CORRESPONDENCE Nov. 1-15, 1954

Dept. of Math.
Mass. Inst. Tech.
Cambridge 39, Mass.

[ca. Nov, 1954]

Dr. B.N. Prasad
c/o India's Delegation to
UNESCO General Conference
Hotel Victoria Plaza
Montevideo, Uruguay
South America

Dear Dr. Prasad:

I understand from Professor Wiener that you plan to be in this country the latter part of December and that you would be willing to give a talk in our Lecture Series here in the Mathematics Department.

Unfortunately, the time that you will be in this country coincides rather closely with the Christmas vacation. However, if you could manage to be in Cambridge on either Tuesday, December 14, or Wednesday, December 15, we would like very much to have you give a technical talk of about an hour on the subject you mentioned, "Contributions to certain Summability problems of Infinite Series", or a similar topic. We would be able to offer you an honorarium of $50 towards your travelling and living expenses.

If you will be able to come on either of those dates we will appreciate hearing from you by December 6 so that we can send out notices in advance. Will you please give us an exact title of your talk.

There is a slight possibility that Professor Wiener will leave for a trip to the west coast before you arrive but this is not yet definite.

Very sincerely yours,

George W. Whitehead, Associate Professor and
Chairman, Department Lecture Series Committee

THE
NEW YORKER
No. 25 WEST 43RD STREET

OXFORD 5-1414

[ca Nov, 1954]

Dear Professor:

When will I have the pleasure of seeing you? Your dinner is getting cold.

Sincerely,

Tom Whiteside

Thomas Whiteside

[ans 11/17/54]

EYE DOCTOR

Dr. Victor C. Rambo
Christian Hospital
Mungeli, C. P., India

M

HAS AN APPOINTMENT WITH

TRYGVE GUNDERSEN, M. D.

101 BAY STATE ROAD

ON AT

IF IT IS IMPOSSIBLE TO KEEP THIS APPOINTMENT KINDLY GIVE TWENTY-FOUR HOURS NOTICE

TELEPHONE COMMONWEALTH 6-6610

[ca. Nov, 1954]

Bldg. 83, Apt. 8
Clifton Park Manor Apts.
Wilmington 2, Del.

Prof. Norbert Wiener
Dept. of Mathematics
MIT
Cambridge 39, Mass.

Dear Prof. Wiener:

I was thinking about noise limiting in radio communication the other day. A matter came up which nobody was able to answer. As I am a former student at MIT, and I know of your stature in the field of Theory of Communication, I thought of you. I hope you will not think me presumptuous in referring this matter to you.

The matter is this: Is it possible that the audio component of noise received on radios is not completely random, but is more-or-less similar at least over a limited range of radio frequencies? It would seem, especially for man-made noise, that such might be the case. If so, the application of a two-channel receiver and signal subtraction seems obvious, and must have been done. What is known about this?

Very truly yours,

Leslie P. Case

STANFORD UNIVERSITY
STANFORD, CALIFORNIA

DEPARTMENT OF MATHEMATICS

November 1954

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

Dear Colleague:

The sixtieth birthday of our friend and colleague Professor Gabor Szegö falls on January 20, 1955. If you wish to participate in the celebration that we are planning for that day, please write on the enclosed sheet your message to him and, if you would like to do so, add a neat little problem that may amuse him; then return the card (do not forget to sign it) in the enclosed addressed envelope so that it reaches us not later than December 31, 1954. All the sheets received in due time will be nicely bound together (do not write on the perforated margin) and presented to Szegö on his sixtieth birthday. We think that a collection of problems offered by some of his friends would be a fitting and original feature of the celebration.

Thanks in advance!

Yours sincerely,

Charles Loewner

Charles Loewner

G. Pólya

George Pólya

M. M. Schiffer

Menahem M. Schiffer

P.S. Of course, your problem remains your property and sending it to us does by no means prejudice its publication in any manner you may choose.

HARPER & BROTHERS
Publishers Since 1817

49 EAST 33D STREET
NEW YORK 16, N. Y.

November 1, 1954

Dear Mr. Wiener:

As Mr. Bessie is still abroad, I am writing to thank you for your kind note of the 26th about John Pfeiffer's THE HUMAN BRAIN.

Sincerely yours,

Joan Robins

Secretary to Mr. Bessie

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

jr

(2)

INDUSTRIAL COLLEGE OF THE ARMED FORCES
WASHINGTON, D. C.

ICAF 201 1 November 1954

Dear Professor Wiener:

Your letter regretting that you would be unable to speak to the Industrial College of the Armed Forces was received today with regret.

Your absence will deprive our student body of what I have been told was a real treat in learning of "Automation in Production."

We appreciate that we will not be able to get another lecturer on this subject who will bring to it your knowledge and background. However, the subject is of such importance to us that we feel it must be presented to the student body. May I presume upon your good nature to suggest to me another qualified lecturer or lecturers on this subject?

Your assistance to the Industrial College and your interest are most appreciated.

Sincerely yours,

B. C. McCaffree

B. C. McCAFFREE
Captain, U.S. Navy
Chief, Production Branch

Professor Norbert Wiener
Massachusetts Institute of Technology
Cambridge 39, Massachusetts

[ans 11/9/54]

UNIVERSITY OF CALIFORNIA

DEPARTMENT OF MATHEMATICS
STATISTICAL LABORATORY
BERKELEY 4, CALIFORNIA

November 1, 1954

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

My dear Wiener:

I have just returned home and found your letter of October 18. I am very sorry that I was not able to answer it any earlier.

The tendency to create sensations out of scientific discoveries and to pollute scholarly meetings with publicity hullabaloo is a most regrettable one, and I perfectly appreciate your worry. However, one should try to see what can be done, and also one should make an effort to look at the situation realistically. I must begin by making a rough estimate of a reasonable audience which you are likely to face in Berkeley.

(1) At present we have in the Laboratory upwards of twenty-five scholars of varying levels, including advanced graduate students. I think it is pretty certain that at least twenty people from our group will be anxious to come and listen to you.

(2) As you know, we are close neighbors and friends of the Mathematics Department proper. The academic staff of the Mathematics Department is a multiple of our own. Also the number of their graduate students is bigger. It is true that many of these people may be less interested in what you are going to say than our own colleagues. However, I think it is realistic to expect that some thirty or possibly forty individuals from the Mathematics Department will be in your audience.

(3) As you must also know, we have a tremendous number of physicists on this campus. Some of them are attached to the Physics Department proper. The multiple of this number are in contact with the Radiation Laboratory. Since your lecture is co-sponsored by the American Physical Society, it is realistic to assume that you will have at least as many physicists in your audience as statisticians and pure mathematicians combined. You will see then that the scholarly part of your audience is very likely to exceed one hundred, and when I say scholarly I have in mind people who are actively interested in one aspect or another of the problem of statistical mechanics.

Thus far I was estimating the number of people from Berkeley who would be coming to your lecture, but in addition we rather expect to have quite a few visitors. These again will be of varying standing, but among them there will be persons of the caliber of Kac, Szegö, etc. Thus it seems unavoidable that your audience will be large, running into a couple of hundreds. However, I am convinced that the individuals whom I have attempted to count will not be the mob you would like to avoid facing but will be competent students and quite a few accomplished scholars.

Now this is one side of the situation. As I see it, it is rather satisfactory. All we have to do now is to see that a couple of hundred scholars in your audience are not diluted by, let us say, five hundred others who are incompetent and who would be following sensational reporters. It is a difficult problem to prevent them from coming. Your name is so well known, not only in scholarly circles but also outside them, that unless some specific thing is done it is not unlikely that the publicity men will bring in a crowd of outsiders. As far as I can see the only thing we can do is to prevent the reporters from starting a vociferous hullabaloo. Probably this can be done best by your supplying Dr. Sidney S. Negus of the American Association for the Advancement of Science with a properly formulated abstract of what you are going to say. I have the form for this abstract before me and see that there is room on it for about twelve typed lines, double spaced. If you write the abstract quoting one or two theorems which you may think to be more important that the others to be presented at the Symposium, and if these theorems are stated in about the same language as is usual in your writing, I am sure that any sensation seeking reporter will have quite a job in examining the material and will be prevented from starting an undesirable publicity campaign.

This morning's mail brought me copies of your letter to Dr. Negus and of his reply to you. I am afraid that the spirit of what I have just dictated and what he writes to you are slightly different, but not altogether different. I still think that, as you suggest, sensationalism should be avoided as far as possible and that a dose of technicality in the "non-technical" abstract of the paper is likely to do the trick.

I am most sincerely hoping that you will come to Berkeley and speak to us. I assure you that there will be a substantial number of people with reasonable preparation who will be anxious to listen to you and to learn. True, they could learn from your writings, but you know very well that reading a written word is not quite the same as listening to the live speech of a great scholar.

With best personal regards,

Yours cordially,

J. Neyman

J. Neyman

JN:md

cc: Mr. Negus

P.S. As I wrote you before, we are in the pleasant position to contribute to your expense. We have funds which will permit us to pay your transportation and a modest honorarium, probably $150.00, for the manuscript to be published in the Proceedings. If you need a travel advance please write, and it will be a pleasure to forward you a check.

[ans 11/8/54]

November 1, 1954

Mr. R. L. Crowley, Managing Editor
St. Louis Post-Dispatch
St. Louis, Missouri

Dear Mr. Crowley:

Professor Wiener is anxious to know if you have received the article he mailed to you on October 18th, since he has not yet heard from you concerning it.

Please let him know as soon as possible about this.

Sincerely yours,

Barbara Beaumont Cole

Mrs. James Cole
Secretary to
Professor Wiener

November 1, 1954

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

Dear Jason:

I hope to send the rest of the chapters to you within the next few weeks. As soon as you have received the last chapters and read the whole manuscript, please send it all along to me with your comments, so that I can go through them and make the final printing revisions as a whole.

I have found a copy of the India chapter and am going ahead with it. I may also write a final summary chapter, tying things together and bringing them up to date.

What do you think of the title LIFETIME OF LEARNING for the book?

Sincerely yours,

Norbert Wiener

NW:bbq

Magoroh Maruyama
München 23, Biedersteinerstrasse 49
bei Prof. Carl A. Bembé
November 2, 1954

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

Dear Prof. Wiener,

I have found that the "Arbeitskreis für angewandte Anthropologie" in Göttingen is undertaking an interesting research on "the sciences, human beings and society".

Today I am asking the Kreis to mail to you one of its publications. If you have time, please look through it and let me know about your opinion.

Sincerely yours,

Magoroh Maruyama

ST. LOUIS POST-DISPATCH

NEWS DEPARTMENT

November 2, 1954

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

Dear Professor Wiener:

Please forgive me for not having replied earlier.

We did indeed receive your excellent article, and I was entrusted with preparing it for publication. A rough proof of the article is enclosed. I tried to keep the cuts at a minimum, and the only substantive change I made, I believe, was to enclose the explanation originally at the head of the article in a box for use in an adjoining column.

I hope you will find yourself able to approve these changes and will let us know at your earliest convenience.

Sincerely,

Donald Grant

Donald Grant
Interpretive News Editor

[ans 11/5/54]

November 4, 1954

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

Dear Jason:

My secretary Mrs. Cole is leaving me, not because of any particular crankiness on my part, but because she finds that the commuting of about 100 miles a day, and the double obligations of a wife and a secretary are too much.

You have seen how she has handled my manuscripts, for all the work of last year and that done since I have come back from the country has been in her hands. The first draft of the invention book was dictated to her, and she prepared the index for, and assisted in the proofreading of the Anchor book.

She has her Bachelor's degree in English literature from Oberlin College, and has done some graduate work in that subject. Her husband teaches philosophy at Brandeis.

I suggest that with her experience in seeing a book through, you may have some work to farm out to her which will not require extensive travel.

I can recommend her strongly, but since you have seen her work, that will recommend her even more strongly. Mrs. Cole has done some writing herself, and wishes to keep her hand in the publishing game.

Sincerely yours,

Norbert Wiener

UNIVERSITY COLLEGE LONDON

DEPARTMENT OF BIOMETRY

Telephone - EUSton 4400

GOWER STREET, W.C.1

Professor J. B. S. HALDANE

5th November, 1954.

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

Dear Norbert,

I ask your help with the following integral equation

$$\phi(t) = \int_0^\infty F\left[\phi(t-x)\right] f(x)dx.$$

Here F and f are known functions and ϕ is unknown.

The stability presents no difficulties. One applies Nyquists criterion. I am interested in what happens when small oscillations build up. In fact the functions are as follows.

$f(x)$ is a distribution function. That is to say $\int_0^\infty f(x)dx = 1$, $\int_0^\infty e^{\lambda x} f(x)dx < \infty$. $f(x) \geqslant 0$ for $x \geqslant 0$. I am mainly interested in the cases where the standard deviation is much less than the mean.

$F(y)$ is never negative, $F(1) = 1$, $F'(1)$ is fairly large and negative. In fact $F(y) = ye^{\rho(1-y)}$, where $\rho = 5.5$, gives a good fit to the experimental data, so $F'(1) = -4.5$.

The problem arises as follows. The eggs laid by Ny flies in one day give rise to $NF(y)$ flies a generation later, the value of N being chosen so that, for the given constant rate of food supply, $F(1) = 1$. $f(x)$ is the distribution function for parental ages x. In fact $\phi(t)$ oscillates fairly steadily with a period about twice the mean parental age. The maxima are about twice the equilibrium value, the minima are quite near zero. (A. J. Nicholson, Australiam Journal of Zoology 1954).

I can solve the equation when oscillations are small (Nyquist

and water). I can solve it when f(x) is a delta function and $\phi(t+a) = \phi(t)$ (Boole and water). I can do a little when it is highly concentrated near a particular value.

~~But~~ In this case the feed-back is very bad from the engineering point of view, and the oscillations build up. But they then settle down. You have in fact a sort of stability of the second order, very non-linear. It seems to be the perfect challenge for you cyberneticians, all done by bluebottle flies.

I send some reprints. You will see that my wife and I have applied cybernetics for the first time to an animal "language". The data are not as good as they could be, but the attempt was, I think, worth making.

Yours sincerely,

J.B.S. Haldane

[ans 11/16/58]

SECRETARIAL NOTE: Reprints sent under separate cover. HE.

November 5, 1954

Mr. Donald Grant
Interpretive News Editor
News Department
St. Louis Post-Dispatch
St. Louis, Missouri

Dear Mr. Grant:

Many thanks for sending me the proof. I am quite content with its present state and so is my partner Mr. Campbell.

I am sending it back as ready to go whenever you see fit.

Very cordially yours,

Norbert Wiener

maf
Enc.

DOUBLEDAY & COMPANY, INC., *Publishers* 575 MADISON AVENUE, NEW YORK 22 ~ MURRAY HILL 8-5300

November 6, 1954

Dear Professor Wiener:

Good. As soon as I get your last chapters, I will send the whole works back to you. You will notice that I have made quite a few marks in the manuscript, and in a few places have asked you to expand things. I would guess that you will have two or three more weeks of work once I have returned the manuscript to you.

Sincerely,

Jason Epstein

P.S. Thank you for Chapters IX and X which have just arrived.

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

JE:nr

A DEPARTMENT OF THE YOUNG
MEN'S CHRISTIAN ASSOCIATION
FRIENDLY • CLEAN • ATTRACTIVE • INEXPENSIVE • HELPFUL

YMCA HOTEL •

FOR MEN AND WOMEN • 826 SO. WABASH AVENUE
CHICAGO 5

GUEST CORRESPONDENCE

Nov. 6, 1954

Dr. Norbert Wiener

Dear Sir:

In recent days I have taken the liberty of using some of the ideas suggested to me by your book "Cybernetics"

Today I have written to the President suggesting the establishment of a National Academy at the Presidio of San Francisco I feel that the idea is worthy of consideration and if you believe it has merit perhaps you will lend it your support.

Best Regards,

Richard Baum Wszenek

[ans 11/16/54]

CONNECTICUT COLLEGE
NEW LONDON, CONNECTICUT

DEPARTMENT OF PHYSICS

November 8, 1954

Dr. Norbert Wiener
Massachusetts Institute of Technology
Camdridge, Massachusetts

Dear Dr. Wiener:

Under separate cover I am sending you a copy of my newly-published, book, Relativity for the Layman. I am sending it in the hope that it will look inviting enough to you for you to want to read it. In particular, I would like your honest opinion of the book and, providing it is favorable in general, I would like to quote you (with others) in future advertisements in such journals as Scientific American, Sky & Telescope, Philosophy of Science, etc. Although it is on a technical subject I am sure you will find it simple enough as to be almost relaxing in comparison with your everyday technical work.

In writing the book I was aware of the need for a fairly comprehensive book containing the history leading to relativity as well as a fairly complete account of the proofs and developmetns to date. With this in mind I have endeavoured to make the book as complete as possible but at the same time keeping it really elementary, in keeping with its title. Since you are undoubtably familiar with all aspects of the theory of relativity there will be very little in the book you do not know. However, I especially invite your attention to chapter 6 (The Nature of the Universe) and chapter 7 (The Unified Field Theory). I believe you will find the treatment of this material original and, I hope, entertaining as well.

A brief biographical sketch of me is on the back cover of the book jacket. This is my first book.

Thanking you for any consideration you may give, I am,

Sincerely yours,

James A. Coleman

James A. Coleman

[ans 11/20/54]

UNIVERSITY OF CALIFORNIA

Department of Mathematics
Statistical Laboratory
Berkeley 4, California

November 8, 1954

Professor Norbert Wiener
Massachusetts Institute of Technology
Cambridge 39, Massachusetts

Dear Colleague:

This is to transmit to you the printed program of the first part of the Third Berkeley Symposium, December 26-31, 1954 and a mimeographed supplement thereto, and to confirm the arrangements for your participation. I hope that the paper you have kindly promised to deliver is accurately described in the program and that there is no misunderstanding as to the date and hour.

You may remember that in our original correspondence an honorarium for the preparation of the manuscript was mentioned somewhat tentatively. I am happy to inform you that this problem is now definitely solved and that for each manuscript there is assigned an honorarium of $150. In the case of a joint paper, this honorarium will have to be shared by the authors. The honorarium is payable upon the delivery of the manuscript prepared for the printers in accordance with the rules enumerated in the attached sheet. We sincerely hope that you will be able to deliver the manuscript at the time of the meeting next December, but the final deadline is January 31, 1955.

We hope that the Proceedings of the Third Symposium will be published within the year 1955. You will receive 50 copies of your paper free of charge. Also, you or your institution will be able to order additional reprints. I repeat, however, that because of the publishers' fear that excessive circulation of reprints may affect the sales of the Proceedings, extra reprints will be somewhat more expensive than in the case of an ordinary journal.

Looking forward to the pleasure of seeing you at the Symposium and thanking you for your contribution,

Yours cordially,

J. Neyman

JN:jr
Encl.

J. Neyman
Director, Statistical Laboratory

P.S. In accordance with our previous correspondence, I am happy to confirm that this Laboratory will contribute to your travel expense as follows: (i) Up to the equivalent of first class plane ticket to

Berkeley and return which amounts to $318.40, (ii) $10.00 for incidentals such as taxis, etc.

Naturally, this University does not mean to impose on you any particular mode of transportation. Whichever way you select, please keep the receipts which must be submitted to the Comptroller's Office in order to obtain payment. When purchasing a ticket, please use the enclosed tax exemption certificate which you must sign.

If you need a travel advance, please write and I will try to secure it for you.

THE AMERICAN PHYSICAL SOCIETY

Advance notice of the

1954 Winter Meeting at University of California, Berkeley

December 28, 29, and 30, 1954

The 1954 Winter meeting of the American Physical Society will be held at the University of California, Berkeley, on Tuesday, Wednesday, and Thursday, December 28, 29, and 30, 1954. The Secretary is indebted to Professor R. T. Birge, Chairman of the Department of Physics, and particularly to a local committee under the chairmanship of Professor W. A. Nierenberg, for the responsibility of planning this meeting. There are six sessions consisting almost wholly of invited papers, including one session devoted to the Division of Electron Physics. The meeting will be notable in that the number of papers received represents an appreciable increase over previous West Coast meetings. There are 28 invited papers and 166 contributed papers. This necessitates four parallel sessions for most of the meeting.

The attention of the members of the Physical Society is called to the fact that this is a joint meeting of the American Physical Society and the American Association for the Advancement of Science, whose meetings will be held throughout all of the same week. As a result, the Physical Society is sponsoring a joint session with the Third Berkeley Symposium on Mathematical Statistics and Probability, Session A, Monday afternoon, at 1:30.

Registration will take place in the lobby of Le Conte Hall (where all the meetings except Session A will be held). Members and guests of members are asked to pay a registration fee of $1.00. A telephone and message board will be available at the Registration Desk. In addition, Room 2, Le Conte Hall, will be available for informal discussions. Coffee will be served during sessions in the seminar room, 375 Le Conte Hall, and Room 385 will have a telephone for the convenience of the Society and can be used by prospective employers for interview purposes.

The dinner of the American Physical Society and Sigma Pi Sigma will be held Thursday evening at 7:30 at the Men's Faculty Club. The price will be $2.00 per person, and the tickets for the dinner can be purchased at the Registration Desk at the time of registration. It should be mentioned that the number of places available is strictly limited by the size of the Club and with the anticipated size of the meetings, not everyone may be able to be accomodated. The presiding officer at the dinner will be Professor A. C. Helmholz, and the principal speaker will be Professor R. T. Birge, Vice President of the Society. An open luncheon meeting,

sponsored by the Berkeley branch and the Stanford Chapter of the Federation of American Scientists, will be held on Wednesday, December 29, at the cafeteria on the Berkeley campus. Details will be posted at the meeting. All interested persons are invited.

The faculty wives of the Physics Department and the wives of the members of the Radiation Laboratory have planned a number of informal tours of the Bay Area. Information concerning these activities of the meetings will be available at the Registration Desk.

The Radiation Laboratory has kindly offered to arrange tours of the laboratory during the meetings. Again, due to the large number of people expected to take advantage of this opportunity, there will be a series of these visits, one each afternoon during the meetings proper, and an opportunity will be made available for each visitor to sign up for the day of his preference at the Registration Desk.

The local committee feels that there is no point in making any other special arrangements for the entertainment of the members of the Society, because it has been their experience that the members of the Physical Society are well able to find their own amusement in the Bay Area.

The hotel arrangements are more complicated than usual since the A.A.A.S. has preempted all the space immediately available in the Bay Area, and centralized it in the Berkeley Chamber of Commerce. Therefore, all requests for hotel accomodations must be referred to the Convention Bureau of the Berkeley Chamber of Commerce, with a $5.00 deposit per person, and a specific statement as to the kind of accomodation wanted, and length of time required. It may very well be that most of the members will have to share a double room.

- - -

Post-deadline ten-minute papers, pertaining to very recent achievements of particular importance will be considered for admission to a special supplementary program if the abstracts of these are received not later than Monday, December 20, in the office of the Local Secretary for the Pacific Coast. There will almost certainly be one such session devoted to machine-made unstable heavy particles. The titles of such papers will be announced on locally prepared mimeographed sheets, which will be available at the time of registration.

J. KAPLAN, Local Secretary for the Pacific Coast
University of California
Los Angeles 24, California

EPITOME OF THE 1954 BERKELEY MEETING

(Personal names are those of invited speakers.)

MONDAY

1:30 A. Wiener, Kac, Montroll. 145 Dwinelle Hall.

TUESDAY

10:00 B. Shutt, Anderson, Lagarrigue, and Gell-Mann. Le Conte 310.

10:00 C. Contributed papers. Le Conte 4.

10:00 D. Contributed papers. Le Conte 3.

10:00 E. Contributed papers. Le Conte 1.

2:00 F. Christy, Karplus and Ruderman, Rosenbluth and Rosenbluth, Johnson and Teller. Le Conte 1.

2:00 G. Miller. Contributed papers. Le Conte 4.

2:00 H. Contributed papers. Le Conte 3.

2:00 I. Contributed papers. Le Conte 310.

WEDNESDAY

9:00 J. Richardson, Green, Cork, Panofsky, Livingston. Le Conte 310.

2:30 K. Marshall, Sutton, and Chamberlain. Le Conte 310.

2:30 L. Contributed papers. Le Conte 1.

2:30 M. Contributed papers. Le Conte 1.

THURSDAY

9:00 N. Kip, Slichter, Hutchison, Pake. Le Conte 310.

9:00 O. Zernike. Contributed papers. Le Conte 3.

9:00 P. Contributed papers. Le Conte 4.

9:00 Q. Hofstader. Contributed papers. Le Conte 1.

1:30 R. Garrett, Alpert, Bracewell, Kaplan. Le Conte 310.

1:30 S. Contributed papers. Le Conte 4.

1:30 T. Contributed papers. Le Conte 4.

1:30 U. Wildhack. Contributed papers. Le Conte 3.

1:30 V. Darrow. Post-deadline papers. Le Conte 2.

7:30 Dinner. Men's Faculty Club.

PROGRAMME

Monday Afternoon at 1:30
145 Dwinelle Hall

(MINA REES, presiding)

Statistical Mechanics

Joint Session with the Third Berkeley Symposium on Mathematical Statistics and Probability

Invited Papers

A1. Hopf-Wiener Equation System and Matrix Factorization. Norbert Wiener, Massachusetts Institute of Technology. (30 min.)

A2. Foundation of Kinetic Theory of Gases. Mark Kac, Cornell University. (30 min.)

A3. Effect of Dimensionality on Long-range Order in Crystals. Elliott Montroll, O. N. R. (30 min.)

Tuesday Morning at 10:00
310 Le Conte Hall

(R. F. BACHER, presiding)

High Energy Physics

Invited Papers

B1. High Energy Interactions at the Cosmotron. R. P. Shutt, Brookhaven National Laboratory. (30 min.)

B2. The Unstable Particles. Carl D. Anderson, California Institute of Technology. (30 min.)

B3. S-Particles and Charged Heavy Particles. A. Lagarrigue, Ecole Polytechnique, Paris. (30 min.)

B4. Theoretical Views on the New Particles. M. Gell-Mann, University of Chicago (on leave to Columbia University). (30 min.)

Tuesday Morning at 10:00
4 Le Conte Hall

(A. L. BENNETT, presiding)

Contributed Papers

C1. Effects of Attenuating Materials on Detonation Induction Distances in Gases. Marjorie W. Evans, Frank I. Given, and William E. Richeson, Jr.

C2. Growth, Coalescence and Decay of Vortices in a Jet Accompanying Pfeifentone. A.B.C. Anderson.

C3. I. Shock Front Structure in Argon. John W. Bond, Jr.

C4. II. Recombination in an Argon Shock Front. John W. Bond, Jr.

C5. Detonation in Gas at Low Pressure. Arthur L. Bennett and Henry W. Wedaa.

C6. Shock Waves in Air Produced by Waves in a Plate. William A. Allen, Joe M. Mapes, and Earle B. Mayfield.

C7. Quantitative Fluid Flow Visualization with Streaming Birefringence. Harold Wayland.

C8. Velocity of Explosively-induced Shock in Steel. Samuel Katz.

Tuesday Morning at 10:00
3 Le Conte Hall

(V. F. LENZEN, presiding)

Contributed Papers

D1. On the Scattering of Electromagnetic Waves by a Bounded Lattice of Parallel Cylinders. V. Twersky.

D2. A Modified Holtzmark Distribution. S. Gasiorowicz, M. Neuman, and R. Riddell, Jr.

D3. On Dynamical Friction. R. Riddell, Jr., M. Neuman, and S. Gasiorowicz.

D4. Apparent Limit of Convergence of the Perturbation Series Solution for the Free Undamped Equation with Hardening Spring. John C. Burgess.

D5. Integral Equation Solution of Space-charge Wave Propagation. Philip Parzen.

D6. The Statistical Thermodynamics of Isotope Effects. I. Theory of Equilibrium Processes. Irwin Oppenheim.

D7. The Statistical Thermodynamics of Isotope Effects. II. The Equation of State of the Hydrogen Isotopes at Intermediate Densities. Abraham S. Friedman and Irwin Oppenheim.

D8. Polarizability of the Deuteron. B. W. Downs.

Tuesday Morning at 10:00
1 Le Conte Hall

(L. I. SCHIFF, presiding)

Contributed Papers

E1. Stars Formed by Protons of 3.2 Bev from the Bevatron. Joseph Lannutti, Gerson Goldhaber, and Stephen J. Goldsack.

E2. Energy Dependence of Photoyields of N^{17}. D. D. Reagan.

E3. Angular Distribution of Bremsstrahlung Photons. John D. Anderson, Robert W. Kenney, and Charles A. McDonald, Jr.

E4. Photodisintegration of Deuterons by High Energy Gamma Rays. Dwight R. Dixon and Kenneth C. Bandtel.

E5. Analysis of High-energy Photons from the Cyclotron Target. Harlan Shaw, David Cohen, Burton J. Moyer, and Charles Waddell.

E6. Interaction of 95 Mev Protons with He^4. J. M. Teem, W. Selove, and U. E. Kruse.

E7. Elastic and Inelastic Scattering of 90 Mev Neutrons by Deuterons. Leroy Kerth and Byron L. Youtz.

E8. The Production of High Energy Neutrons and Deuterons from the Stripping of Helium. Warren Heckrotte.

E9. Interactions of 380-Mev Alpha Particles in Ilford G.5 Emulsion. Dora F. Sherman.

Tuesday Afternoon at 2:00
1 Le Conte Hall

(E. TELLER, presiding)

Theoretical Physics

Invited Papers

F1. Reactions and Models of Light Nuclei. R. F. Christy, California Institute of Technology. (30 min.)

F2. Some Implications of Causality for Scattering. R. Karplus and M. A. Ruderman, University of California, Berkeley. (30 min.)

F3. Application of the Monte Carlo Method to the Theory of Liquids. A. W. Rosenbluth and M. R. Rosenbluth. Los Alamos Scientific Laboratory (at present on leave to the Radiation Laboratory, Berkeley). (45 min.)

F4. On the Classical Field Theory of Nuclear Forces. M. H. Johnson, Lockheed Research Laboratory, and E. Teller, University of California, Berkeley. (45 min.)

Tuesday Afternoon at 2:00
4 Le Conte Hall
(G. SEABORG, presiding)

Invited Paper

G1. Radio Chemical Studies of Nuclear Reactions at the Cosmotron. J. M. Miller, Department of Chemistry, Columbia University, and Brookhaven National Laboratory. (30 min.)

Contributed Papers

G2. Long-lived Radioactive Aluminum 26. J. R. Simanton, R. A. Rightmire, A. L. Long, and T. P. Kohman.

G3. Radiations of Ba^{128} - Cs^{128}. J. M. Hollander and M. I. Kalkstein.

G4. Gamma Rays in the Alpha Decay of 100^{254}. F. Asaro, F. Stephens, and I. Perlman.

G5. Alpha Groups and Angular Correlation of Am^{243}. F. Stephens, J. Hummel, F. Asaro, and I. Perlman.

G6. The Alpha Decay of Pa^{231}. John P. Hummel, F. Asaro, and I. Perlman.

G7. Tantalum Spallation and Fission Induced by 340 Mev Protons. Walter E. Nervik, Glenn T. Seaborg.

G8. Fission-spallation Competition in Heavy Elements. R. A. Glass, R. J. Carr, J. W. Cobble, and G. T. Seaborg.

G9. Isomeric States in the Chain $Mo^{90} \longrightarrow Nb^{90} \longrightarrow Zr^{90}$. H. B. Mathur and E. K. Hyde. (To be presented by E. K. Hyde.)

G10. Decay Scheme of Np^{238}. J. O. Rasmussen and H. Slätis.

G11. Gamma Rays of Ra^{225} and Tl^{209}. F. Stephens, F. Asaro, and I. Perlman.

G12. Neutron Deficient Chains of Mass 187 through 191. W. G. Smith and J. M. Hollander.

G13. Occurrence of Technetium-98 in Nature. Edward A. Alperovitch and J. Malcolm Miller.

Tuesday Afternoon at 2:00
3 Le Conte Hall

(L. B. LOEB, presiding)

Contributed Papers

H1. Emission from the Single Lattice Step of Clean Tungsten. J K. Trolan, J. P. Barbour, E. E. Martin, and W. P. Dyke.

H2. Field Emission from Rhenium: the Emission Pattern Corresponding to Hexagonal Crystal Structure. George Barnes.

H3. Electrical Stability of the T-F Emitter. W. P. Dyke, J. P. Barbour, J K. Trolan, and E. E. Martin.

H4. Electron Mobility in AgCl: Comparison of Experiment with Theory. Frederick C. Brown.

H5. Measurements of Electron Density in Long-lived Nitrogen Afterglows. Andrew L. Gardner.

H6. Electric Field Measurements in a Glow Discharge Using a Refined Electron Beam Technique. Roger Warren.

H7. Photoionization by Absorption in a Gas of Radiations from a Discharge in the Same Gas. C. D. Maunsell.

H8. On Plasma Oscillations in a Static Magnetic Field. L. Wilcox, J. E. Drummond.

H9. Streamers in Positive Point-to-plane Breakdown in Air. Gilbert G. Hudson.

H10. Contact Charging Between Monocrystalline Non-conductors and Metals. P. E. Wagner.

Tuesday Afternoon at 2:00
310 Le Conte Hall

(W. A. NIERENBERG, presiding)

Contributed Papers

I1. Electron Spin Resonance in Frozen Metal-ammonia Solutions. G. Feher and R. A. Levy.

I2. Electron Spin Resonance in Liquid Alkali Metals. R. A. Levy.

I3. Electron Spin Resonance in Irradiated Alkali Halides. A. M. Portis and D. Shaltiel.

I4. Nuclear Magnetic Resonance Spectra of Annular Samples. C. A. Reilly, H. M. McConnell and R. G. Meisenheimer.

I5. Isotope Abundance Ratios by Nuclear Magnetic Resonance. B. E. Holder and M. P. Klein.

I6. Magnetic Susceptibility Measurements by Nuclear Magnetic Resonance. M. P. Klein and B. E. Holder.

I7. Nuclear Magnetic Relaxation in Natural and Synthetic Rubbers. E. M. Banas, B. A. Mrowca, and E. Guth.

I8. The Nuclear Magnetic Moments of Rh^{103} and W^{183}. P. B. Sogo and C. D. Jeffries.

I9. Direct Measurement of the Nuclear Spin-lattice Relaxation Time. J. L. Walsh, A. G. Berger, J. V. Rogers, and W. D. Knight.

I10. A Diffusion Model for Nuclear Precession Relaxation in Solids. E. L. Hahn and B. Herzog.

I11. Paramagnetic Resonance Absorption in Glass. R. H. Sands.

I12. Hyperfine Structure in the Paramagnetic Resonance of Vanadium Ions in Solution. G. E. Pake and R. H. Sands.

I13. A Magnetic Field Dependence of the Quadrupole Coupling Constant of Al^{27} in Corundum. H. L. Blood and W. G. Proctor.

Wednesday Morning at 9:00
310 Le Conte Hall

(E. LOFGREN, presiding)

High Energy Physics

Invited Papers

J1. European Accelerators. J. R. Richardson, University of California, Los Angeles. (30 min.)

J2. Brookhaven 25 Bev Synchrotron. G. K. Green, Brookhaven National Laboratory. (30 min.)

J3. University of California Bevatron. Bruce Cork, Radiation Laboratory, University of California, Berkeley. (30 min.)

J4. Progress with the Stanford Electron Linear Accelerator. W. K. H. Panofsky, Stanford University. (30 min.)

J5. Design for a Strong Focussing Electron Synchrotron. M. Stanley Livingston, Massachusetts Institute of Technology. (30 min.)

Wednesday Afternoon at 2:30
310 Le Conte Hall

(E. SEGRE, presiding)

Invited Papers

K1. Experiments with High Energy Proton Beams. Leona Marshall, University of Chicago. (30 min.)

K2. Polarization Effects on High Energy Proton-Proton Reactions. Roger B. Sutton, Carnegie Institute of Technology. (30 min.)

K3. High Energy Proton Polarization Studies Involving Triple Scattering. Owen Chamberlain, University of California, Berkeley. (30 min.)

Contributed Papers

K4. Experimental Determination of the Complete Scattering Matrix in a Proton Carbon Collision . R. Tripp, C. Wiegand, T. Ypsilantis, O. Chamberlain, and E. Segre.

K5. Depolarization in Scattering of Polarized Protons by Hydrogen at 310 Mev. T. Ypsilantis, C. Wiegand, R. Tripp, E. Segre, and O. Chamberlain.

K6. Analysis of Triple Scattering and Correlation Experiments. Henry P. Stapp.

K7. Polarization and Cross Section for Inelastic Scattering. M. A. Ruderman.

Wednesday Afternoon at 2:30
4 Le Conte Hall

(W.K.H. PANOFSKY, presiding)

Contributed Papers

L1. Heavy Meson and Hyperon Production at the Bevatron. Gerson Goldhaber, W. W. Chupp, S. J. Goldsack, J. Lannutti, and F. Webb.

L2. Ionization Loss in Nuclear Emulsions. John R. Fleming and J. J. Lord.

L3. π^- Counting by Delayed Coincidence. K. M. Crowe, R. M. Friedman, and H. Motz.

L4. π^-/π^+ Ratios in Asymmetric Nuclei. H. Motz, K. M. Crowe, R. M. Friedman.

L5. Mu Meson Ionization in Argon at Energies 10 to 100 Bev. Allen N. Wilson.

L6. Charged Pion Production in Neutron-Proton Collisions. Gaurang B. Yodh.

L7. π^+ Photomeson Production at 180°. Experimental Arrangement Gordon W. Repp, Mark J. Jakobson, and R. Stephen White.

L8. π^+ Photomeson Production at 180° . Experimental Results. R. Stephen White, Mark J. Jakobson, and Gordon W. Repp.

L9. Scattering and Absorption of 50-Mev π^+ mesons in Lead. G. Saphir.

L10. Positron Spectrum from the Decay of the μ-meson. Ryokichi Sagane, Walter Dudziak, James Vedder.

L11. Photomeson Production from H, D, and C. Walter Dudziak, Ryokichi Sagane, James Vedder.

L12. π^0 Photoproduction from Protons and Deuterium Nucleons. I. R. M. Worlock and W. R. Smythe.

L13. π^0 Photoproduction from Protons and Deuterium Nucleons, II. W. R. Smythe and R. M. Worlock.

L14. A Study of the Reaction $H^1(H^2He^3)\pi^0$ at 340 Mev. Proton Energy. K. C. Bandtel, W. J. Frank, L. Higgins, and B. J. Moyer.

Wednesday Afternoon at 2:30

1 Le Conte Hall

(J. KAPLAN, presiding)

Contributed Papers

M1. Second-neighbor Interaction in a Two-dimensional Graphite Lattice. G. S. Colladay and S. Barshay.

M2. Magnetic Domains in a Single Crystal of Cobalt Near 275°C by the Longitudinal Kerr Effect. Edward M. Fryer and Charles A. Fowler, Jr.

M3. The Temperature Dependence of the Heat Capacity of Molybdenite. Edgar F. Westrum, Jr. and John J. McBride.

M4. A Second Transition in $AuCu_3$. G. C. Kuczynski and M. Doyama.

M5. Effect of External Stresses upon the Rate of Ordering of AuCu. G. C. Kuczynski and A. R. Freda.

M6. Rectification in Thin Films of PbS. M. Silver, R. S. White, and R. McCaffrey.

M7. Donor and Acceptor Ionization Energies in Silicon and Germanium. A. H. Mitchell and C. Kittel.

M8. Internal Friction as a Function of Cold Work of Copper Reeds at Low Frequencies. J. J. Brady, M. B. Larson, and T. A. O'Halloran.

M10. Brillouin Zone Studies of Alloys. III. Matthiessen's Rule for Dilute Magnesium Alloys. E. I. Salkovitz, J. Pasternak, and A. I. Schindler.

M11. Linear Magnetostriction of Some Ternary Cobalt-iron-nickel Alloys. H. E. Stauss and G. Sandoz.

M12. Thermal Conductivity of Germanium at Ambient Temperatures. Kathryn A. McCarthy and Stanley S. Ballard.

M13. Investigation of a Polymorphic Transition in Iron at 130 k.b. Stanley Minshall.

(Cont. on next page.)

M9. (Omitted above). Order-Disorder and Ionic Conductivity in $Ag_2 Hg I_4$. Jerome Rothstein.

Thursday Morning at 9:00
310 Le Conte Hall

(R. T. BIRGE, presiding)

Nuclear and Electron Resonance

Invited Papers

N1. Cyclotron Resonance in Solids. A. F. Kip, University of California, Berkeley. (30 min.)

N2. Nuclear Resonance and the Study of Metals. C. P. Slichter, University of Illinois. (30 min.)

N3. Paramagnetism of the Transuranic Elements. C. A. Hutchison, Jr., University of Chicago. (30 min.)

N4. Paramagnetic Resonance of Free Radicals. G. E. Pake, Stanford University. (30 min.)

Thursday Morning at 9:00
3 Le Conte Hall

(W. E. LAMB, presiding)

Invited Paper

O1. Problems of the Diffraction of Light with Demonstrations by Video. F. Zernike, Groningen, The Netherlands. (30 min.)

Contributed Papers

O2. The Magnetic Moment of Free Electrons. D. J. Besdin and Joseph H. Robinson III.

O3. Random Walk Methods in Statistical Mechanics of One-dimensional Systems. R. L. Sells, C. W. Harris, C.S.C. and E. Guth.

O4. Role of Coordination Number in the Lee-Yang Lattice Gas. C. W. Harris, C.S.C. and E. Guth.

O5. Effect of the Extended Size of the Nucleus on μ-meson Pair Photoproduction. George Rawitscher.

O6. Lattice Space Quantization of Coupled Meson and Nucleon Fields. D. H. Holland.

O7. Pion-nucleon s-wave Phase Shift from ps-ps with Cutoff. Charles J. Goebel.

O8. A Variational Principle for Tensor Forces. J. L. McHale and R. M. Thaler.

O9. Optical Model Analysis of Scattering of 14 Mev Neutrons.-- I. N. Sherman, G. Culler, S. Fernbach.

O10. Optical Model Analysis of Scattering of 14 Mev Neutrons.--II. Polarization Effects. S. Fernbach, G. Culler, N. Sherman.

O11. On Dirac's Method using Complex Variables in Quantum Mechanics. Eugene Guth.

O12. On the Theory of Successive Orientational Phase Transitions in Two and Three Dimensional Systems. T. E. Lockary, C.S.C. and E. Guth.

O13. Two-dimensional Coulomb Scattering in Quantum Mechanics. Ming Chen Wang and Eugene Guth.

O14. A Formulation of Probability Theory as a Physical Theory. A. O. Barut.

Thursday Morning at 9:00
4 Le Conte Hall

(L. W. ALVAREZ, presiding)

Contributed Papers

P1. The Radioactivity of Co^{57}. Bernd Crasemann and D. L. Manley.

P2. Radioactivity of Sn^{109}. M. D. Petroff, S. W. Mead, and W. O. Doggett.

P3. Proton Bremsstrashlung. Hans Mark, Clyde McClelland, and Clark Goodman.

P4. N-P Scattering at 20 Mev. R. B. Day, R. L. Mills, J. E. Perry, Jr., and F. Scherb.

P5. Multiple Scattering of 2.5 Mev Positrons by 0.1 mil Gold Foil. L. Grodzins.

P6. Interaction of 4.1 Mev Neutrons with Nuclei. M. Walt and J. R. Beyster.

P7. Proton Scattering from N^{14}. G. W. Tautfest, J. R. Havill, and Sylvan Rubin.

P8. A Fission Fast Counter using the Gas Scintillation Principle. A. E. Villaire and L. F. Wouters.

P9. Elastic Scattering of 1.6-Mev Gamma Rays from Carbon. Luis W. Alvarez, Frank S. Crawford, Jr., and M. Lynn Stevenson.

P10. A Millisecond Gamma Emitter from Protons on Ta. Sheldon D. Softky.

P11. L-Conversion in Pure E2 Transitions. F. Boehm, P. Marmier, and J.W.M. DuMond.

P12. Energy Levels of Hf^{177}. P. Marmier, F. Boehm, and J.W.M. DuMond.

P13. Relative Stopping Powers for 20 Mev Protons. C. P. Sonett and K. R. MacKenzie.

P14. Gamma-Gamma Directional Correlation in the $Cl^{34} \longrightarrow S^{34}$ Decay. Harry E. Handler and J. Reginald Richardson.

Thursday Morning at 9:00
1 Le Conte Hall

(K. MACKENZIE, presiding)

Invited Paper

Q1. Electron Scattering and Nuclear Structure. R. F. Hofstader, Stanford University. (30 min.)

Contributed Papers

Q2. Theory of Nuclear Excitation in Inelastic Electron Scattering. C. J. Mullin and E. Guth.

Q3. Phase Shift Analysis of High-energy Electron Scattering. D. G. Ravenhall and D. R. Yennie.

Q4. A Modified Born Approximation for Electron Scattering Calculations. D. R. Yennie, D. G. Ravenhall, and B. W. Downs.

Q5. Electric Quadrupole Effects in Scattering of High-energy Electrons by Heavy Nuclei. B. W. Downs, D. G. Ravenhall, and D. R. Yennie.

Q6. W.K.B. Approximation to Phase Shifts. S. P. Heims, D. R. Yennie, and D. G. Ravenhall.

Q7. On the Radiative Correction to Electron Scattering. H. Suura.

Q8. Nuclear Dispersion Contribution to High-energy Electron Scattering. L. I. Schiff.

Q9. High-energy Electron Scattering in Rh, Ta, W, and U. Beat Hahn and Robert Hofstadter.

Q10. Electro-disintegration of the Deuteron. V. Z. Jankus.

Thursday Afternoon at 1:30
310 Le Conte Hall

(PAUL KIRKPATRICK, presiding)

Division of Electron Physics

Invited Papers

R1. Physical Properties of Germanium Surfaces. C. G. B. Garrett, Bell Telephone Laboratories. (30 min.)

R2. Experiments at Very Low Pressures. D. H. Alpert, Westinghouse Electric Corporation. (30 min.)

R3. Radio Astronomy. Ronald N. Bracewell, Sydney Radio Physics Laboratory (now visiting University of California, Berkeley). (30 min.)

R4. The Upper Atmosphere. Joseph Kaplan, University of California, Los Angeles. (30 min.)

Thursday Afternoon at 1:30
4 Le Conte Hall

(J. R. RICHARDSON, presiding)

Contributed Papers

S1. Disintegration of Oxygen by 300-Mev Neutrons. Melvin Otis Fuller.

S2. An Experimental Ion Source for the 184-inch Cyclotron. Warren Fenton Stubbins.

S3. Angle and Energy Distributions of Charged Particles from the Cyclotron Bombardment of Ni and Ag by 200 Mev Protons. L. Evan Bailey.

S4. Analysis of the Disintegration Products from the Reactions of 125 Mev Deuterons with Lithium Nuclei. F. C. Gilbert.

S5. Experimental Proton Beam at the Cosmotron. O. Piccioni, D. Clark, R. Cool, G. Friedlander, and D. Kassner.

S6. Nuclear Interactions of Cosmic Rays in Aluminum. W. W. Brown.

S7. Some Results on Heavy Charged Mesons. R. Armenteros, B. Gregory, P. Hendel, A. Lagarrigue, L. Leprince-Ringuet, F. Muller, and C. Peyrou.

S8. Analysis of Charged V Events. W. H. Arnold, J. Ballam, A. L. Hodson, R. Ronald Rau, George T. Reynolds, S. B. Treiman, and V. A. Van Lint.

S9. Specific Ionization of High-energy Electrons. W. C. Barber.

S10. Stripping Electrons from Accelerated O and Ne Ions. Edward L. Hubbard and Eugene J. Lauer.

S11. Analysis of Electron Stripping Data. Robert L. Gluckstern.

S12. Absolute Cross-section for the Reaction $C^{12}(\gamma,n)C^{11}$. W. George, W. Barber, and D. Reagan.

S13. Fission of Bismuth by 22 Mev. Deuterons. A. W. Fairhall.

S14. The Decay of Bi^{207}. D. E. Alburger and A. W. Sunyar.

S15. Gamma Rays Accompanying Spontaneous Fission of Cf^{252}. Harry R. Bowman and Lloyd G. Mann.

Thursday Afternoon at 1:30
4 Le Conte Hall

(H. E. WHITE, presiding)

Contributed Papers

T1. Scintillation Studies on Activated Alkali Halides. T. H. Anderson.

T2. Microwave Dielectric Measurements on Single Fibers. J. J. Windle and T. M. Shaw.

T3. Changes in Photoelectric Probability Factor Resulting from Surface Contamination of Aluminum. R. L. Perry and J. J. Brady.

T4. The Vacuum Deposition of Magnetic Alloy Films. M. S. Blois, Jr.

T5. Absorption Bands of Rubidium in the Presence of Foreign Gases. Shang-Yi Ch'en, Robert B. Bennett, and Oleg Jefimenko.

T6. Phase Change on Reflection from Multilayer Films. F. A. Jenkins and D. R. Speck.

T7. Preliminary Report on the Quadrupole Moment of Niobium. D. R. Speck and F. A. Jenkins.

T8. Penetration into Rarer Medium in Total Reflection of Microwaves. J. J. Brady, R. O. Brick, and M. D. Pearson.

T9. Cyclical Variations in the Effective Radiation Temperature of the Ozone Region. Arthur Adel.

Thursday Afternoon at 1:30
3 Le Conte Hall

(W. A. WILDHACK, presiding)

Invited Paper

U1. Instrumentation Research at the National Bureau of Standards. W. A. Wildhack, National Bureau of Standards. (30 min.)

Contributed Papers

U2. A Long-wavelength X-Ray Reflection Microscope. J. F. McGee.

U3. A Metal Vacuum Joint Suitable for Field Emitters. Howard H. Pattee, Jr.

U4. A High-sensitivity Mass Spectrometer. J. H. Reynolds.

U5. Performance Data for a High-sensitivity Mass Spectrometer. J. Lipson and J. H. Reynolds.

U6. Spin Echo Serial Storage Memory. A. G. Anderson, R. L. Garwin, E. L. Hahn, J. W. Horton, G. L. Tucker, and R. M. Walker.

U7. An Ultrasonic Technique for the Non-destructive Evaluation of Metal to Metal Adhesive Bonds. J. S. Arnold.

U8. Aberrations and Fringing Effects in a Modified Siegbahn-type Magnetic Spectrometer. S. A. Bludman and D. L. Judd.

U9. High Resolution Magnetic Spectrometer. Sylvan Rubin and D. C. Sachs.

U10. A Charge-exchange Accelerator. J. R. Woodyard.

U11. Multiple Scattering Microscope for "Constant Sagitta" Measurements. Stephen J. Goldsack and Gerson Goldhaber.

U12. 4" Diameter Liquid Hydrogen Bubble Chamber. D. Parmentier, A. J. Schwemin, L. W. Alvarez, F. S. Crawford, Jr., and M. L. Stevenson.

Thursday Afternoon at 1:30
2 Le Conte Hall

(K. K. DARROW, presiding)

V. Post-deadline papers.

Thursday Evening at 7:30

Men's Faculty Club

(A. C. HELMHOLZ, presiding)

Dinner of the American Physical Society and Sigma Pi Sigma

R. T. BIRGE, principal speaker

Supplement to the Program

THIRD BERKELEY SYMPOSIUM ON MATHEMATICAL STATISTICS AND PROBABILITY

First Part: December 26 to 31, 1954

On Tuesday, December 28th at 2:30 p.m. there will be a supplementary session held in Room 111, Dwinelle Hall.

Chairman: Edwin G. Olds, Carnegie Institute of Technology.

(1) Random variables and general theory of variables--Karl Menger, Illinois Institute of Technology.

(2) Multispace decision procedures--M. A. Girshick, Samuel Karlin and H. L. Royden, Stanford University.

Supplement to the Program

THIRD BERKELEY SYMPOSIUM ON MATHEMATICAL STATISTICS AND PROBABILITY

First Part: December 26 to 31, 1954

On Tuesday, December 28th at 2:30 p.m. there will be a supplementary session held in Room 111, Dwinelle Hall.

Chairman: Edwin G. Olds, Carnegie Institute of Technology.

(1) Random variables and general theory of variables--Karl Menger, Illinois Institute of Technology.

(2) Multispace decision procedures--M. A. Girshick, Samuel Karlin and H. L. Royden, Stanford University.

119 King Avenue
Yonkers 5, N. Y.
November 8, 1954

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

Dear Professor Wiener:

Recently, I made a small discovery which is related to the field of Cybernetics and may be of interest to you. Realizing that, because of "cranks," many scientists are reluctant to answer letters from laymen such as myself, I am writing this preliminary inquiry. If you are interested in hearing what I have to say, I shall attempt to express it as briefly and clearly as I can.

Won't you please let me know if this is of interest to you.

Sincerely yours,

George J. O'Toole

George J. O'Toole

[ans 11/17/54]

November 8, 1954

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

Dear Jason:

I am putting into the last chapter of the book material from an article which I have just written for the Saturday Review. I know that an acknowledgement, and possibly payment, will be necessary for this, and I am willing to have the payment taken out of my share of the earnings, if this should be necessary.

If you prefer that I should write on the same subject using other material, or that I should use another subject for the epilogue chapter, I shall do so.

Meanwhile, I enclose Chapter XI. The others will be on their way soon.

Sincerely yours,

Norbert Wiener

NW:bbc

November 8, 1954

Professor Jerzy Neyman
Department of Mathematics
Statistical Laboratory
University of California
Berkeley 4, California

Dear Neyman:

Many thanks for your kind letter of November 1. I shall be at the meeting in California, although I still am very dubious of just what I can do with a mass group like that.

The fact is that the body of material I am covering with matrix factorization is very large, and I want to go over it in some detail with a small group. Thus I should like to come early and leave late during Christmas vacation. If you could find me some place where I could spend this additional time at low expense, I should appreciate knowing of it, in advance.

My wife may or may not accompany me; our final plans have not yet been made. At any rate, I should like to recieve the travel advance--for me, of course, obviously not including my wife--ahead of time.

Sincerely yours,

NW:bbc

Norbert Wiener

[ans 12/10/54]

Norbert

According to the Management in Medford Plant Mr. Smith is merely an enthusiastic technician.

Room 10-110

DPC

December 9, 1954

Mr. H. L. O. Smith, Technical Supervisor
O. B. Andrews Company
Container Corporation of America
Chattanooga, Tennessee

Dear Mr. Smith:

Professor Norbert Wiener has referred your letter to me for answer. I have had the good fortune to see a corrugated and cardboard manufacturing plant and can well appreciate the multitude of problems that you state as existing in connection with its being made more automatic. Your inquiry about symbolic logic, cybernetics, and control systems makes me feel that you are about to embark upon a very long period of study. There is no short way into the problems which confront you. In fact it is generally so. A servo specialist or instrument specialist undertaking a new type of process design or evaluation discovers first that the process is not built correctly; secondly, even if it were, measuring apparatus is not available so that information about the multitude of manufacturing variables and the associated quality variables can be obtained. Finally even in the event that an entirely new plant could be built and the measurements could be made, building controllers or computers to close the feedback loops would become a tremendous task.

As you suggest in your last paragraph, the idea is to learn about simple problems, and here, of course, I strongly recommend that you begin to investigate the physics and mathematics that predict the behavior of the elementary processes and that you extend this mathematical treatment to the concept of information handling as it relates to your particular processes. To do these things will require considerable reading if you are not already well familiar with many of the books in the control field. For your interest and assistance, I am enclosing a copy of the current bibliographies that are being used in our graduate courses on process control, feedback control and process design. I hope this reply is of help to you.

Very truly yours,

Donald P. Campbell

DPC:jg
Enclosures

cc: Prof. Wiener

DOUBLEDAY & COMPANY, INC., *Publishers* 575 MADISON AVENUE, NEW YORK 22 ~ MURRAY HILL 8-5300

November 9, 1954

Dear Professor Wiener:

Thanks so much for sending the chapters. I will have the whole works back to you, I hope, within ten days or two weeks.

Meanwhile, I am pleased to see what you say about Mrs. Cole. However, since we don't ever have an opportunity to farm out secretarial work, I don't quite see how she can fit into our operation here at Doubleday. If she ever moves to New York, I would be delighted to see her, and perhaps then she could come to work for us on a full time basis for indeed she does seem to be a very good secretary.

Sincerely,

Jason Epstein

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

JE:nr

November 9, 1954

Captain B. C. McCaffree, USN
Chief, Production Branch
Industrial College of the Armed Forces
Washington, D. C.

Dear Captain McCaffree:

As I read your letter, I am very much tempted to talk to the College after all, but if I do so, I should like to put off the lecture until as late in the spring as possible. I am heavily loaded up this term with literary work, and shall be so throughout most of next term also.

Could you suggest to me a good time to come late in the term?

Sincerely yours,

Norbert Wiener

NW:bbc

[ans 11/12/54]

B-714

STANDARD OIL COMPANY
(INDIANA)

RESEARCH DEPARTMENT
WHITING RESEARCH LABORATORY
P. O. BOX 431, WHITING, INDIANA

November 10, 1954

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

Dear Professor Wiener:

Your latest book, "The Human Use of Human Beings", prompts me to write this letter since I find in it a noticeable lack of something which is very important to a chemist's work. I should not use the word "lack" because the tone of the book borders so closely on the idea and, hence, you must have been concerned with it at one time or another.

In short, I'm speaking of creativity, the creative process and its relationship with negentropy. I think of creativity as a synthetic ability but not simply a synthesis of sense data to give a unity to our perceptions. The creative process is an extrapolation to another level of abstraction or symbolism and represents a transition across a gap in our synthetic powers. It can be likened to an irreversible change from a metastable state in natural science.

Your chapter on "Progress and Entropy" brings the problem clearly to mind when one contemplates how closely bound are progress and creativity. The same types of physical and chemical forces and laws which cause a creative mutation to occur in nature's physiological evolution cause a creative process in a rational mind. It is by these steps that progress, in its largest sense, including all of nature, occurs. In other words, creativity is the "irreversible" phase of progress.

The question is now whether or not creativity can be interpreted in terms of negentropy and, if so, the consequences. Your chapter on "The Mechanism and History of Language" comes close to expressing this idea. Following your analogy, information which gets through the "line-plus-filter" is semantically and cybernetically significant. It can lead, for example, to aesthetic understanding because it is the result of or can lead to a creative process.

[ans 12/16/15]

If we look at creativity as an "irreversible" synthetic process, information may be thought to be the other extreme, i.e. a reversible production of negentropy where the synthetic extrapolation becomes an infinitesimal. This latter case would be illustrated by the evolution of information by means of modification as in the automobile, airplane, etc. Creativity and information then represent the blacks and whites with which the grays of knowledge are made up.

Trying to put the entropy of creativity on a quantitative basis is an impossibility, I think, at present. The physical and chemical processes involved are irreversible, hence a net increase of entropy occurs. In order to carry out a calculation similar to what Shannon did for communication, we would have to evaluate the relative probabilities of the various creative processes.

An alternative approach I think is being developed in the analysis of irreversible processes. But until creativity can be treated as a constrained system (steady state) there is no way of obtaining its entropy change and, certainly, no way of obtaining the negentropy resulting from the creative process itself.

I would like to make a few comments on the relationship of creativity and negentropy to the anthropological philosophy of Ernst Cassirer. He saw the history of man in man's attempt to develop symbolism which enabled him to progress. The creative process of producing the abstract symbol spells uniqueness for mankind. All of man's fields of endeavors evolve as a function of the symbolism involved. Man strives for ideals which he has created and the creative process thereby becomes a history of man's progress. This, of course, elevates the concept of negentropy to a level of generality which encompasses all of man's history and progress. Negentropy may represent the unifying medium by which to measure man's success in evolving so improbable a social and intellectual structure in a universe destined to "die" in randomness.

I regret this letter cannot be longer but, rather than try to amplify any of these ideas, I would appreciate any comments you might care to make.

I don't think I need emphasize the point that I found your books very stimulating but I would like to commend you on them.

Thanking you for your time, I am

Sincerely yours,

Richard J. Mikovsky

RICHARD J. MIKOVSKY

RJM:adc

WCBS

CBS Radio—A Division of Columbia Broadcasting System, Inc.

CARL S. WARD
General Manager

485 MADISON AVENUE, NEW YORK 22, N.Y. PLAZA 1-2345

November 10, 1954

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

Dear Mr. Wiener:

Station WCBS, here in New York, is carrying the series "This I Believe" in which you were good enough to take an active part. I thought you would like to know that your interview will be carried on our station on November 12 at 5:55 PM.

We sincerely feel that "This I Believe" comes at a time when people can use sensible guidance from sensible individuals. We want to thank you for your contribution to this series.

Very truly yours,

Carl S. Ward

CSW:hs

RADIO SCHEDULE *"THIS I BELIEVE"* **13 weeks — Oct. 25, 1954 - Jan. 22, 1955** (SERIES 12)

"This I Believe" is now broadcast:

—locally on over 200 U. S. Stations averaging 10 times per week
—on 140 AFRS stations in Europe and the Pacific 6 times a week
—on Voice of America weekly

"This I Believe" is now published:

—once a week in 90 leading daily papers with a circulation over 9,500,000 per week

Regarding Books:

—British "This I Believe" (50% British guests) published November 27, 1953.
—Arabic "This I Believe" (50% Arabic guests) published October 6, 1953—30,000 first edition sold out in three days—a record in Cairo.
—U. S. "This I Believe"—well over 300,000 in sales. A new book with 100 new beliefs (including 20 Immortals) was published October 15, 1954.

Regarding Germany:

—"Kristall"—the leading magazine in mid-Europe—started a five year series in early '54.

Regarding U.S.I.A.:

—In '52 the State Department sent out TIB to 97 countries as a foreign newspaper feature. Its success was so big, they have just sent out a new TIB series.

This fall "This I Believe" will have the most interesting guests and scripts ever broadcast because until Christmas each broadcast is from the new "This I Believe" book, which contains the 80 best beliefs from the past two years.

Date	Script No.	Name	Identity
		FIRST WEEK	
Oct. 25	1	Will Durant	*Philosopher; Author,* Story of Civilization
26	2	J. P. McEvoy	*Roving Editor,* Reader's Digest
27	3	Sir Charles G. Darwin	*British Physicist*
28	4	Harry T. Brundidge	*Associate Editor,* American Mercury *Magazine*
29	5	Harry S. Truman	*Former President of the United States*
30	66	Robbins Milbank	*Writer; Consultant, Committee for Free Asia*
		SECOND WEEK	
Nov. 1	6	Ralph J. Bunche	*U.N. Trusteeship Director; Nobel Peace Prize Winner*
2	7	Uta Hagen	*Actress*
3	8	Roy Harris	*Composer in Residence, Penn. College for Women*
4	9	Jake Zeitlin	*Author; Publisher; Rare Books Dealer*
5	10	Dr. Howard A. Rusk	*Physician; Associate Editor,* New York Times
6	67	Dame Laura Knight	*English Painter*
		THIRD WEEK	
Nov. 8	11	Chester Bowles	*Public Servant; Diplomat; Former Governor of Conn.*
9	12	Walter White	*Executive Secretary, N.A.A.C.P.*
10	13	Hector Bolitho	*British Historian; Author,* A Century of British Monarchy
11	14	Frances P. Bolton	*U.S. Representative from Ohio*
12	15	Norbert Wiener	*Scientist; Professor, M.I.T.; Author,* Ex-Prodigy
13	68	Charles E. Wyzanski	*U.S District Judge for Massachusetts*

RADIO SCHEDULE *"THIS I BELIEVE"* **13 weeks — Oct. 25, 1954 - Jan. 22, 1955** (SERIES 12)

Date	Script No.	Name	Identity
		FOURTH WEEK	
Nov. 15	16	Leonard Bernstein	*Composer; Conductor; Pianist*
16	17	Donald Day	*Editor; Author,* Big Country: Texas
17	18	Martha Graham	*Dancer*
18	19	Arthur Deakin	*British Trade Union Leader*
19	20	Eddie Cantor	*Comedian of Stage, Screen, Radio, TV*
20	69	Joseph Wood Krutch	*Drama Critic; Author,* The Measure of Man
		FIFTH WEEK	
Nov. 22	21	William T. Maners	*Convict; Former Lt. Commander, U.S.N.*
23	22	Dag Hammarskjold	*Secretary-General, United Nations*
24	23	Ben Lucien Burman	*Novelist; Author,* Blow for a Landing
25	24	Mary Martin	*Actress; Singer*
26	25	John Gunther	*Journalist; Author*
27	70	George Antheil	*Composer; Endocrinologist; Hollywood, California*
		SIXTH WEEK	
Nov. 29	26	James A. Michener	*Author,* Tales of the South Pacific
30	27	Clarence B. Randall	*Industrialist; Chm., Comm. on For. Ec. Pol.*
Dec. 1	28	Agnes E. Meyer	*Journalist; Author,* Out of These Roots
2	29	Bernhard Berenson	*Scholar and Critic of Fine Arts*
3	30	Hubert T. Delany	*Judge, Domestic Relations Court, New York City*
4	71	Vincent Sheean	*Journalist; Author*
		SEVENTH WEEK	
Dec. 6	31	Carl Sandburg	*Poet*
7	32	Margaret Sanger	*Honorary Chairman, Planned Parenthood Federation*
8	33	Victor Andrade	*Bolivian Ambassador to the United States*
9	34	Agnes Moorehead	*Actress*
10	35	Paul H. Douglas	*U. S. Senator from Illinois*
11	72	Conyers Read	*Historian; Biographer; Retired Prof., Univ. of Penn.*
		EIGHTH WEEK	
Dec. 13	36	Arnold J. Toynbee	*British Historian*
14	37	Adlai E. Stevenson	*1952 Democratic Candidate for President*
15	38	Arthur J. Connell	*National Commander, American Legion*
16	39	Archibald T. Davison	*Professor of Music, Harvard University*
17	40	Philip D. Reed	*Chairman of Board, General Electric Co.*
18	73	Florence E. Allen	*Judge, U.S. Sixth Circuit Court*

RADIO SCHEDULE *"THIS I BELIEVE"* **13 weeks — Oct. 25, 1954 - Jan. 22, 1955** (SERIES 12)

Date	Script No.	Name	Identity
		NINTH WEEK	
Dec. 20	41	William S. Carlson	*President, State University of New York*
21	42	Raymond Swing	*Journalist; International News Commentator*
22	43	Alfred Noyes	*English Poet; Author,* Two Worlds for Memory
23	44	Henry Cowell	*Composer*
24	45	Margaret Chase Smith	*U.S. Senator from Maine*
25	74	Oscar Hammerstein, II	*Librettist, "Oklahoma," "South Pacific," "The King and I"*
		TENTH WEEK	
Dec. 27	46	Frank Lloyd	*Motion Picture Director, Hollywood, California*
28	47	Robb Sagendorph	*Publisher,* Old Farmer's Almanac; *Dublin, N. H.*
29	48	Thyra Samter Winslow	*Novelist; Short-story Writer; New York*
30	49	Reginald Orcutt	*Vice Pres., Mergenthaler Linotype Co., Newport, R. I.*
31	50	Sir Ernest MacMillan	*Canadian Conductor; Concert Organist*
Jan. 1	75	Everett H. Hopkins	*Assoc. Dean of Faculties, Washington Univ., Mo.*
		ELEVENTH WEEK	
Jan. 3	51	James Lewis McVey	*Insurance Broker, Philadelphia, Pa.*
4	52	Ray Montgomery	*Writer; Teacher, University of Baltimore*
5	53	Otto Kruger	*Actor*
6	54	Alfred A. Benesch	*Lawyer; Cleveland, Ohio*
7	55	Rose H. Alschuler	*Educator and Author; Chicago, Illinois*
8	76	Walter Locke	*Retired Editor,* Dayton Daily News, *Dayton, Ohio*
		TWELFTH WEEK	
Jan. 10	56	Ronald Kurtz	*Electronics Technician, Third Class, U.S. Navy*
11	57	Louis Miller	*Director, Jewish Memorial Hospital, New York*
12	58	Jonathan Daniels	*Editor,* The News and Observer, *Raleigh, N. C.*
13	59	Irene R. Adler	*Senior, Cornell University*
14	60	Roger S. Phillips	*Magazine Publisher*
15	77	Herbert M. Baus	*Public Relations Counsellor; Author,* Publicity in Action
		THIRTEENTH WEEK	
Jan. 17	61	Irving Fineman	*Poet; Novelist; Shaftsbury, Vt.*
18	62	Edwin Earle	*Insurance Agent; Art Teacher; Derby Line, Vt.*
19	63	Arthur H. Motley	*President and Publisher,* Parade
20	64	Dr. Wilder Penfield	*Director and Professor, Montreal Neurological Institute*
21	65	Clair D. Wilson	*Pres., Vernon Oil and Gas Co., Wichita, Kansas*
22	78	Charles Kress	*Capt., Maritime Service; Former Mayor, Binghamton, N. Y.*

Nov. 11 '14

MRS. GEORGE P. BAKER

~~SILVER LAKE, N. H.~~ 149 Elm St
New Haven
Conn

Dear Dr Mirick,

As I listened
to your ~~This~~ Italian in the
radio, a few moments ago,
I was seeing your father &
mother! — And as there are not
many you left, who knew
them, I feel the desire to tell
you that I once knew
them - admired them -
They merited the praise
their son's achievement -

– My idea of "heaven" is
"Satisfied pride in Those
We Love".

Affectionately Yours
Christina H Baker

Mother of Margaret Baker –

1954

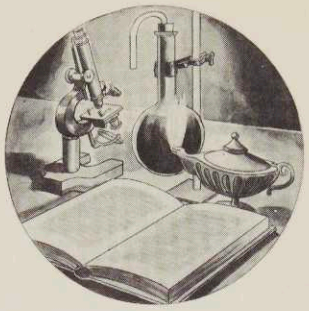
Friday, November 12:

Captain McCaffrey of the Industrial College of the Armed Forces telephoned, to thank Professor Wiener for his acceptance, and to ask if a date (as yet unspecified) in April would be all right. I suggested that he set two alternative dates and let Professor Wiener select the most convenient. Captain McCaffrey will do so within the next two weeks. He stipulates only that the date must be before April 25th.

B. C.

[ans 11/30 Holdrow]

National Research Council



Rose-Croix University

ROSICRUCIAN PARK, SAN JOSE, CALIFORNIA, U. S. A.

November 12, 1954

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

Dear Dr. Wiener:

Permit me to congratulate you in having succeeded in presenting the achievements of your new science "Cybernetics"in lay language so that it has become understandable to a great many more people than those unable to follow your mathematical text. Your book " The human use of human beings" should accomplish a great deal in arousing public interest in "Cybernatics".

As a member of the National Research Council of Rose-Croix University I would appreciate obtaining additional information from you in the form of circuit diagrams and reprints of your technical papers on this subject with a view of bringing this advance in science to the attention of our many thousands of members in the United States and foreign countries. The book "Dianetics" publishes a few of such diagrams on pages 420 and 424, and if you could furnish me with such diagrams of your own it would be a welcome aid in presenting the trend of your researches in this field.

For your information permit me to mention that I am a Fellow of the American Institute of Electrical Engineers, a member of the Institute of Radio Engineers, and Vice-President and Director of Education of the Acme Technical Institute, Inc. of Cleveland, Ohio. As Ordnance Engineer for the U.S.Ordnance Department I participated in the design of various Control systems. For these reasons I appreciate the importance of your work in these fields, and as I have also been interested for many years in psychology and the influence of thought upon the human mechanism and human behavior as recognized in psychosomatic medicine, you can understand my enthusiasm in following your achievements in "Cybernetics", the new science in which you are the trail blazer. Are you conducting any seminar in this field which would make it possible to attend for people outside of your state?

In regard to the Rosicrucian Order, A.M.O.R.C.,if you are not familiar with its work, let me state that it is a scientific-educational humanistic school, operating on a fraternal basis; its principal objective is to guide human beings in freeing themselves from superstition and ignorance through the application of the scientific method, studying the "why" of things.It has no creeds or dogmas, but its trend is in the direction of an idealism and a constructive purpose in living.

MEMBER'S NAME.....

The Rosicrucian Order, A.M.O.R.C. does not operate in the religious field and its large membership comprises men and women from every layer of society regardless of religious affiliation. It encourages its members in a way of life to make the individual more efficient and to become a more useful and mature member of society, postulating "Realty" or God as the first cause and a Unity that expresses in diversity, with the concept of "Truth" by human Beings constituting always a"relative truth"depending upon the mental horizon of the individual.The motion of Life does not permit of a fixed, permanently unchanging form, therefore the Rosicrucian student endeavors to transcend mere"belief"by a deeper understanding of underlying causes. This necessitates a consideration of a metaphysic and Mysticism, such as underlies religious philosophies, in order to make scientific progress in a field that is more concemned in protecting its tenents and authorship than to advance the spiritual understanding by studying a phase of Being in which your "Cybernatics" is bound to achieve outstanding results beneficial to mankind.

Your assistance and comments will be very much appreciated.

Very truly yours

Gisbert L. Bossard

Gisbert L.Bossard, Ph.D.
GLB:jb 21350 Lorain Rd.
Fairview Park 26, Ohio

P.S. Please have this material addressed to my Cleveland address.

EPISTEMIC COMMUNICATION RESEARCH UNIT

Professor of Psychology
G Patrick Meredith
MSc MEd PhD FBPsS
Telephone 31751 Extension 339

DEPARTMENT OF PSYCHOLOGY
THE UNIVERSITY
LEEDS 2
Telephone 31751 Office Extension 332

Research Assistant
Miss Frances Crisp BA
Telephone 31751 Extension 11

12th November 1954.

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

Dear Sir,

In this department we are trying to compile a fairly comprehensive list of contemporary people who are contributing to psychology in its broader aspects, as well as those who are working along the more usual channels of psychology. We are trying to find out information under the following six headings:-

1 Basic biography.
2 B ibliography.
3 Main field of psychology inwhich work has been conducted.
4 Major concepts which worker has introduced.
5 Major methods used.
6 List of terms originated by worker.

I would be most grateful if you would help me with details concerning yourself. We are most interested in your work on Cybernetics in this department, and would very much like to include you in our list of workers who are contributing to modern trends in psychology. However, although we are familiar with your published work, I am afraid I have not been able to find outf facts concerning your background . If you would be good enough to let me know know any of the relevent facts which have been responsible in forming your ideas I should be most grateful. Our list of workers is intended primarily to help the undergraduates in our department to gain a more comprehensive picture of who is engaged at present in shaping the psychology of the future.

Yours faithfully,

Frances M. Crisp

[ans 11/16/54]

GERALD RABOW
35 EAST 17TH ST.
BROOKLYN 26, N. Y.

November 13, 1954

Professor Norbert Wiener
Massachusetts Institute of Technology
Cambridge 39, Massachusetts

Dear Professor Wiener:

I was sorry to learn from the postcard of November 1 that no copies of your summer lectures on Communication Theory are available. What I am particularly interested in, in connection with Doctoral research at Columbia University, is your method of nonlinear system characterization. Is there some way I can obtain a description of this method?

I am anxiously awaiting your reply.

Very truly yours,
Gerald Rabow

[ans 11/20/54]

THE INSTITUTE OF MATHEMATICAL STATISTICS

EDWIN G. OLDS, *President*
Department of Mathematics
Carnegie Institute of Technology
Pittsburgh 13, Pennsylvania

HENRY SCHEFFÉ, *President-Elect*
Statistical Laboratory
University of California
Berkeley 4, California

K. J. ARNOLD, *Secretary-Treasurer*
Department of Mathematics
Michigan State College
East Lansing, Michigan

E. L. LEHMANN, *Editor*
Statistical Laboratory
University of California
Berkeley 4, California

November 15, 1954

Mr. N. Wiener
Mathematics Department
Mass. Institute of Technology
Cambridge, Massachusetts

Dear Mr. Wiener:

You must have noted, during your attendance at the 1954 Symposium on Information Theory at M.I.T. recently, the extent to which both the theory and the practice of communication engineering is coming to be based on quite abstract principles of mathematical statistics, particularly decision theory. You must have noted also, I am sure, that many of the basic references cited were to articles in the ANNALS OF MATHEMATICAL STATISTICS.

The purpose of this letter is to introduce the Institute of Mathematical Statistics, publisher of the ANNALS, and to draw your attention to the advantages of membership in this professional society. The Institute is devoted to furthering research in the field of mathematical statistics, and to the diffusion and use of the knowledge gained in this research. Its membership of over 1500 includes a large proportion of the leaders in this field, on an international basis. Through its publications and its meetings, it is one of the major channels by which work in this field is made public.

By becoming a member of the Institute, you would not only provide yourself with these basic publications; you would also be in a position to establish excellent personal relationships with the leaders in the field of mathematical statistics, and, by your activity as a member, to foster the research so necessary to provide a firm theoretical foundation for information and communication theory.

As you will see in the enclosed brochure, subscriptions to the ANNALS are $12.00 per year. Membership in the Institute is $10.00 a year with certain exceptions. Applicants accepted as members before the end of any year are enrolled for that year and receive the ANNALS for that year as one of the privileges of membership. Enclosed is an application blank.

Sincerely,

Membership Committee

W. D. Baten

W. D. Baten (Chairman)
Michigan State College

Evelyn Fix
University of California

O. E. Lancaster
Hyattsville, Maryland

E. S. Keeping
University of Alberta

E. L. Kaplan
Bell Telephone Laboratories

M. E. Wescott
Rutgers University

M. R. Mickey, Jr.
Santa Monica, Calif.

E. W. Pike
Newton, Massachusetts

Sigmund Zobel
Buffalo, New York

problems related to research, teaching, and the applications of research. Committees of the Institute study these problems as they relate in particular to mathematical statistics.

AN INVITATION TO MEMBERSHIP IN THE INSTITUTE. The work of the Institute can, of course, be carried out more and more successfully as more and more of those eligible take part in its activities. Everyone seriously interested in statistical methods is invited to become a member. Members who are regarded as having made outstanding contributions to the development of mathematical statistics are elected Fellows of the Institute. Dues, including a subscription to the ANNALS, are ten dollars a year in the United States and Canada and five dollars elsewhere. A bona fide student (as certified by a member of the faculty of his institution) may pay six dollars. Special rates are available for members who have retired from professional activity and for joint husband and wife memberships. Subscription rates to non-members are twelve dollars a year in the United States and Canada and ten dollars a year elsewhere. Inquiries and requests for membership application blanks may be sent to the Secretary, K. J. Arnold, Dept. of Math., Michigan State College, East Lansing, Michigan.

THE INSTITUTE OF MATHEMATICAL STATISTICS

HISTORY AND PURPOSE OF THE INSTITUTE. The Institute of Mathematical Statistics was organized on September 12, 1935, during the joint meetings of the American Mathematical Society and the Mathematical Association of America in Ann Arbor, Michigan. At that time the ANNALS OF MATHEMATICAL STATISTICS, founded by Professor H. C. Carver and edited by him until 1938, was in its sixth year and had already established an important place for itself throughout the scientific world as the only journal devoted to mathematical statistics. The number of workers, students, and other persons interested in the field of mathematical statistics more than justified the formation of a society to further their scientific interests. It was also evident that the ANNALS OF MATHEMATICAL STATISTICS should have the organized support of the people it was designed to serve. Professor Carver and Dr. A. L. O'Toole had drafted a constitution and a set of by-laws for the new society, and these were discussed by a group which included very nearly all of the persons then prominent in mathematical statistics in the United States. Professsor H. L. Rietz became the first president and Professor A. T. Craig the first Secretary.

The founding of the Institute took place very near the time when the importance of mathematical statistics as a means of investigation was gaining general recognition in the many fields of learning for which it is fundamentally important. The entrance of more soundly trained statisticians into government service and the application of scientific quality control in industry were in their infancy. The new society was small and its members were under more than the usual obligations to hasten the day when the importance of their science and its useful-

ness should be fully and wisely understood. The first directory of the Institute published in December, 1937, listed 102 names. That of January, 1939, showed 129, and that of a year later, 182. The number of individual members passed 1400 during 1954. This rapid growth gives evidence of the successs with which the Institute has met the needs that brought about its foundation. The present recognition of the necesssity of utilizing the vital services of mathematical statistics in industry, in government and in many branches of research lends added importance to the aims of the Institute and to its official journal.

HISTORY OF THE ANNALS. As stated above, the ANNALS OF MATHEMATICAL STATISTICS was founded by Professor H. C. Carver in 1930. Until 1938 he served as editor and personally met considerable deficits. At that time the Directors of the Institute, through the good offices of Dean L. P. Eisenhart of Princeton University, secured from the Rockefeller Foundation a subvention of $4,000 to be expended over a three-year period, and the Institute then assumed full responsibility for its journal. From 1938 to 1948 the ANNALS was edited by Professor S. S. Wilks. The subscription list has grown from 221 names in December, 1935, to over 2350 in December, 1953, including in each case the members of the Institute. Four issues appear each year.

The ANNALS has been the medium of publication of an increasing volume of the most important research in mathematical statistics. It has been the most useful in providing a place where research articles in mathematical statistics, prepared by authors in different fields, can be collected and published. Productivity has so increased that the ANNALS contained 708 pages in 1953 and a further increase was authorized by the Council of the Institute.

Every worker concerned in any way with the use of statistical methods will find it invaluable in these times to have the newest methods, results, and ideas immediately available by reading the ANNALS instead of waiting for the slow process of finding the discoveries in use by others. Teachers of statistics have a special responsibility for keeping informed of the latest developments, and they will find in the ANNALS, in addition to research articles, competent expositions of important topics and discussions of applications in specific fields, as well as material on the teaching of statistics itself.

MEETINGS OF THE INSTITUTE – COOPERATION WITH OTHER SCIENTIFIC SOCIETIES. The Institute has always maintained close relationships with other learned societies. It normally holds one meeting each year jointly with the American Statistical Association, the Biometric Society and the Econometric Society and other members of the Allied Social Sciences Associations and one meeting with the American Mathematical Society, the Mathematical Association of America and the Econometric Society. Regional meetings are frequently held jointly with the Biometric Society or the Econometric Society. It became affiliated in 1940 with the American Association for the Advancement of Science and some joint meetings have been held with this society. Meetings thus occur in various parts of the country and members of the Institute have the opportunity to present and to hear papers on mathematical statistics as well as to take part in informal discussion with other workers of similar interests. Not only have research papers in mathematical statistics been read at all these meetings, but a feature has always been joint sessions with the other societies in which there have been expository papers on developments in statistical theory and applications and original papers of interest to the members of the other groups.

The Institute is represented on several intersociety committees which study common

B

THE INSTITUTE OF MATHEMATICAL STATISTICS

APPLICATION FOR MEMBERSHIP

Date .....

I hereby apply for membership in the Institute of Mathematical Statistics.

Signature .....

Members admitted during any calendar year receive the *Annals of Mathematical Statistics* for that calendar year. They are liable for dues for that year and all succeeding years until they die or resign.

Information primarily for use in future directories of the Institute
if application is accepted

Name .....

Please type or print surname followed by given name or initials as you would wish them to appear in the directory. In case the initial word of the surname is not to be used in placing your name in the alphabetical sequence, please underline the initial letter of that part of your name which is to be used. Unless you wish your name listed differently it is suggested that initials be used for given names if there is more than one given name except that one given name be given in full if you are a woman, that the full given name be used if there is but one. If you are a married woman, you may wish to enter in parenthesis following your given names the abbreviation Mrs. followed by the initials of your husband.

Highest academic degree received, name of institution conferring the degree, date conferred .....

.....

Other degrees, institutions and dates .....

.....

.....

Present position and title .....

Name of institution or organization in which position is held .....

.....

Address of institution or organization .....

.....

.....

Mail address (if different from above) .....

.....

.....

Applications should be mailed to

INSTITUTE OF MATHEMATICAL STATISTICS
K. J. Arnold, Secretary-Treasurer
Mathematics Building
Michigan State College
East Lansing, Michigan, U. S. A.

TECHNOLOGY CHRISTIAN ASSOCIATION

OFFICERS

SEABURY C. McGOWN
PRESIDENT

MURRAY FRIEDMAN
GENERAL VICE-PRESIDENT — SERVICES

FREDERICK W. LUPTON, II
VICE-PRESIDENT — RELIGIOUS ACTION

JAMES E. SCHONBLOM
VICE-PRESIDENT — BOY'S WORK

RICHARD I. JOHNSON
SECRETARY

RICHARD G. SCHWIND
TREASURER

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

November 15, 1954

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

Dear Prof. Wiener:

Prof. Arthur Mann informed me that you have consented to be a speaker for the Skeptics' Seminar sponsored by T.C.A. As he told you, the Skeptics' Seminar will run for four weeks, and your talk is scheduled for December 7 at 5:00 p.m. The meetings will be held in the Student-Faculty Lounge (Room 2-290) If more than a capacity crowd attends we have reserved 4-270.

I understand that your talk will be of approximately 20 minutes duration followed by approximately 30 minutes of questions and discussion from the group.

It has been suggested that the general theme of your talk be "Skepticism and Science" The preceding talks to the Skeptics' Seminar will be on November 23 a talk by Harold A.T. Reiche on "Skepticism and Dogmatism in History," and on November 30, a talk by Prof. Carvel Collins on "Skepticism and the American Artist." The series will be concluded by a panel discussion on "Skepticism and Institutional Religion Today." The members of the panel are Prof. John Rae, Prof. Thomas O'Dae, and Rabbi Herman Pollack, and also Swami Akhilananda if he can be reached. This will be Tues., Dec. 14.

You may be interested to know that we are serving coffee and cookies at 4:45 p.m. and you may wish to join us at that time.

Sincerely yours,

Fred W. Lupton II

Fred W. Lupton II
Vice President - Religious Action

FWL:cht