x 2 is practicalky 10

the number of leaves if he folded a sheet of paper 60 times--

practical pappa broke in " No one can fold a sheet of paper more than 7 or 8 times."

"Wedl, Dick, nor was can any one draw a straight line, or accurately measue a segment of it. We are dealing with the imagination."

We roughly estimated the thickness, of this book, 1000 leaves to the inch, in terms of light years.

The child now goes into a special "elite" 7-8-9 grades in 2 years. in N.Y.C. If he could jest be lickly enough to have a teacher!

The Brooklyns have won - the life goes out of the game with the Braves in St. Louis. still going on.

But I will have a lot of fun reading IN this here book of yours., Cordially, gratefully,

A wealthy ftiend wanted to in know what book he shouls send me to add to my shelves. I will let him know, as I know now. It will be IAM

Specet Others