185

CORRESPONDENCE Jan. 1-9, 1954

N. WIENER · MC 22

AMERICAN MEN OF SCIENCE
Box 749
LANCASTER, PA.

Editorial Department

JAQUES CATTELL, Editor

Dear Member of American Men of Science

A copy of your biography which appeared in the Eighth Edition of AMERICAN MEN OF SCIENCE is enclosed for your correction.

The Eighth Edition, because of the inclusion of 50,000 biographies, has become unwieldy, with 3,000 pages. It is estimated that if published in one volume again we would need to include about 70,000 names and have a book of nearly 4,000 pages. A solution has been found for the Ninth Edition by dividing the volume into three parts:

Part 1, Physical Sciences, to be published in October, 1954
Part 2, Biological Sciences, to be published in 1955
Part 3, Social Sciences, to be published in 1956

This has answered several problems:

(1) It has made it possible for you to buy a directory covering your own field at a reasonable price.

(2) It has made it possible to put out a volume of easy-to-handle size.

(3) It has helped your editor to finance the directory, causing a smaller investment for each volume.

The success of this edition of AMERICAN MEN OF SCIENCE depends on the number of advance sales from those included in the directory. It is estimated that about 35,000 names will appear in the Physical Science Part. Funds for the publication of this Ninth Edition have been made available, based on the continued and increased support of those included. Please order if you can. No one will be omitted if they do not order, but future editions depend on continued support from you and everyone else who is included.

We have picked your name as belonging to the Physical Sciences. Please indicate it if you believe your field is nearer to the Biological or Social Sciences and would prefer to be listed in Part 2 or 3. A reference to Part 2 or 3 can be made in Part 1.

Please note that in addition to your biography, space has been provided for nominating those who you believe should be included in the Physical Science Part of the Ninth Edition and who have not been included previously.

Cooperation in returning your corrected biography promptly will be appreciated. Your order, too, will be of great assistance.

Sincerely,

Jaques Cattell

Jaques Cattell, Editor

Send it

Inauguration Programme

—o—

41st Session

Indian Science Congress - 1954

Hyderabad (Dn.)

President:

Dr. S. L. Hora

General Secretaries:

Dr. U. P. Basu
Dr. B. N. Prasad

Treasurer:

Prof. P. C. Mahalanobis

Past President:

Dr. D. M. Bose

Reception Committee:

Patron:

Dr. B. Ramakrishna Rao

Chairman:

Dr. S. Bhagavantam

Vice-Chairmen:

Dr. G. S. Melkote
Dr. Syed Husain

Vice-Chairman & Treasurer:

Shri L. N. Gupta

Local Secretaries:

Dr. S. H. Zaheer
Dr. N.V. Subba Rao
Prof. M. Sayeeduddin
Dr. R. Satyanarayan
Dr. V. P. Venkatachari

PROGRAMME

Opening Session

Saturday, the 2nd January, 1954

5-30 P.M.

Landscape Garden, Osmania University

1.	Vandemataram	
2.	Opening Speech:	Dr. B. Ramakrishna Rao, Patron, Reception Committee & Chief Minister of Hyderabad State.
3.	Welcome Address:	Dr. S. Bhagavantam, Chairman, Reception Committee & Vice-Chancellor, Osmania University.
4.	Inaugural Address:	Shri Jawaharlal Nehru, Prime Minister of India.
5.	Presidential Address:	Dr. S. L. Hora, President, Indian Science Congress Association.
6.	Admittance of Honorary Members.	
7.	Vote of Thanks:	To the Prime Minister, the Chief Minister, Donors and Members of Reception Committee by Dr. N. V. Subba Rao, Local Secretary.
8.	Vote of Thanks:	To the Local Secretaries, Office-bearers and Volunteers by Dr. B. N. Prasad, General Secretary, Indian Science Congress Association.
9.	National Anthem:	(Jana Gana Mana).

N.B.—Invitees are requested to come in warm clothes, as the Inaugural Function will take place in the open, between 5-30 P. M. and 8 P.M.

To meet the Delegates of the 41st Session of the

INDIAN SCIENCE CONGRESS

The Chairman and Members of

THE LOCAL RECEPTION COMMITTEE

request the pleasure of your Company at an

At Home

on Tuesday, 5th January 1954, at 4--30 p. m. in the "Landscape Garden," Osmania University.

Please bring this card
with you.

To meet the Delegates of the 41st Session of the

INDIAN SCIENCE CONGRESS

The Chairman and Members of

THE LOCAL RECEPTION COMMITTEE

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At Home

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with you.

DAIS

The Chairman and Members of

THE LOCAL RECEPTION COMMITTEE

request the pleasure of your company

on the occasion of

THE INAUGURATION

of

The 41st Session of the Indian Science Congress—1954

on Saturday, January 2, 1954, at 5-30 p. m.

at the Landscape Garden, Osmania University

SHRI JAWAHARLAL NEHRU,

Prime Minister of India

has kindly consented to inaugurate the session.

Note:—Members and Guests are requested to show this card at the entrance to the Landscape Garden and be in their seats by 5 p.m.

PROGRAMME OVERLEAF

PROGRAMME

Opening Session

Saturday, the 2nd January 1954

5-30 P.M.

Landscape Garden, Osmania University

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Civic Reception

To

The Delegates of

41st Session of the Indian Science Congress

The Municipal Corporations of

Hyderabad and Secunderabad

At Home

on Monday, the 4th January, 1954 at 4-30 p.m.

at

Landscape Garden, Osmania University

Please bring this card with you.

To meet

Shri Jawaharlal Nehru, Prime Minister of India

The Vice-Chancellor

Osmania University

requests the pleasure of the company of

Prof. Norbert Wiener

at Dinner

on Saturday, January 2, 1954, at 8-45 p.m.

at the Vice-Chancellor's Lodge

University campus.

R.S.V.P.

Personal Assistant

to the Vice-Chancellor.

CITATION READ

ON THE OCCASION OF ADMITTING

Dr. SHANTI SWARUP BHATNAGAR

AN HONORARY MEMBER OF THE

Indian Science Congress Association

AT THE INAUGURAL MEETING OF THE
FORTY-FIRST SESSION OF THE CONGRESS
HELD AT HYDERABAD—DECCAN
ON JANUARY 2, 1954.

SIR,

I present to you Dr. Shanti Swarup Bhatnagar, Secretary to the Government of India, Ministry of Natural Resources and Scientific Research.

Dr. Bhatnagar is an eminent scientist and has made many important contributions to science. As a teacher, an organiser and an administrator, he has rendered conspicuous service to science, specially in harnessing science to the needs of the expanding industries in India.

On behalf of the Council of the Indian Science Congress Association, I pray that in conformity with the provisions of Rule 28(B) of our Constitution, he be admitted to the Honorary Membership of the Association.

THE SOUTH INDIAN NATIONAL ASSOCIATION AND RANADE LIBRARY.
Luz, Mylapore.

PUBLIC LECTURE

Under the auspices of the Association
there will be a Public Lecture on

"MAN AND THE MACHINE IN THE NEW AGE"

By

PROFESSOR NORBERT WIENER
Of the Institute of Technology ,
Massachussetts, U.S.A.

On

Tuesday the 12th January 1954 at 6 p.m.
at the Ranade Hall. Luz, Mylapore.

DR. T. VIJAYARAGHAVAN,
Director, Ramanujam Institute of Mathematics, Madras

Has kindly consented to preside.

YOUR PRESENCE IS REQUESTED.

Mylapore,
Madras, 11.1.1954.

K. Chandrasekaran
S. Narayanaswamy.

SECRETARIES.

ROTARY CLUB OF HYDERABAD-DECCAN

INDIA

President:
Rtn. G. S. MELKOTE
Vice-President:
Rtn. R. K. BHANDARI
Hon. Jt. Secretary:
Rtn. K. VENKATACHARI
Hon. Treasurer:
Rtn. R. GERSAPPE

Hon. Secretary:
Rtn. A. S. TYABJI
Govt. Distilleries, Narayanguda,
Hyderabad – Deccan
Tel. 4930 & 4416

IN REPLY
PLEASE ADDRESS!
DILDAR HUSAIN
"RIAZ"
268, JUBILEE HILL
HYDERABAD – DECCAN

2 JAN 1954

Prof.Norbert Weiner.

Dear Sir,

I have pleasure to extend the Club's welcome to you on your visit to this premier city of the Deccan, and to say that you are most cordially invited to its meeting on Wednesday the 6th January 1954 at 7 P.M.

Yours cordially,

Dildar Husain

(Dildar Husain)
Chairman,
Program Committee.

Tel. No. 5419.

Nizam Club Premises
Opp: Hyderabad Legislative Assembly

JET PROPULSION LABORATORY *California Institute of Technology • 4800 Oak Grove Drive, Pasadena 3, California*

January 4, 1954

(9)

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

Dear Professor Wiener:

The Laboratory has assigned to me, as a Research Mathematician, the Redundancy Project: a study program with the purpose of investigating the feasibility of and techniques for incorporating redundancy, or the capacity of a system to permit one or more component failures without complete deterioration of performance, into missile guidance and control systems.

As a beginning, I am considering a definition of reliability in terms of one proposition that can be asserted with respect to a system, and using, as the measure of reliability, the frequency limit of the truth of this assertion for a "large" collection of identical systems. Redundancy is then defined with respect to reliability.

Among other questions to be considered are:

1. Characterizations of systems with respect to which "meaningful reliability assertions" can be made.
2. Expressing reliability of a complex system in terms of the reliability of its components.
3. Physical realization of reliable systems.
4. The variation of system reliability with respect to reliability variations of its components and sub systems.
5. Defining reliability of a system in terms of a class of propositions that may be asserted about it.
6. The existence of "optimal" and "absolutely" reliable systems (in the light of 5).
7. Possibility of a "reliability space" analagous to a coding decision space.

Kleene's "Introduction to Metamathematics," Rosser's "Logic for Mathematicians," and Birkhoff's "Lattice Theory" are texts I'm now beginning to read to deepen my grasp of some of the considerations advanced in the notes on von Neumann's seminar in "Probabalistic Logics."

"Consciousness and Behavior" by Culbertson and "Design for a Brain" by Ashby have proven suggestive along the lines indicated in von Neumann's contribution to the Hixson Symposium.

The above bibliography isn't meant to imply that I have more than a moderate contact with the contents of some of them. The list is more of an indication of how I feel the questions might be approached.

Your suggestions toward relevant literature would be most valuable in my study. I shall be in Cambridge sometime in the period late January - mid February. If you believe that a discussion, on an unofficial basis, would be desirable, I would greatly appreciate the opportunity.

Most sincerely,

JET PROPULSION LABORATORY

Samuel E. Benesch, Ph.D.

Sameul E. Benesch,
Research Mathematician

SEB:mh

[ans 2/8/54]

RICHARD HAZELETT

19437 Battersea Blvd.
Cleveland 16, Ohio
January 4, 1954

Dr. Norbert Wiener

Dear Dr. Wiener:

I am sending you, under separate cover, the book "Practical Answers," written by C. Wm. Hazelett and dealing with, among other things, the problem of unemployment.

I have read much of your work, with great interest, all the more so since I believe that Mr. Hazelett's ideas on the general unemployment problem could allay any fears that the coming developments in electronic devices will cause unemployment. Mr. Hazelett is a research engineer.

His essential idea, which he calls "Incentive Taxation, the A-phase", or the "idle-money tax," is accurately described as a monetary velocity control--a device which could, without much difficulty, require and insure that all money would move through the economic system at any pre-determined rate which might be necessary to insure full employment. This sort of thing raises many questions, most of which are dealt with in the book, but the ramifications of such an approach should not be overlooked. Anything which could actually control the velocity of money could make possible the energy of capitalism combined with the security and proper use of resources of socialism, it could make possible the speedy elimination of tariffs, it could put great pressure on backward peoples to adopt economic interdependence, it could make possible the elimination of incentive-destroying tax policies.

I hope you will find Practical Answers to be stimulating reading, and at this time I extend my best wishes for your future work, both in technology and the social sciences.

Yours sincerely,

Richard Hazelett

GOVERNMENT OF INDIA
MINISTRY OF NATURAL RESOURCES &
SCIENTIFIC RESEARCH, NEW DELHI.

...

Camp Hyderabad, 5th January, 1954.

Dear Prof. Wiener,

I enclose the programme showing your itinerary in India. You will be met at each place by the representatives of the Institutions. M/s. G. Raghunathmull Bank Ltd., Hyderabad, will give you air tickets and hotel vouchers for your stay at the various places. Please let me know if there is anything further you want done.

With best regards,

Yours sincerely,

(T. GONSALVES)

Prof. Norbert Wiener,
Hill Fort,
Hyderabad.

Copy to -

(1) M/s. G. Raghunathmull Bank Ltd., Hyderabad, with the request that air tickets and hotel vouchers as indicated in the programme attached may kindly be handed over to Prof. Wiener. This should be done carefully to ensure that there is no mistake. Arrangements for transport for Prof. Wiener to the airport on the 9th January 1954 should also be made.

Money to cover rail journeys for which tickets cannot be given may also be given to Prof. Wiener. The bill for the tickets, hotel vouchers, etc. incurred may please be sent to M/s. Govan Agencies, Ltd. Scindia House, Connaught Circus, New Delhi. They will obtain payment from the General Secretary, Indian Science Congress Association, 1 Park Street, Calcutta.

(2) Prof. P.C. Mahalanobis, FRS., Hyderabad, with the request that arrangements may kindly be made to have Prof. Wiener met on arrival in Calcutta and Delhi.

(3) Dr. U.P. Basu, General Secretary, Indian Science Congress Association, 1 Park Street, Calcutta.

(4) M/s. Govan Agencies Ltd., Scindia House, Connaught Circus, New Delhi.

(5) Dr. B.N. Prasad, Laxmi Niwas, George Town, Allahabad. with the request that Prof. Wiener may kindly be met on arrival at Allahabad and arrangements for his stay made.

(6) Shri B.M. Das, Central Leather Research Institute, Madras, with the request that Prof. Wiener may kindly be met on arrival.

-/-

(7) Revd. Father Yeddanapalle, Loyala College, Madras.

(8) Dr. T. Sadasivan, Botany Laboratories, Madras University, Madras.

(9) Shri B.S. Srikantan, Secretary, Physical Sciences Association, Stanley Medical College, Madras.

(10) The Director, King's Institute, Guindy, Madras.

(11) Dr. Vijayaraghavan, Director, Ramanujan Institute, Karaikudi, with the request that Prof. Wiener may kindly be met on arrival and arrangements for his stay made.

(12) Dr. B.B. Dey, Director, Central Electro-Chemical Research Institute, Karaikudi.

(13) Mr. A.G. Pai, Registrar, Indian Institute of Science, Bangalore, with the request that Prof. Wiener may kindly be met on arrival.

(14) Sir C. V. Raman, FRS., NL., Indian Academy of Sciences, Bangalore.

(15) Dr. V. Subrahmanyan, Director, Central Food Technological Research Institute, Mysore.

(16) Mr. S. Patuck, Administrative Officer, Atomic Energy Commission, Apollo Pier Road, Bombay 1, with the request that Prof. Wiener may kindly be met on arrival in Bombay.

(17) Col. S.S. Bhatnagar, Shiv Shanti Bhavan, Churchgate Reclamation, Bombay 1.

(18) Dr. K. Venkataraman, Department of Chemical Technology, University of Bombay, Matunga Road, Bombay.

(19) Dr. Atma Ram, Director, Central Glass & Ceramic Research Institute, P.O. Jadavpur College, Calcutta-32.

(20) Dr. M.S. Krishnan, Director, Geological Survey of India, 27, Chowringhee Road, Calcutta.

(21) Prof. M.N. Saha, FRS., Institute of Nuclear Physics, 92, Upper Circular Road, Calcutta.

(22) Dr. D.M. Bose, Director, Bose Institute, 93, Upper Circular Road, Calcutta.

(23) Dr. S. L. Hora, Director, Zoological Survey of India, 34, Chittaranjan Avenue, Calcutta.

(24) The Pro-Vice-Chancellor, Benaras Hindu University, Benaras.

(25) Shri Pitamber Pant, 8 King George's Avenue, New Delhi.

(26) P.S. to Secretary, Ministry of NR & SR, New Delhi.

(T. Gonsalves)
Deputy Secretary to the Govt. of India.

PROGRAMME IN INDIA
OF
PROF. NORBERT WIENER,
(MASACHUSETTS INSTITUTE OF TECHNOLOGY, USA).

....

JANUARY 1954.

1st to) 8th)	Halt in Hyderabad.			Indian Science Congress Session. (Visit the Ellora and Ajanta Caves by chartered plane on the 7th and 8th January, 1954).
9th	12.10 hrs.	dep.	Hyderabad	(By air Line No. 5).
	14.40 hrs.	arr.	Madras	
	20.00 hrs.	dep.	Madras (Egmore)	(By train Indo-Ceylon Express).
10th	8.42 hrs.	arr.	Karaikudi.	Arrangements for stay at Karaikudi to be made by Dr. Vijayaraghavan, Director, Ramanujan Institute, Karaikudi.
11th				Visit Ramanujan Institute.
	18.16 hrs.	dep.	Karaikudi	(Indo-Ceylon Express).
12th	07.25 hrs.	arr.	Madras (Egmore)	Arrangements for stay at Connemara Hotel to be made by G. Raghunathmull Bank Ltd., Hyderabad.
13th	07.45 hrs.	dep.	Madras	(By Air Line No. 6).
	08.55 hrs.	arr.	Bangalore	Arrangements for stay at West End Hotel, Bangalore, to be made by M/s. G. Raghunathmull Bank Ltd., Hyderabad.
13th) 14th)	Halt in Bangalore/Mysore.			Visit Indian Institute of Science and Indian Academy of Sciences, Bangalore.
				Visit to Mysore to be arranged by Mr. A.G. Pai, Registrar, Indian Institute of Science, Bangalore in consultation with Prof. V. Subrahmanyan, Director, Central Food Technological Research Institute.
15th	07.00 hrs.	dep.	Bangalore	(By Air Line No. 5).
	12.40 hrs.	arr.	Bombay	Accommodation at Taj Mahal Hotel to be arranged by Mr. S. Patuck, Administrative Officer, Atomic Energy Commission, Bombay.
16th to) 22nd)	Halt in Bombay.			
23rd	06.45 hrs.	dep.	Bombay	(By Air Line No. 6).
	12.05 hrs.	arr.	Calcutta	
24th to FEBRUARY 2nd	Halt in Calcutta.			Prof. Wiener will be the guest of Prof. P.C. Mahalanobis during his stay at Calcutta (203 Barrackpore Trunk Road).

-/-

FEBRUARY:

3rd	06.30 hrs.	dep.	Calcutta	(By air Line No.2).
	09.50 hrs.	arr.	Benaras	Arrangements for stay at Clarke's Hotel to be arranged by Messrs. G. Raghunathmull Bank Ltd., Hyderabad.
				Visit Benaras Hindu University.
4th				Proceed to Moghalserai by car in the morning. Arrangements to be made by the Head of the Mathematics Department, Benaras Hindu University.
	07.45 hrs.	dep.	Moghalserai	(By train Delhi Mail).
	10.04 hrs.	arr.	Allahabad	Arrangements at Allahabad to be made by Dr.B.N. Prasad.
5th	10.14hrs.	dep.	Allahabad	(By train Delhi Mail).
	21.20 hrs.	arr.	Delhi	
6th to) 10th)	Halt at Delhi			Prof. Wiener will be the guest of Prof.P.C.Mahalanobis during his stay at Delhi (8, King George's Avenue).

.....

electronics
DESIGN • PRODUCTION • USE

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January 5, 1954

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

Dear Professor Wiener:

I am enjoying tremendously "Faster than Thought" by B. V. Bowden, a symposium on digital machines just published by Pitman. It is wittily written and tells much about that great Babbage, a lot about Lord Byron's daughter who was a mathematician of some ability and, all in all, is a good book.

I wish you would review it for us and if you will I will have Pitman's send you a copy at once.

Sincerely,

Keith Henney
Consulting Editor

KH:gf

4

[ans 3/15/54]

NAGOYA UNIVERSITY
FACULTY OF ENGINEERING
FURO-CHO, CHIKUSA-KU, NAGOYA, JAPAN

January 5, 1954

(5)

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

Dear Professor Wiener:

Your book entitled "Extrapolation, Interpolation, and Smoothing of Stationary Time Series", 1950, has recently come to my attention, and after reading and studying it, I am convinced that your conception should be made available to the Japanese people.

Your other volume, "Cybernetics", has long been popular in my country, among not only natural but social scientists.

Because this later book is not as well known as it should be, I am asking permission to translate it into the Japanese language. This work will be done carefully and with the object of presenting it in full detail by me and a small staff of qualified assistants with the additional help of professors of mathematics and communication engineering.

For your guidance as to my fitness to do justice to a translation of your excellent work, I attach a short outline.

My present interest is in statistics and servo-mechanics and your writing has influences my thinking.

Please consider my request seriously and let me have your reaction together with whatever requirements such a translation by me demands.

Respectfully yours
T. Koga
T. Koga

[ans 2/17/54]

NAGOYA UNIVERSITY
FACULTY OF ENGINEERING
FURO-CHO, CHIKUSA-KU, NAGOYA, JAPAN

Toyoki KOGA, Doctor of Science
Professor of Hydrodynamics
Faculty of Engineering
Nagoya University, Nagoya, Japan

Graduate, Class 1937, Tokyo Imperial University, Institute of Physics. Specialized in hydrodynamics of air-flow. Later, after the war, my interests inclined toward a study of the foundation of gas dynamics and consequently the treatment of systems which are changing with time.

An article on the results of my recent researches has been submitted for publication to the Journal of Chemical Physics (U. S. A).

August, 1953, I was appointed Director of the Department of Automatic Control Engineering of Nagoya University.

References:

1) Prof. Takuzo SAKAI
Institute of Physics
Faculty of Science
Tokyo University
2) Prof. Ukichi SHINOHARA, Dean
Faculty of Engineering, Nagoya University

NEWTON HIGH SCHOOL
NEWTONVILLE 60, MASSACHUSETTS

A DIVISION OF THE
NEWTON PUBLIC SCHOOLS

(2)

January 5, 1954

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

Dear Professor Wiener:

When the Committee for The Mathematics Institute was at M.I.T. making arrangements for the 1954 Institute with Dr. Thresher, I met you in the faculty lounge and asked you if you would be one of our speakers. You said that you would speak from 8:00 to 9:00 P.M. on Friday, August 20, 1954.

I believe you said you would come from your summer place in New Hampshire. Of course we will pay your expenses.

Very sincerely yours,

C. H. Mergendahl
Chairman of Program Committee

CHM:ed

[ans 2/17/54]

INSTITUTE FOR TEACHERS OF MATHEMATICS

sponsored by

The Association of Teachers of Mathematics in New England

at

Colby College, Waterville, Maine

August 20-27, 1953

PROGRAM

THURSDAY, AUGUST 20

1:00 - 5:00 P.M. Registration. The Women's Union Building.

5:30 - 6:00 P.M. Dinner.

8:00 Greetings from Professor Harris Rice, Worcester Polytechnic Institute, President, A.T.M.N.E.

Greetings from Dr. J. Seelye Bixler, President, Colby College, Waterville, Maine.

Introduction of Group Discussion Leaders.

Address. "New England Mathematics Teachings Retrospective and Prospective." William R. Ransom, Professor Emeritus, Tufts College, Medford, Massachusetts. Charter-member A.T.M.N.E.

FRIDAY, AUGUST 21

7:45 - 8:30 A.M. Breakfast.

9:00 - 10:00 Lecture "Are School and College Curricula Well Adapted to the So-called Scientific Age?" H. M. Dadourian, Professor Emeritus, Trinity College, Hartford, Connecticut.

10:15 - 12:00 Laboratory Groups.

A1. Junior high school laboratory ..... Walter H. Carnahan, Eleanor E. Taylor

10:30 - 11:45 Study Groups.

A2. Provisions for individual differences. .... Rolland R. Smith

A3. Creating and preserving students' confidence in mathematics. ..... Elizabeth M. Cooper

A4. Teaching of algebra. ..... Myron C. Rosskopf

12:15 - 1:00 P.M. Lunch.

1:15 - 3:00 Laboratory Groups.

B1. Senior high school laboratory..... Hope Chipman, Gertrude C. Hazzard

1:30 - 2:45 Study Groups.

B2. A modern curriculum for high school mathematics. ..... Cletus O. Oakley

B3. How can we emphasize in the classroom the role of mathematics in human affairs? ..... William Betz

B4. Of interest to elementary and junior high school teachers. ..... Ben A. Sueltz

3:15 - 4:30 Study Group.

C1. Some fundamental concepts of algebra dealing with our needs and notations for numbers, properties of numbers, equations and inequalities, and an algebraic criterion for geometric constructions. ..... Bruce E. Meserve

C2. The value of an historical background in high school mathematics. ..... Edward A. C. Murphy

C3. Quizzes, tests, examinations, and grades. A discussion in which critical consideration will be given to the construction and use of testing material and the "making out" of grades. ..... Charles Mergendahl

C4. The postulational basis of algebra. ..... F. L. Griffin

4:30 Tea.

5:30 - 6:00 Dinner.

7:15 Films.

8:15 - 9:15 P.M. Lecture. "Observation of the Sun in the Peruvian Andes." Professor Charles H. Smiley, Brown University, Providence, Rhode Island.

SATURDAY, AUGUST 22

7:45 - 8:30 A.M. Breakfast.

9:00 - 10:00 Lecture. "Geometry of Telescope Making." Professor Charles H. Smiley, Brown University, Providence, Rhode Island.

10:15 - 12:00 Laboratory Groups.

A1. Junior high school laboratory. ..... Walter H. Carnahan, Eleanor E. Taylor

10:30 - 11:45 Study Groups.

A2. Provision for individual differences. .... Rolland R. Smith

A3. Creating and preserving students' confidence in mathematics. ..... Elizabeth M. Cooper

A4. Teaching of algebra. ..... Myron C. Rosskopf

12:15 - 1:00 P.M. Lunch.

1:15 - 3:00 Laboratory Groups.

B1. Senior high school laboratory. ..... Hope Chipman, Gertrude C. Hazzard

1:30 - 2:45 Study Groups.

B2. A modern curriculum for high school mathematics. ..... Cletus O. Oakley

B3. How can we emphasize in the classroom the role of mathematics in human affairs ..... William Betz

B4. Of interest to elementary and junior high school teachers. ..... Ben Sueltz

3:15 - 4:30 Study Groups.

C1. Some fundamental concepts of algebra dealing with our needs and notations for numbers, properties of numbers, equations and inequalities, and an algebraic criterion for geometric constructions. .... Bruce E. Meserve

C2. The value of an historical background in high school mathematics. ..... Edward A. C. Murphy

C3. Quizzes, tests, examinations, and grades. A discussion in which critical consideration will be given to the construction and use of testing material and the "making out" of grades. ..... Charles Mergendahl

C4. The postulational basis of algebra. ..... F. L. Griffin

4:30 Tea.

5:30 - 6:00 Dinner.

7:15 Films.

8:15 - 9:15 P.M. Lecture. "Freshman Mathematics as an Integral Part of Western Culture." Professor Morris Kline, New York University, New York, New York.

SUNDAY, AUGUST 23

8:30 - 9:00 A.M. Breakfast.

Morning Church Services.

12:30 - 1:00 P.M. Dinner.

1:30 - 5:00 P.M. Recreation, Trips.

5:30 - 6:00 P.M. Supper.

Evening: Lecture. "Making Mine Mathematics." Professor Walter Carnahan, Purdue University, Lafayette, Indiana. Consultant in Secondary Mathematics for the State of Indiana.

Entertainment.

MONDAY, AUGUST 24

7:45 - 8:30 A.M. Breakfast.

9:00 - 10:00 Lecture. "Guided Projects in Mathematics." Mr. George T. Bishop, Rogers High School, Newport, Rhode Island.

10:15 - 12:00 Laboratory Groups.

A1. Junior high school laboratory. ..... Walter H. Carnahan, Eleanor E. Taylor

10:30 - 11:45 Study Group.

A2. Provisions for individual differences. .... Rolland R. Smith

A3. Creating and preserving students confidence in mathematics.. ..... Elizabeth M. Cooper

A4. Teaching of algebra. ..... Myron C. Rosskopf

12:15 - 1:00 P.M. Lunch.

1:15 - 3:00 Laboratory Groups.

B1. Senior high school laboratory. ..... Hope Chipman, Gertrude C. Hazzard

1:30 - 2:45 Study Group.

B2. A modern curriculum for high school mathematics. ..... Cletus O. Oakley

B3. How can we emphasize in the classroom the role of mathematics in human affairs? ..... William Betz

B4. Of interest to elementary and junior high school teachers. ..... Ben A. Sueltz

3:15 - 4:30 Study Groups.

C1. Some fundamental concepts of algebra dealing with our needs and notations for numbers, properities of numbers, equations and inequalities, and an algebraic criterion for geometric constructions. ..... Bruce E. Meserve

C2. The value of an historical background in high school mathematics. ..... Edward A. C. Murphy

C3. Quizzes, tests, examinations, and grades. A discussion in which critical consideration will be given to the construction and use of testing material and the "making out" of grades. ..... Charles Mergendahl

C4. Helping the student to read mathematics. Helen Murphy

4:30 Tea.

5:30 - 6:00 Dinner.

7:15 Films.

8:15 - 9:15 P.M. Lecture. "Factors Influencing Retention of Learned Material." Dr. Walter C. Stanley, Department of Psychology, Brown University, Providence, Rhode Island.

TUESDAY, AUGUST 25

7:45 - 8:30 A.M. Breakfast.

9:00 - 10:00 Lecture. "Effect of High Speed Digital Computers on College Mathematics Departments." Dr. R. F. Clippinger, Raytheon Manufacturing Company, Waltham, Massachusetts.

10:30 - 11:45 Study Group.

C1. Some fundamental concepts of algebra dealing with our needs and notations for numbers, properities of numbers, equations and inequalities, and an algebraic criterion for geometric constructions. ..... Bruce E. Meserve

C2. The value of an historical background in high school mathematics. ..... Edward A. C. Murphy

C3. Quizzes, tests, examinations, and grades. A discussion in which critical consideration will be given to the construction and use of testing material and the "making out" of grades. ..... Charles Mergendahl

C4. Helping the student to read mathematics. Helen Murphy

12:15 - 1:00 P.M. Lunch.

1:30 - 7:00 Waterville Tour, Picnic.

WEDNESDAY, AUGUST 26

7:45 - 8:30 A.M. Breakfast.

9:00 - 10:00 Lecture. "Physical Applications of Minimal Principles in Mathematics." Dr. Edward T. Kornhauser, Department of Physics, Brown University, Providence, Rhode Island.

10:15 - 12:00 Laboratory Groups.

A1. Junior high school laboratory ..... Walter H. Carnahan, Eleanor E. Taylor

10:30 - 11:45 Study Group.

A2. Provisions for individual differences. .... Rolland R. Smith

A3. Creating and preserving students confidence in mathematics.. ..... Elizabeth M. Cooper

A4. Teaching of algebra. ..... Myron C. Rosskopf

12:15 - 1:00 P.M. Lunch.

1:15 - 3:00 Laboratory Groups.

B1. Senior high school laboratory. ..... Hope Chipman, Gertrude C. Hazzard

1:30 - 2:45 Study Group.

B2. A modern curriculum for high school mathematics. ..... Cletus O. Oakley

B3. How can we emphasize in the classroom the role of mathematics in human affairs? ..... William Betz

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3:15 - 4:30 Study Groups.

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C4. Helping the student to read mathematics. Helen Murphy

6:00 P.M. Banquet and Address. "Science and Society." Professor R. Bruce Lindsay, Department of Physics, Brown University, Providence, Rhode Island.

GROUP DISCUSSION LEADERS AND LABORATORY DIRECTORS

Betz, William, Specialist in Mathematics, Rochester Public Schools, Rochester, New York.

Carnahan, Walter A., Assistant Professor of Education and Mathematics, Purdue University, Lafayette, Indiana, and Consultant in Secondary Mathematics Education for the State of Indiana.

Chipman, Hope, Instructor of Mathematics, University High School, University of Michigan, Ann Arbor, Michigan.

Cooper, Elizabeth, Chairman of the Mathematics Department, Hunter College High School, and Instructor in Methods of Mathematics Teaching, Hunter College, New York, New York.

Griffin, F. L., Professor Wesleyan University, Middletown, Connecticut.

Hazzard, Gertrude C., Teacher of Mathematics, Guilford High School, Guilford, Connecticut.

Mergendahl, Charles H., Head of the Mathematics Department, Newton High School and Newton Junior College, Newtonville, Massachusetts.

Meserve, Bruce E., Professor University of Illinois, Urbana and Chicago, Illinois.

Murphy, Edward A.C., Head of the Mathematics Department, Hopkins Grammar School, New Haven, Connecticut.

Murphy, Helen, Professor Boston University School of Education, Boston, Massachusetts.

Oakley, Cletus O., Professor Haverford College, Haverford, Pennsylvania.

Rosskopf, Myron C., Professor Teachers College, Columbia University, New York, New York.

Smith, Rolland R., Coordinator of Mathematics, Springfield Public Schools, Springfield, Massachusetts.

Sueltz, Ben A., Professor of Mathematics and Chairman of the Graduate Division, State University Teachers College, Cortland, New York.

Taylor, Eleanor E., Teacher of Mathematics, Central Junior High School, Quincy, Massachusetts.

Films. A room will be set aside for showing of films and film strips.

Laboratories. A variety of teaching aids will be exhibited and an opportunity to make some of these models will be offered during the laboratory periods scheduled under "Study Groups." Materials whose effective use can enrich the teaching of mathematics will be shown and their application demonstrated. Those interested in joining one of the laboratory groups should bring scissors and compasses. Those interested in making solid geometry models should bring two used tennis balls and some fine knitting needles in addition to the above.

Exhibits. Exhibits of work by teachers and students are being planned. Teachers whose students have made interesting or helpful models, charts, designs, and puzzles are invited to bring such materials to the Institute for the school exhibit. The committee in charge must be notified in advance, however, in order to arrange for sufficient space.

Transportation. Waterville is conveniently reached by automobile (on U.S. Route 201), by train (Maine Central R.R.), by plane (Northeast Air Lines), and by bus. Colby College is located two miles west of the center of Waterville.

Mail. Mail should be addressed in care of

The Institute for Teachers of Mathematics

Colby College, Waterville, Maine

Recreation. Tennis, badminton, ping-pong, and other forms of recreation are available at the College, and a golf course is nearby. The famed Belgrade Lakes are near Waterville, and are highly recommended to those who enjoy swimming, boating or fishing. Lakewood, the oldest summer theater in continual operation in the United States, is located at Skowhegan, 18 miles north of Waterville. Various informal trips will be suggested for Sunday, and a picnic will be held on Tuesday afternoon. Families are invited to all social functions and trips, and to use the recreational facilities.

Fees. The registration fee for the entire period of the Institute is $10.00. This fee includes admission to all meetings except for the laboratories where an additional $1.50 is necessary to cover the cost of materials. A fee of $1.00 is charged friends and relatives accompanying members of the institute but not wishing to attend the meetings.

The inclusive rate for board, room and operating expenses is $6.00 per day per person. There will be no extra charges for the banquets, tips, etc. There will be no refunds for parts of a day. A day begins with the evening meal and ends with the noon meal. For people attending the meetings but not wishing full board and room, lunch will cost $1.50 and the banquet $2.50.

All linen and towels will be furnished and laundered by the college.

Reservations. Fill out the form below and mail it before July 1st. to Grace Martin, 205 Grove Street, Fall River, Massachusetts.

Early registration is advised. To hold a reservation it is necessary to include with it an advance payment of $5.00 per person. Make checks payable to The Association of Teachers of Mathematics in New England. Those desiring special accomodations for some particular reason should request such when making reservations and everything possible will be done to honor such requests.

Committee Chairmen:

General chairman:
Ruth B. Eddy, Hope High School, 66 Angell Street, Providence 6, Rhode Island.

Program:
Professor Albert A. Bennett, Brown University, Providence, Rhode Island.

Exhibits:
Helen Green, Weston High School, 334 Boston Post Road, Weston 93, Massachusetts.

Recreation:
Wilfred J. Combellack, Colby College, Waterville, Maine.

Housing:
Grace Martin, B.M.C. Dufree High School, 205 Grove Street, Fall River, Massachusetts.

Laboratories:
Eleanor Taylor, Central Junior High School, 14 President's Lane, Quincy 69, Massachusetts.

APPLICATION FOR RESERVATION

Check the items applicable to You:

Please reserve room (☐ single, ☐ double) and board for August 20-27 (seven days). If you checked double above, give name of person sharing .....

Please reserve room and board for the following members of my family: .....

.....

Name (print) .....

Address for mail .....

Name of School, College or Employer .....

Address of same .....

Position .....

INSTITUTE FOR TEACHERS OF MATHEMATICS

sponsored by

The Association of Teachers of Mathematics in New England

at

Massachusetts Institute of Technology, Cambridge, Massachusetts

August 19-26, 1954

Please fill in the spaces below and mail to me. In order to meet the printer's deadline I must have a reply by ~~December 10, 1953.~~ Pencil remarks by me are only suggestions to you. List as you wish it to be printed on the program.

SPEAKER'S NAME _____

TOPIC _____

_____

DATE Aug. 20, 1954 TIME 8.00-9.00 P. M.

STUDY GROUP TOPIC _____

_____

LEADER'S NAME _____

For "Who's who" List

NAME _____

POSITION _____

ADDRESS _____

G. H. Morgendahl
Chairman of Program Committee

Dr. Norbert Weiner

INSTITUTE FOR TEACHERS OF MATHEMATICS

sponsored by

The Association of Teachers of Mathematics in New England

at

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SPEAKER'S NAME _____

TOPIC _____

_____

DATE Friday, August 20, 1954 TIME 8.00 to 9.00 P. M.

STUDY GROUP TOPIC _____

_____

LEADER'S NAME _____

For "Who's who" List

NAME _____

POSITION _____

ADDRESS _____

C. H. Morgendahl
Chairman of Program Committee

UNIVERSITY OF OREGON
MEDICAL SCHOOL
PORTLAND 1, OREGON

DEPARTMENT OF ANATOMY

January 5, 1954

(letter lost cm)

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

Dear Dr. Wiener:

I am writing again in connection with my plan to apply to the United States Public Health Service for a special research fellowship to continue work at MIT. I wrote to you on September 9, 1953 asking if you would be willing to act as a sponsor for my work there. Unfortunately I have not received a reply from you concerning this and it is necessary to start application proceedings shortly.

I presume it would be more satisfactory if I made a visit to your laboratories some time this spring to discuss the matter at first hand. As now planned I do not expect to begin the fellowship until September of 1954, which will allow ample time for such a visit and discussion.

It may seem more feasible to you for me to locate a sponsor in one of the other departments such as the Electrical Engineering Department and take mathematical courses as supplementary to this.

I shall appreciate your reaction to my proposal and any suggestions that you may have. Upon receipt of your reply I shall be happy to telephone you and discuss the possibilities of the proposal at first hand and give you any other information you may desire to have.

Sincerely yours,

Archie R. Tunturi

Archie R. Tunturi, Assistant
Professor of Anatomy

ART:dmw

[ans 2/10/54]

COPY

UNIVERSITY OF OREGON
MEDICAL SCHOOL
PORTLAND 1, OREGON

DEPARTMENT OF ANATOMY

January 5, 1954

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Department of Mathematics
Massachusetts Institute of Technology
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Sincerely yours,

Archie R. Tunturi, Assistant
Professor of Anatomy

ART:dmw

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TELE GRAMS "SINGHVEE" PHONE Nos. 4040 & 4041

Codes: A. B. C. 6th Edn. & BENTLEY'S

G. Raghunathmull Bank Ltd.

[Incorporated in Hyderabad State]

HYDERABAD - DECCAN

जी. रघुनाथमल बैंक लिमिटेड

Ref. G. R. T9/58/129 6th January, 1954.

The Manager,
Clark's Hotel,
Near the Railway Station,
BANARAS CANTT.

Dear Sir,

Prof: NORBERT WIENER.

We have given on the reverse of this letter a detailed programme of Prof. Norbert Wiener at Banaras.

We shall thank you kindly to reserve a single room accommodation at your Hotel and afford him all facilities with boarding and lodging to make his stay comfortable. Your bill of charges in DUPLICATE may kirdly be sent to us for immediate payment.

Thanking you for early confirmation,

Yours faithfully,

Secretary.

Copy to: Prof. Norbert Wiener, Hill Fort, Hyderabad, Dn. for favour of information.

P.T.O.

PROGRAMME.

~~JANUARY,~~ 1954.

FEBRUARY, 1954.

Wed. 3rd	09.50 hrs.	Arr. Banaras from Calcutta by Air Line No.2
		STAY AT CLARK'S HOTEL.
Thurs.4th		Dep. to Moghalserai by Car in the morning.

N E W Y O R K P H I L O S O P H I C A L S O C I E T Y
HANSA GALLERY
70 East 12th St.
New York 3, N.Y.

C H A I R M E N:
Irwin Edman
V.J. McGill
Ernest Nagel
John H. Randall, Jr.

January 6, 1954

Professor

Dear Professor Norbert Wiener,

The New York Philosophical Society was born on Nov. 17, 1953 when Dr. Fred Olafson of Harvard Univ. spoke on "Perception and Linguistic Analysis." Prof. Abraham Edel of CCNY closed our fall season on Dec.18, with a talk on "Ethical Relativity and the Human Sciences."

Our group is intended to bring together on a frequent basis professional philosophers, scientists, social scientists, and graduate students, in an effort to help clarify and exter the concepts of thinkers who do not usually meet together.

THE PURPOSE OF THIS LETTER IS TO INVITE YOU TO SPEAK BEFORE US.

Lectures begin at 8:30 pm at the Hansa Gallery. These 45 min. talks are followed by a 45 min. discussion period. At present we can offer the lecturer no more than the promise that his words will be recorded and possibly printed.

Alvin P. Dobsevage
Secretary

8 Barrow Street
New York City 14,
WAtkins 4-6178

(detach here)

Secretary
New York Philosophical Society
Hansa Gallery,70 East 12th St.
New York City 3,

Dear Sir:

I would be free to lecture upon (subject)_____
_____
_____
at the New York Philosophical Society, c/o Hansa Gallery,70 East 12th St., at 8:30 pm on one of the following circled dates (circle, if possible, two or three). Enclosed is a two paragraph précis which you may use in the advertisement of the lecture.

Spring 1954

Feb.	M	T	W	T	F
	8	9	10	11	
	15	16	17		19
		23	24	25	26
Mar.	1	2	3	4	5
	8	9	10	11	12
	15	16	17		19
	22	23	24	25	26
	29	30	31		

April	M	T	W	T	F
				1	2
	5	6	7	8	9
	12	13	14	15	16
	19	20	21		23
	26	27	28	29	30
May	3	4	5	6	7
	10	11	12	13	14
	17	18	19		21

Please confirm the date.

Sincerely yours,

Address:

Would you care to lecture upon "What Machines Can Do."

A.P.D.

N E W Y O R K P H I L O S O P H I C A L S O C I E T Y

HANSA GALLERY
70 East 12th St.
New York 3, N.Y.

PROFESSOR PAUL C. ROSENBLOOM

School of Mathematics
Institute for Advanced Study
Princeton, N.J.
will talk on

"WHAT MACHINES CANNOT DO"

Thursday, February 11, 1954

Summary:

The vast development of computing machines in recent years has given rise to a great deal of speculation and some wild talk about their role in the society of the future, and a certain amount of nonsense about "thinking machines." It is not so generally known that there are logical limitations to what machines can do, irrespective of any progress in technology and invention.

It may be interesting for the layman to see a mathematician's approach to philosophical questions, with an emphasis on precisely formulated problems to which definite answers can be given. The lecturer will also discuss some aspects of the nature of intelligence and the mechanist-vitalist controversy.

P.R.

The HANSA ART GALLERY, our lecture hall, is located two flights up at 70 East 12th Street, just west of Fourth Avenue. Closest subways: Independent Sixth Avenue, Lexington Avenue IRT, or BMT Lines (14th St. stop).

ADMISSION: 50 cents.

For additional information write: The Secretary, New York Philosophical Society, c/o Hansa Gallery, 70 East 12th Street, N.Y.C.

GORDON RESEARCH CONFERENCES

Sponsored by

THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

CONFERENCE ON INSTRUMENTATION

July 26-30, 1954

DR. W. GEORGE PARKS, *Director*
University of Rhode Island
Kingston, Rhode Island

January 6, 1954

Professor Norbert Wiener
Massachusetts Institute of Technology
Cambridge, Massachusetts

Dear Professor Wiener:

At the close of the 1953 Gordon Research Conference on Instrumentation, the members were polled to determine the subject matter for the 1954 conference. A number of suggestions that we obtain an outstanding speaker on Cybernetics were received. Naturally, you are the person best qualified to treat this subject. We shall be greatly honored if you can accept this invitation to present a major paper before our group this summer.

The 1954 conference will be held at New London, New Hampshire during the week of July 26-30. The conferees live on the campus of Colby Junior College where ample opportunity is afforded for stimulating informal discussions in a most pleasant environment. Since you are no stranger to New Hampshire, I need not elaborate further.

Our conference is quite unusual in that outstanding men in many different fields meet on the common ground of instrumentation. One advantage of the Gordon Conferences over many of the technical society meetings lies in the fact that more freedom to explore frontier areas of the individual application sciences exists. In view of this, many of us feel that considerable emphasis should be placed on philosophical deliberations in which broad trends of development are considered.

I am enclosing a brochure explaining the Gordon Conferences. Although it is out of date, it will give you some background material.

If possible, will you please indicate your intention by early February. Meanwhile, I shall be glad to answer questions about the conference which may occur to you.

Very truly yours,

R. H. Osborn

R. H. Osborn, Vice-Chairman
Gordon Research Conferences
on Instrumentation
Hercules Powder Company
Experiment Station
Wilmington, Delaware

RHO:dhd

THE GORDON RESEARCH CONFERENCES

Sponsored by

THE AMERICAN ASSOCIATION for the ADVANCEMENT OF SCIENCE

1950

THE GORDON RESEARCH CONFERENCES

Sponsored by

The American Association
for the Advancement of Science

1950

GORDON RESEARCH CONFERENCES SPONSORED BY THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE*

The Gordon Research Conferences are so named in recognition of the vision and initiative of Professor Neil E. Gordon. It was his belief that scientific men and women would profit by knowing each other better, and by having an opportunity to discuss their scientific interests in a leisurely and informal manner amid pleasant surroundings. It takes time to grasp thoroughly another person's point of view, and this can best be accomplished by relatively unhurried, friendly exchange of information, with ample opportunity for thought. This is particularly true since scientific persons having similar interests but different backgrounds, such as, industrial and academic research, need to become informed concerning each other's work.

Dr. Gordon first tried out his idea in 1931 under the auspices of The Johns Hopkins University. The first meetings were held in Remsen Hall, the chemistry building of that university. The attendance at first was limited to students and faculty members. For instance, in 1932 there was one conference on the subject of X-rays and Crystal Structure, with Dr. Ralph W. G. Wyckoff as principal speaker. This conference was under the chairmanship of Dr. Emil Ott, who was then a faculty member. Dr. Gordon visualized from the beginning that these conferences could be best brought to full fruition at a location such as the nearby Gibson Island Club provided.

In 1935 he arranged for a three-weeks' conference, under the auspices of The Johns Hopkins University, and under the general direction of Dr. E. E. Reid. This was listed as the "Fifth Annual Summer Session of the Department of Chemistry at Gibson Island, Maryland". The general purpose of these conferences was described as follows in "Science":

"The Chemistry Department of The Johns Hopkins University is holding its fifth Research Conference this summer at Gibson Island near Baltimore. The conference will be under the general direction of E. Emmet Reid and will run three weeks from June 24 to July 12. The plan is flexible, varying from day to day according to the nature of the topic under discussion and the wishes of those participating. The day begins with a more or less formal lecture outlining some field of research and directing attention to its unsolved problems. This is followed by a discussion in which each one present takes part, making what contribution he can to the solution of the problems presented. The ideal is to have a group large enough that all points of view may be represented, yet small enough that all who wish may take active part. The plan is to have recognized leaders in each field of research give lectures and start the discussions, but its success depends on having a number in the group who are capable of contributing ideas. The remainder of the day is left to sports or conversations. These conferences are intended to combine mental stimulation, pleasant personal contacts, and healthful recreation."

The program for the first Gibson Island Conference is given in the appendix.

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*Information for this historical record of the Gordon Research Conferences was obtained from the following sources:

(1) "The AAAS-Gibson Island Research Conferences" by F. R. Moulton, printed at Wayne University, April, 1948.
(2) Neil E. Gordon Memorial Issue—Record of Scientific Progress, Vol. 10, No. 4, 1949.
(3) Miss Mildred Grafflin, a member of Dr. Gordon's staff during the period when the conferences were started.
(4) Dr. John C. Krantz, Jr., who assisted Dr. Gordon with the arrangements at Gibson Island during the period when Dr. Gordon was located in Missouri.
(5) Dr. George Calingaert, Dr. Emil Ott, and many other loyal and active "Gibson Islanders" who were familiar with the early days of the conferences.
(6) Mrs. Neil E. Gordon.

In 1936 invitations were issued to attend the Sixth Annual Summer Session in Biology, Chemistry and Physics. The program of this Second Gibson Island Conference is likewise listed in the appendix.

The early meetings were held in the lounge of the Gibson Island Club, but as the group grew larger the meetings were moved to the boat house of the club. Dr. Gordon at this time visualized the creation of a special lecture hall for the benefit of the meetings.

After Dr. Gordon resigned from the faculty of Johns Hopkins, the University carried on the Seventh Annual Research Conference at the Cavalier Hotel, Virginia Beach, Va., in 1937. Subsequently, a meeting was also held at the Hotel Henlopen, Rehoboth Beach, Delaware.

In 1937 when Dr. Gordon was elected Secretary of the Section of Chemistry of the American Association for the Advancement of Science, he began to visualize the continuation of the Conferences as he had originally planned them under the new auspices of the AAAS. He approached Dr. Moulton, Secretary of the AAAS, on the subject and received a very friendly reception. The Executive Committee of the Association voted to authorize the Conferences provided the Association incurred no financial liabilities. Dr. Gordon accepted these conditions without hesitancy and in the summer of 1938 "A Special Research Conference on Chemistry" was announced under the auspices of the Section of Chemistry of AAAS, under the direction of Dr. Harold C. Urey, Chairman, and Dr. Neil E. Gordon, Secretary of the Section. The two conferences were under the chairmanship of Harold C. Urey on "Relation of Structure to Physiological Action" and C. G. King on "Cellular Metabolism and Tissue Respiration". These renewed conferences were again held in the lounge of the Gibson Island Club. Future conferences followed without intermission.

Dr. Moulton (1) continues the story of the Gordon Conferences as follows:

"In the summer of 1939, three conferences were held under similar conditions. The first was on "Resinous Polymers", N. L. Bender, chairman; the second, on "Vitamins", C. G. King, chairman; and the third, on "Relation of Structure to Physiological Action", W. H. Hartung, chairman.

"By the end of the second year (1939) the conferences had definitely established their general pattern. The programs were arranged by Dr. Gordon in consultation with other chemists. Each conference continued for five days, Monday morning to Friday afternoon, inclusive. Morning sessions began about 10 o'clock and continued for about two hours; afternoons were largely devoted to discussions between individuals or to recreation—golf, tennis, bathing, boating, sailing, fishing. The evening sessions began shortly after dinner and continued until the program and discussion were completed. Often evening sessions were followed by discussions of small groups extending far into the night.

"The program of each session consisted generally of only one or two papers, prepared and read by eminent specialists in the subject under discussion. The sessions were held under the direction of the chairman or the vice-chairman of the conference, who generally combined such an atmosphere of informality with orderliness that they were both profitable and enjoyable. The discussions were not simply digests of well-established results but reports on current problems, including progress made and conjectures and hopes for the future. Scientists from universities and colleges mingled and argued with those from industrial laboratories, to the advantage of both groups; and scientists from competing industrial laboratories forgot their rivalries in their enthusiasm for the scientific chase. The conferences not only advanced science but also human relations.

"In these first two years Dr. Gordon secured sleeping accommodations and meals for the participants in the conferences at the Gibson Island Club, a social organization whose members were largely residents of Baltimore and Washington. The Island is an attractive, wooded, somewhat hilly island of about 1,000 acres in Chesapeake Bay, close to its western shore, 30 miles south of Baltimore. The island, which is now connected with the mainland by a causeway, is privately controlled and admission to it is only by card from the Gibson Island Club. There are about 80 private residences on the Island. Consequently, the Island provided not only living accommodations and varied recreation, but privacy.

"During these years Dr. Gordon was head of the Chemistry Department of Central College, Missouri. The college, like most other universities and colleges in the middle West, held summer sessions. Instead of being in residence at his college during summer sessions at a substantial compensation, Dr. Gordon spent his summers directing the AAAS Gibson Island Research Conferences without compensation and at his own expense.

"The Conferences during the first two years were so successful that six were planned for 1940, although the European war began in September, 1939. The subject of the first conference in 1940 was "Frontiers in Petroleum Chemistry", C. R. Wagner, chairman. The other subjects and chairmen were as follows: "Catalysis", E. C. Williams, chairman; "Organic High Molecular Weight Type Compounds", H. L. Bender, chairman; "Vitamins", C. G. King, Chairman; "Relation of Structure to Physiological Action", W. H. Hartung, chairman; and "Application of X-ray and Electron Diffraction", M. L. Huggins, chairman.

"One session in each conference was devoted at least in part to considering plans for the following year. In some cases the discussion of an important field of chemistry is continued for more than one year. For example, the conference, in 1940, on "Frontiers in Petroleum Chemistry" was continued in 1941 and 1942 under the same chairman, C. R. Wagner, and in 1943 and 1944 under the chairmanship of R. E. Burk and F. D. Rossini, and in 1945 under the chairmanship of George Calingaert. A similar series of conferences has been held on the other subjects given at the end of this article. If any field ceases to develop, it is discontinued and a new field is introduced.

"The six conferences in the summer of 1940 were so successful that plans were made for holding eight in the summer of 1941. Not only were the conferences increasing in number, but the pressure of applications for permission to attend them also increased. At this time Dr. Gordon proposed that they be established on a permanent basis, and his early dream of a suitable lecture hall, possibly with sleeping accommodations belonging to the Conferences, called again for realization.

"After considerable investigation, Dr. Gordon proposed that a large house and an adjacent large garage* which could be transformed into a lecture room or sleeping quarters be purchased by the Association as a permanent home for the conferences. The property was owned by the heirs of one of the original developers of Gibson Island as the home for the Club and as a place for the erection of homes for a selected group of persons. The area of the property, occupying the highest hill on the island, is 3.6 acres largely covered by trees. The price placed on the property was $16,000.

"The Executive Committee approved the purchase of the property provided Dr. Gordon should secure $8,000 in cash for the purpose before June 1 and that the contract for purchase should be such that the Association would not be liable for the unpaid remainder. The $8,000 was contributed by industrial laboratories before the first of May and $15,000 by August. The property was purchased and paid for in full. Gifts of $1,000 each by industrial laboratories to a total of $33,000 have been made for the purchase and improvement of the property.** The Conferences became so well known and so highly regarded that many of the gifts were made without solicitation and at one time several thousand dollars voluntarily offered were returned to the donors because they were not needed.

"In appreciation of Dr. Gordon's contribution to the advancement of science by establishing and developing the Conferences, the participants recommended to the Association that the house be named the Neil E. Gordon House. The Executive Committee passed a resolution by unanimous vote that the suggested name for the house be made official.

"Early in 1945 illness made it necessary for Dr. Gordon to turn over the operation of the ten conferences scheduled for the summer to Dr. Sumner B. Twiss, a member of his staff at Wayne University. Dr. Twiss followed the policies Dr. Gordon had established and very capably managed the conferences and agreed to arrange for conferences to be

*The proposal to renovate the garage actually came at a later date.
**Companies and organizations which have contributed $1,000 are known as "sponsors" and are entitled to one representative at each conference and a representative on the Advisory Board.

held in the summer of 1946 and to supervise the operation of them."

At about this time Dr. Gordon asked to be relieved of the responsibilities of the Conferences. The Executive Committee of the AAAS granted this request with the deepest appreciation of his leadership in establishing and so efficiently directing these Gibson Island Conferences for nine years.

Dr. Gordon's success in developing these conferences resulted from faith in ideas and ideals and his faith in people. He had a very healthy scientific curiosity and the ability to listen well, remember a lot, and talk intelligently about almost any branch of science. Consequently he had a wide acquaintance among chemists and was able to obtain the friendly help of outstanding chemists in promoting the early conferences.

The Gibson Island location was sufficiently difficult to reach, and sufficiently isolated, that most persons after succeeding in getting there, usually thought it worthwhile to stay for the entire week's conference. The pleasant club, lush vegetation, beautiful bay, golf, swimming and southern style mint juleps all combined to make Gibson Island a place worth remembering. Dr. and Mrs. Gordon provided an atmosphere of courteous and gracious social charm which added much to the whole experience of a week at these Gibson Island Conferences.

There were, however, disadvantages at Gibson Island, which eventually outweighed the beauty of the trumpet vine, the song of the mocking bird, and the general atmosphere of the place which, for most chemists, was rather unusual. The club became less cooperative; accommodations were limited; the heat and humidity were often uncomfortable; it was a long trip for meals on rainy days, especially if there were not enough cars. In 1946 Dr. Gordon and Dr. Twiss resigned. Relations with the club were unsatisfactory.

Under these very discouraging circumstances the Management Committee, under the aggressive chairmanship of Dr. George Calingaert, investigated the possibility of meeting elsewhere, and of obtaining a new Director. The members of the Management Committee visited many schools and colleges and interviewed many prospective directors. They recommended Colby Junior College at New London, New Hampshire, as the new location and Dr. W. George Parks of Rhode Island State College as Director.

The first conferences held in 1947 at New London were very successful, and a new era was started. In 1948 the conferences were officially named the Gordon Research Conferences of the AAAS.

Since a rather fixed pattern of conferences had become established, there was discussion during 1947 and 1948 about how conferences on new topics should be provided. Early in 1949 a questionnaire was circulated to about 500 persons covering many aspects of the operation of the Gordon Conferences. Tabulations of these results showed: (1) there was a desire for new conferences, (2) there was strong opposition to holding simultaneous conferences at one location and, (3) there was strong sentiment in favor of developing a new conference location.

The Management Committee appointed a subcommittee consisting of George Calingaert, Charles N. Frey, and K. G. Compton to investigate the new locations and new conference subjects. As a result of the activities of this committee, conferences will be held in 1950 at the New Hampton School in New Hampton, New Hampshire, as well as New London, New Hampshire.

What has been said shows that Dr. Gordon's idea of conferences where top-grade scientific men can really get to know each other and understand each other is a vital and dynamic one. Many persons have contributed to the success of the Gordon Conferences, but to Dr. Gordon alone we owe the vision, the zeal, and the friendly enthusiasm which started them and nourished them along until they were finally placed on a permanent basis.

In order that the conferences shall continue to occupy their very useful place in our

scientific community, it is important that everyone concerned appreciate the importance of adhering to the principles which Dr. Gordon considered important, and which have been shown by experience to be sound. Briefly these are as follows:

1. The attendance at each conference should be limited in number to encourage informal discussion and to make it easier to become acquainted.

2. The persons attending each conference should include outstanding men in the field under consideration. There should be representation from academic laboratories, industrial laboratories, and the laboratories of endowed institutions and government agencies.

3. The conferences should be conducted in such a manner as to promote rather than discourage discussion.

It is the established policy of each Conference that all information presented is off the record and not to be used without specific authorization of the individual making the contribution, whether in formal presentation or in discussion. The discussions are not recorded, and no publications are prepared as emanating from the Conferences, although the author may subsequently desire to publish his material in a scientific journal. The participants in a Conference are at liberty to publish or not to publish their contributions, as they desire. The responsibility for this decision lies entirely with the individual concerned.

There are obviously limits to the degree of freedom with which either industrial or academic persons will wish to discuss certain topics, and conference topics should be chosen with this in mind. Experience has shown that there is plenty of valuable material which can be discussed freely. Everyone attending a Gordon Conference should realize that it is a discussion conference, and he should be prepared to contribute when he has something worthwhile. It is assumed that only persons with background and knowledge which will make them a valuable part of the conferences will wish to attend.

The Conferences are at present administered in the following manner:

1. Each year two members are elected to serve on the Management Committee for a term of three years, giving thus a group of six elected members. These men are elected from a group of nominees at a meeting of the Advisory Board, and must be members of the Advisory Board. In addition, the Director of the Conferences, and the Secretary of the AAAS are members of this body. The Management Committee selects its own chairman and vice-chairman and usually meets three times a year. The AAAS, as sponsor of the Gordon Research Conferences, reserves an overall right of review of everything pertaining to these conferences, but thus far has approved all decisions of the Management Committee.

2. The Advisory Board consists of the Conference Chairmen, the Director of the Conferences, the President and the Secretary of the AAAS, and one representative from each sponsoring company (at present 58) plus members-at-large elected by the Advisory Board. At present 15 such representatives are authorized, five to be selected each year for a three-year term. The first five elected in 1949 were Prof. P. D. Bartlett, Dr. John Bowman, Dr. C. A. Elvehjem, Dr. Paul Flory and Dr. H. S. Taylor. The members-at-large elected for 1950 are Drs. D. Burk, G. Calingaert, C. G. King, C. C. Price, and F. D. Rossini. It is hoped that these members-at-large will adequately represent the academic institutions and research foundations of the country in the planning of the Gordon Conferences. The main function of the Advisory Board is to provide a democratic body which can formulate the opinion of the conference members and recommend policies on which the Management Committee can subsequently make final decisions and take action. In general, the Management Committee has adhered very closely to the recommendations of the Advisory Board when these have been clearly stated. The Advisory Board usually meets twice a year at the national meetings of the ACS. Members of the Advisory Board, if unable to attend, may designate a representative who will have the power to vote.

3. The chairman and vice-chairman of each conference are selected by the conference. They may be assisted by such committees as each conference may authorize. It is

the direct responsibility of the elected officers of each section to organize and operate its particular conference in accordance with the general policies agreed upon by the Advisory Board and with the wishes of those in attendance at the conference.

4. Attendance at each conference is limited to 100, the officers of each conference being responsible for selection if more apply than can be accommodated. Each sponsor is entitled to one seat at each conference, but in practice this right is exercised by only about one-half of the sponsors at any one conference. In other words, about thirty individuals at each conference are sponsor representatives.

5. It is the responsibility of each Conference to make certain that wide and interesting subjects are covered and the presiding Chairman should foster discussion to the point where no worthwhile thought has been left unexpressed. In arranging the program, the original objective should be considered, that is, the discussion of new work and especially subjects in the formative stage. Of course, it is often necessary to introduce a background of the prior art, but it is not considered desirable to use the valuable opportunity afforded by these Conferences merely to report work that has appeared elsewhere and, in many cases, is well known to the individuals active in the particular field of research under discussion. Prepared written papers are not necessary and are not encouraged.

6. The speakers and discussion leaders at the Conferences are requested to participate without remuneration. It is a definite honor to be invited to present a discussion at the Gordon Research Conferences, and the speakers are generally those who have made a considerable contribution to the advancements in their particular research field. A special fund is provided by the Management Committee from the registration fees collected to be used to assist academic or government research men or women who attend a Conference at personal expense or who otherwise are not able to attend, and whom the Conference Chairman or Program Committee believes should be invited to be present, in the expectation that they will make significant contributions to the program. The Chairman of the Conference and the Director of the Conferences are charged with the responsibility for the disbursement of this fund. It may be used to contribute toward the traveling expenses or subsistence expenses at the Conference. The money is to be used as an assistance fund only. Total travel and subsistence expenses normally will not be available. It is expected that an individual receiving assistance from this fund will attend the Conference and be available for participation in the discussions during the four and one-half days of the Conference.

The following information is contained in the appendix:

I. The programs of the first Gibson Island Conferences held in 1935 and 1936.
II. A list of conferences and their chairmen, including conferences planned for 1950.
III. A list of former and present members and officers of the Management Committee.
IV. A list of sponsors, approximately in chronological order.

Detailed up-to-date information, which applies to each conference location, will be prepared each year by the Director and will be given to each conference member when he registers. New conference members will be given a copy of this historical pamphlet.

APPENDIX I

Detailed Programs of Gibson Island Conferences held in 1935 and 1936

1935

1. THE CHEMISTRY OF THE ALIPHATIC FREE RADICALS. Francis O. Rice, Chairman. June 24-28.

   The week's conferences will include a series of lectures and discussions on (1) the preparation and properties of free aliphatic radicals, (2) the mechanisms of thermal decomposition from the free radical standpoint, and (3) the Haber-Willstatter chain mechanism applied to reactions in solution.

2. LONG CHAIN MOLECULES. Thomas Midgley, Jr., Chairman. July 1-5.
   July 1. Formation of polymers by definite chemical reactions; rings and string molecules. W. H. Carothers.
   July 2. Synthetic Rubber, Duprene and Thiokol. W. H. Carothers and J. C. Patrick.
   July 3. The Determination of Molecular Weights of Big Molecules. E. O. Kraemer.
   July 4. Cellulose. E. O. Kraemer.
   July 5. Rubber. Thomas Midgley, Jr.

3. VITAMINS. E. V. McCollum, Chairman. July 8-12.

   These conferences consist of lectures and discussions grouped around work in progress on vitamins.
   July 8. Vitamin A. E. V. McCollum.
   July 9. Vitamin B. R. R. Williams.
   July 10. Vitamin C. C. G. King.
   July 11. Vitamin D. C. E. Bills.
   July 12. Vitamin G. H. C. Sherman.

1936

1. NUCLEAR PHYSICS. John A. Fleming, Chairman. June 22-26.
   June 22. Detailed Balance and Nuclear Cross Sections, A. E. Ruark.
   June 23. Artificial Radioactivity Produced by Neutrons, E. Fermi and F. Rasetti.
   June 24. The Scattering of Protons by Protons and Other Nuclei, M. A. Tuve.
   June 25. Theories of Nuclear Structure and Nuclear Reaction, Gregory Breit.
   June 26. A Discussion of the Impulse Methods of Producing High Speed Particles, Jesse W. Beams.

2. PHOTOCHEMISTRY. W. A. Noyes, Jr., Chairman. June 29-July 3.
   June 29. Theory of Spectra of Polyatomic Molecules from the Standpoint of Quantum Mechanics. E. Teller and Oliver R. Wulf.
   June 30. Electronic States of Polyatomic Molecules, Robert S. Mulliken.
   July 1. Fluorescence, Predissociation Resonance Phenomena, I. A. Turner.
   July 2. The Determination of the Mechanism of Photochemical Reactions, Philip A. Leighton.
   July 3. Importance of Photochemical Technique in the Study of Photochemical Reactions, the Behavior of Molecules in Various States of Excitation, W. A. Noyes, Jr.

3. TISSUE RESPIRATION. C. G. King, Chairman. July 6-10.
   July 6. Vitamins in Relation to Tissue Respirations, C. G. King.
   July 7. Respiration Systems and Techniques in the Study of Cancer, K. A. C. Elliott.
   July 8. Inorganic Elements in Relation to Tissue Respiration, C. A. Elvehjem.
   July 9. Respiration Studies with Single-Cell Organisms, E. S. Guzman Barron.
   July 10. Oxidation of Amino Acids and Other Metabolites, Frederick Bernheim.

4. CHEMISTRY OF OLEFINS FROM PETROLEUM. Thomas Midgley, Jr., Chairman. July 13-17.
   July 13. Introduction, E. Emmet Reid.
   July 14. Fine Chemicals from Petroleum, Benjamin T. Brooks.
   July 15. Polymer Gasoline, Gustav Egloff.

July 16. Synthetic Resins from Petroleum, Charles Allen Thomas.
July 17. Summary and General Discussion, Thomas Midgley, Jr.

5. SYNTHETIC RESINS. Leo Baekeland, Chairman. July 20-24.
July 20. Historical and General, Leo H. Baekeland.
Theoretical, E. Emmet Reid.
Colloidal, Howard L. Bender.
July 21. Relation between Polymerization and Structure of Organic Molecules, H. J Barrett.
Synthetic Resins Derived from Natural Rubber, H. A. Bruson.
Resin-like Bodies from Polymerized Hydrocarbons, John R. M. Klotz.
Acrylic Resins, Harry T. Neher.
July 22. Resinous Derivatives of Vinyl Alcohol, G. O. Curme, Jr. and S. D. Douglas
Polymerization of Styrene, Ivey Allen, Jr.
July 23. Alkyd Resins, T. F. Bradley.
Urea-Formaldehyde Resins, A. M. Howald.
July 24. Phenol-formaldehyde, Lawrence V. Redman.
Summary and Conclusions, Leo H. Baekeland.

APPENDIX II

Gibson Island Research Conferences, 1938-46, and their Chairmen
and
Gordon Research Conferences, 1947-50, and their Chairmen

GIBSON ISLAND RESEARCH CONFERENCES, 1938-46
Director 1938-44—DR. NEIL E. GORDON
Director 1944-46—DR. SUMNER B. TWISS

1938

Relation of Structure to Physiological Action, Harold C. Urey.
Cellular Metabolism and Tissue Respiration, C. G. King.

1939

Resinous Polymers, H. L. Bender.
Vitamins, C. G. King.
Relation of Structure to Physiological Action, W. H. Hartung.

1940

Frontiers in Petroleum Chemistry, C. R. Wagner.
Catalysis, E. C. Williams.
Organic High Molecular Weight Type Compounds, H. L. Bender.
Vitamins, C. G. King.
Relation of Structure to Physiological Action, W. H. Hartung.
Applications of X-ray and Electron Diffraction, M. L. Huggins.

1941

Frontiers in Petroleum Chemistry, C. R. Wagner.
Catalysis, E. C. Williams.
Organic High Molecular Weight Compounds, S. S. Kistler.
Structure and Chemistry of Textile Fibers, Milton Harris.
Vitamins, C. G. King.
X-ray and Electron Diffraction, M. L. Huggins.
Corrosion, R. M. Burns.
Photosynthesis, O. L. Inman.

1942

Frontiers in Petroleum Chemistry, R. E. Burk.
Catalysis, E. C. Williams.
Relation of Structure to Physiological Action, D. L. Tabern.
Organic High Molecular Weight Compounds ,S. S. Kistler.
Structure and Chemistry of Textile Fibers, Milton Harris.
Vitamins, W. C. Russell.

X-ray and Electron Diffraction, B. E. Warren.
Corrosion, R. M. Burns.
Chemical Growth Promoters, E. S. Cook.
Instrumentation, J. J. Grebe.

1943

Frontiers in Petroleum Chemistry, R. E. Burk.
Catalysis, H. S. Taylor.
Organic High Molecular Weight Compounds, H. Mark.
Textiles, Milton Harris.
Strategic Materials, Robert Calvert.
Hormones, F. C. Koch.
Vitamins, R. A. Dutcher.
Chemical Growth Promoters, Dean Burk.
Corrosion, R. B. Mears.
Instrumentation, J. J. Grebe.

1944

Petroleum Chemistry, F. D. Rossini.
Catalysis, Otto Beeck.
Organic High Polymers, H. Mark.
Medicinal Chemistry, D. L. Tabern.
Textiles, Milton Harris.
Food and Nutrition, Robert Calvert.
Vitamins, W. C. Russell.
Cancer, Dean Burk.
Corrosion, F. L. LaQue.
Instrumentation, W. G. Brombacher.
X-ray and Electron Diffraction, L. H. Germer.

1945

Petroleum Chemistry, George Calingaert.*
Catalysis, P. H. Emmett.
Organic High Polymers, Emit Ott.
Medicinal Chemistry, W. G. Bywater.
Textiles, W. F. Busse.
Food and Nutrition, R. J. Block.
Vitamins, James Waddell.
Cancer, Dean Burk.
Corrosion, G. H. Young.
Instrumentation, J. G. Ziegler.
*Dr. Calingaert was out of the country on a war assignment.
The vice-chairman, S. S. Kurtz, Jr., presided.

1946

Petroleum Chemistry, S. S. Kurtz, Jr.
Catalysis, H. H. Storch.
Organic High Polymers, C. S. Fuller.
Textiles, D. H. Powers.
Corrosion, H. H. Uhlig.
Medicinal Chemistry, H. A. Shonle.
Vitamins, N. B. Guerrant.
Food and Nutrition, H. J. Almquist.
Cancer, H. P. Rusch.
Instrumentation, R. D. Webb.

GORDON RESEARCH CONFERENCES, 1947-1949

Director—DR. W. GEORGE PARKS

COLBY JUNIOR COLLEGE

1947

Organic High Polymers, C. C. Price.
Catalysis, Walter G. Frankenburg.
Petroleum, W. G. Lovell.
Textiles, W. A. Sisson.
Corrosion, K. G. Compton.
Medicinal Chemistry, E. H. Northey.
Vitamins, D. W. Wooley.
Food and Nutrition, Lawrence Atkin.
Cancer, A. M. Brues.
Instrumentation, C. O. Fairchild.

1948

Catalysis, H. S. Taylor.
Petroleum, Otto Beeck.
Organic Reaction Mechanisms, Frank H. Westheimer.
Organic High Polymers, W. O. Baker.
Textiles, Ross C. Whitman.
Corrosion, I. A. Denison.
Instrumentation, J. C. Peters.
Vitamins, Floyd S. Daft.
Food and Nutrition, P. L. Harris.
Medicinal Chemistry, J. M. Sprague.
Cancer, Gray H. Twombly.

1949

Petroleum, John R. Bowman.
Catalysis, Ahlborn Wheeler.
Ion Exchange, W. C. Bauman.
Polymers, R. M. Fuoss.
Textiles, J. H. Dillon.
Corrosion, H. R. Copson.
Instrumentation, H. C. Frost.
Vitamins and Metabolism, Esmond E. Snell.
Food and Nutrition, Daniel Melnick.
Medicinal Chemistry, R. C. Batterman.
Cancer, W. H. Summerson.

GORDON RESEARCH CONFERENCES AS PLANNED FOR 1950

COLBY JUNIOR COLLEGE

Catalysis, C. W. Montgomery.
Petroleum, C. C. Price.
Polymers, H. M. Spurlin.
Textiles, Earl E. Berkley.
Corrosion, Norman Hackerman.
Instrumentation, V. F. Hanson.
Vitamins and Metabolism, E. L. R. Stokstad.
Food and Nutrition, James B. Allison.
Medicinal Chemistry, Marlin T. Leffler.
Cancer, W. U. Gardner.

NEW HAMPTON SCHOOL

Chemistry and Physics of Metals, Earl E. Gulbransen.
Current Trends in Analytical Chemistry, B. L. Clarke.
Organic Coatings, G. W. Seagren.
Ion Exchange, Robert Kunin.
Microbiological Deterioration, J. Leutritz, Jr.
Physical Methods in Nucleic Acid and Protein Research, K. G. Stern and E. R. Blout.

APPENDIX III

Former and present members and officers of the Management Committee.

George Calingaert, Chairman, 1946-49.
Dean Burk, 1946-49.
Lawrence H. Flett, 1946-48.
K. C. Hickman, 1946-48.
Sereck Fox, 1946-47.
A. L. Marshall, 1946-47.
Emil Ott, 1947-50; Vice-Chairman, 1948-49; Chairman, 1949-50.
Randolph T. Major, 1947-50.
K. G. Compton, 1948-51; Vice-Chairman, 1949-50.
S. S. Kurtz, Jr., 1948-51.
Charles N. Frey, 1949-52.
H. Mark, 1949-52.
Paul Flory, 1950-53.
J. M. Sprague, 1950-53.
W. George Parks, Director, 1947- .
Howard A. Meyerhoff, Administrative Secretary, AAAS.

APPENDIX IV

Sponsors of the Gordon Research Conferences, AAAS.

(Approximately in chronological order)

Ethyl Corporation.
Hercules Powder Company.
Shell Development Company.
Dow Chemical Company.
Gelatin Products Division, R. P. Scherer Corporation.
Norton Company.
Socony-Vacuum Oil Company.
Standard Brands, Inc.

Brown Instruments Division, Minneapolis-Honeywell Regulator Company.
Merck and Company, Inc.
General Electric Company.
Standard Oil Development Company.
Arthur D. Little, Inc.
Okonite Company.
Pittsburgh Plate Glass Company.
Leeds and Northrup Company.
Campbell-Taggart Research Corporation.
American Cyanamid Company.
Sinclair Refining Company.
B. F. Goodrich Company.
Davison Chemical Corporation.
Monsanto Chemical Company.
Celanese Corporation of America.
Research Corporation.
Bell Telephone Laboratories.
The Texas Company.
The Atlantic Coast Fisheries.
Barrett Division, Allied Chemical and Dye Corporation.
Distillation Products Industries.
National Aniline Division, Allied Chemical and Dye Corporation.
General Aniline and Film Corporation.
Standard Oil Company of Ohio.
Eli Lilly and Company.
California Research Corporation.
Firestone Tire and Rubber Company.
The Upjohn Company.
Central Research Laboratory, Allied Chemical and Dye Corporation.
Standard Oil Company of Indiana.
Gulf Research and Development Company.
Sharp and Dohme, Inc.
The Harshaw Chemical Company.
Schenley Industries, Inc.
Atlantic Refining Company.
Commercial Solvents Corporation.
Westinghouse Electric Corporation.
Carbide and Carbon Chemicals Corporation.
Universal Oil Products Company.
Experimental Station, E. I. du Pont de Nemours and Company, Inc.
International Nickel Company.
Sun Oil Company.
Bakelite Corporation.
Bristol Laboratories.
Corn Products Refining Company.
Bausch and Lomb Optical Company.
Eastman Kodak Company.
American Viscose Corporation.
H. J. Heinz Company.
North American Rayon Corporation.

TELEPHONE: ARDWICK 2681.

THE PHYSICAL LABORATORIES,
THE UNIVERSITY,
MANCHESTER, 13.

6th January 1954

Dear Professor Wiener,

Thank you for your letter of the 18th, concerning Dr. Siegel, as well as for the reprint of your joint paper with him. I also received a letter and report from Dr. Siegel. I read with great interest the paper and report and I shall certainly be very glad if Dr. Siegel has the possibility of staying in our Department to pursue his work. I am writing to him and, as I thought you might be interested, I enclose a copy of the letter for your information.

Siegel

Please convey my best greetings to Weisskopf.

Yours sincerely,

L Rosenfeld

(Professor L. Rosenfeld)

6th January 1954

Dear Dr. Siegel,

Thank you for your letter of December 24th and the accompanying report. Let me first say that I shall be glad if you have the opportunity of coming to our Department in order to carry on your research.

For the session beginning October 1954 I have as yet no plans or arrangements for travelling anywhere. I therefore expect that your stay would be in Manchester which I readily admit is less attractive than Paris. If there would be any change in the situation I would of course inform you.

I read with great interest the paper by Professor Wiener and yourself, and the manuscript you sent me which is a sequel to that paper. I might perhaps just give you a brief comment representing my first reaction to this work. I suppose the first question which arises when considering a foundation of quantum mechanics, which avoids the explicit introduction of the concept of probability amplitude, is how then such phenomena as the diffraction of electrons are described from such a point of view. Of course they must be somehow included in your formalism, but it is I think imperative to work them out explicitly in order to get a clearer understanding of the significance of your theory. In your ms. you show that in your formalism certain questions arise which as you express it represent a deeper analysis of the phenomena than that of quantum mechanics. I must confess that this makes me uneasy and I suspect that if you go deeper into this aspect of your theory you will find some restriction on the physical meaning of your parameters α which will reduce the scope of your theory to the same extent as that of ordinary quantum mechanics. You may think perhaps that this is a very dogmatic assertion, and of course I am quite prepared to admit that I may be wrong there. I am not blind of course to the necessity of extending the scope of quantum mechanics, or more precisely, of quantum field theory, but it seems to me that in your treatment, so far as you have developed it hitherto, you have not introduced any element connected with the unsolved problems of field theory. And that is the reason why I do not expect that

you would meet already at this stage significant differences from the usual treatment.

I hope very much that your application for a fellowship will be successful and that we shall have the pleasure of discussing all these questions with you here in Manchester.

Yours sincerely,

(Professor L. Rosenfeld)

January 6th,1954

Monsieur le Professeur,

I suppose your are now in India, so this letter will not reach you easily. Nevertheless I write to you in order to say that I shall try to go to the U.S.A. this summer. I asked for a bourse d'études at the M.I.T. As you know certainly the M.I.T. offers a few bourses, every summer, to foreing sudents, engineers etc. There are 3 places offered to France, and perhaps 100 candidates in France. So my a priori probability to succeed is low . The first discriminations are now occuring in Paris, the last ones will occur at the M.I.T.

We have been very much interested by the things you told us when you were in Paris. I hope I shall see you on your way back from India.

I send you my best whishes for the new year et vous prie, Monsieur le Professeur, de croire à l'assurance de mes sentiments les plus respectueux.

Robert Vallée

Robert VALLEE
2, rue Mabillon, Paris 6

January 6th, 1954.

(1)

Monsieur le Professeur,

I know that you are now in India so this letter will not reach you easily. Nevertheless I write to you in order to say that I shall try to go to the U.S.A. this summer. I asked for a bourse d'études at the M.I.T. As you know the M.I.T. offers a few bourses, every summer, to foreing students, engineers etc. There are 3 places offered to France, and perhaps 100 candidates here. So my a priori probability to suceed is very low. The first discriminations are now occuring in Paris, the last ones will occur at the M.I.T.

We have been very much interested by the things you told us when you were in Paris. I hope I shall see you on our way back from India.

I send you my best whishes for the new year et vous prie Monsieur le Professeur, de croire à l'assurance de mes sentiment les plus respectueux.

Robert Vallée

Robert VALLEE

2, rue Mabillon, Paris 6.

Department of Mathematics,
OSMANIA UNIVERSITY
HYDERABAD-DECCAN

6th Jan., 1954.

Professor Norbert Wiener,
M.I.T. Cambridge,
U.S.A.

Sir,

I am a lecturer in Mathematics in the Osmania University Hyderabad(Dn), India. I have been teaching the undergraduate and post-graduate classes for a number of years. I passed my M.A., of the Osmania University in Second Division in 1942 and joined service as a teacher. As the conditions obtaining here were not favourable for research, I obtained leave of absence from this Universty in 1950, and stayed in Andhra University for two years, during which period I worked with Prof.S.Minakshisundaram in the Theory of Non-linear Differential Equations. I obtained a few results and published them in the form of 4 papers.

1. On the Existence of a solution of an infinite differential system.(Journal of the Indian Mathematical Society) Vol. XVI No.1. March 1952.

2. The General Uniqueness Theorem and Successive Approximations (Ibid No. 2,June 1952.)

3. On the Asymptotic beheaviour of solutions of Non-linear differential equations. (Proc. Ind. Acad. Sci. Vol. XXXVI. No.5, Sec. A., 1952.)

4. The Existence of Harmonic Vibrations. (Proc. Amer. Math. Soc. Vol. IV. No.3, June 1953.)

I am immensely interested in the theory of Non-linear Differential Equations, but there is no body in India who is working in this field. We are working in very primitive and unfavourable conditions. The vast amount of literature existing in this field,especially on Stability of Solutions, periodic solutions, non-linear mechanics etc. is

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HYDERABAD-DECCAN

practically inaccessible to us. Further we are greatly handicapped by a lack of personal contact with the gaints in this field.

For the above reasons I shall be very happy to spend a couple of years in America to learn Modern Mathematics, and receive training in research. I shall be very greatly benifited by a personal contact with Mathematicians like Prof. Norman Levinson. But I am very poor man and this project requires huge funds. I may with greatest difficulty gather enough funds for my travel to and fro America. But how can I sustain myself there?

In this connection I beg to state that I shall be very happy to undertake a part-time job in your Institute, if the remuneration received is enough to keep my body and soul together and keep my brains going. I shall be very grateful to you for any help and patronage that you may bestow upon me. For further information about me and my general conduct you may refer to the following gentlemen.

1. Prof. S.Minakshisundaram, Andhra University
   Waltair, India.

2. Prof. K.Chandrasekharan, Tata Institute of
   Fundamental Research, Bombay 1. (India)

Yours faithfully,

B Viswanatham

(B.Viswanatham)
Lecturer in Mathematics,
Osmania University,
Hyderabad-Deccan-7,
India.

We have many extra copies of this reprint

HAVERFORD COLLEGE
HAVERFORD, PA.

Jan.8, 1954

Professor Norbert Wiener
Masachusetts Institute of Technology
Cambridge, Mass.

Send research

Dear Professor Wiener,

A new Senior Seminar at this College, beginning in February, and involving students from different departments, is interested in discussing at one of its sessions the issues raised by your article in Atlantic Monthly, January 1947, p. 46, and the reply by Louis Ridenour in May of that year. Atlantic Monthly informs us that we must ask you to give us permission, if you are willing to permit us to mimeograph your article, initially to the extent of 18 copies. Atlantic Monthly would concur with any permission you give us. Alternately, you may have eight ~~sixteen~~ reprints we might be able to purchase from you. For the purposes of planning I would greatly appreciate a speedy reply.

Sincerely Yours,

O. Theodor Benfey

O.Theodor Benfey
Asst.Prof. of Chemistry [ans 2/15/54]

Prof. Bateman / DR. Weiner

The following guests have been invited to meet you:

1. The Hon'able Nawab Mehdi Nawaz Jung Bahadur
   Minister for Public Works Department,
   Government of Hyderabad.

2. The Hon'able Dr. G. S. Melkote
   Minister for Finance,
   Government of Hyderabad.

3. Dr. S. Bhagvantam,
   Vice-Chancellor, ~~te~~
   Osmania University.
   Famous Physicist.

4. Mr. L. N. Gupta, IAS
   Secretary,
   Department of Education,
   Government of Hyderabad.
   is a well known educationist and takes active and keen interest in numerous cultural activities.

5. Mr. Syed Kazim
   Director of Mines
   Hyderabad Dn.

Dr. Bhagvantam, the Vice-Chancellor is most anxious to discuss the question of getting an eminent geologist to visit Hyderabad, because he believes that this State has immense possibility of research. Similarly the PWD Minister, the Nawab Saheb and also the Finance Minister are interested in many other subjects besides their own and are widely travelled.

DYD Jan 8, 1954

D. Y. DEV

Must see

// MR. Tom Flanagan
Chief Public Affairs Officer
United States Information Service
54. Queensway - New Delhi

THE ENCYCLOPEDIA AMERICANA

2 WEST 45TH STREET, NEW YORK 36, NEW YORK

Office of the Editor

January 8, 1954

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

Dear Dr. Wiener:

Would you like to check the attached article on Law (in science and philosophy) which you so kindly wrote for us a few years ago.

Sincerely yours,

Lavinia P. Dudley

LPD/arc
Attached

(5)

[ans 9/15/54]

LAW, in science and in philosophy, a general formula expressing either a de facto uniformity of nature as we actually find it or a necessary property of all conceivable worlds. The first type is exemplified by the law of gravitation, which asserts that two particles attract one another with a force varying directly as the product of their masses and inversely as the square of the distance separating them. It is quite conceivable from the purely logical standpoint that there might be a world where the attractive force might vary as the sum of the masses of the particles concerned; observation, however, teaches us that our world is not of this sort. On the other hand, the law of contradiction, which says that no proposition can at once be true and false, is of necessity valid in any universe whatever. The distinction between the two types of laws has been minimized into one of degree by those who hold the consistency theory of truth, for these writers claim that even such laws as that of gravitation follow from the nature of any possible universe, and that their denial involves an inconsistency, or at any rate a greater degree of inconsistency than their assertion. However, from the standpoint of those who maintain the correspondence theory of truth believing that the truth of a statement depends on whether it correctly portrays a certain contingent real state of affairs, the distinction between necessary and de facto or empirical laws may well be absolute, and usually is absolute. Both necessary and empirical laws differ fundamentally from laws of right and wrong or the laws established by states. Ethical and political laws are either descriptions of things as they ought to be or schemes of procedure intended to create some desired state of affairs. Ethical and political laws may be violated without falsifying them; the violation of an ethical law is a sin; of a political law, often a crime; and many political laws contain clauses contemplating their own violation. On the other hand, to precisely the extent to which a scientific law is violated, it is not a law at all. The laws of ethics speak in the imperative; those of a natural science in the indicative. Notwithstanding the fact that, strictly speaking, a law of science is rendered invalid by a single exception, all empirical laws are either marred by exceptions or by the possibility of exceptions. Owing to the general uniformity of nature, and especially to the particular uniformities which ages of observation have dis-

[illegible] until his elevation to the judgeship of the Superior Court of Connecticut, in 1798, the Litchfield Law School speedily gained a widespread and favorable reputation. Upon his assumption of the duties of the bench, Judge Reeve associated with himself in the conduct of the school, James Gould, the well-known legal author and jurist. The Litchfield school, though, as has been said, never conferring a degree, maintained a successful career for a round half century, and during its existence numbered more than 1,000 students upon its rolls. Of its thousand alumni, some 40 rose to be justices of courts of last resort in the States of their various residences, while others reached positions of eminence as legislators in both houses of Congress. To the experience of its founder and his colleague in this pioneer school, American students and practitioners of law unquestionably owe the production of two valuable and important textbooks, each of which for more than half a century remained a standard of authority in its line. These were Judge Reeve's treatise on the 'Law of Baron and Feme; Parent and Child; Guardian and Ward' (1816), familiarly known as "Reeve on Domestic Relations"; and Judge Gould's masterly work on 'Common Law Pleading.' In passing, mention should not be omitted of the second proprietary or private law school in America which was that founded at Northampton, Mass., in 1823, by Judge Samuel Howe and Mr. E. H. Mills, a lawyer, who later became a Federal senator. The Northampton school, however, had but a brief existence of six years, and its attendance was never large.

Coming now to the question of the establishment of regular academic courses of instruction in law in publicly chartered institutions, while a professorship in English law had been established, largely through the efforts of Thomas Jefferson, in the ancient College of William and Mary in Virginia in 1782, the earliest course of collegiate law lectures ever given in America was that delivered in 1790 by Justice James Wilson of the Supreme Court of the United States, as incumbent of the chair of law in the College of Philadelphia, the institution founded by Benjamin Franklin, and merged in 1792 in the University of Pennsylvania. Auspicious circumstances attended this opening of American collegiate instruction in law, the lecturer being not only one of the best read and most deeply learned lawyers of his time, but, by reason of his distinguished record as a signer of the Declaration of Independence, and

closed to us in certain fields, when a certain conjunction of circumstances have occurred time and again, while a certain component part of that conjunction has never or but rarely been known to occur in isolation, we are able to formulate the law that the component part is an index of the presence of its associates, and to expect that whatever exceptions this law may have will be rare in proportion to the number of times it is satisfied. Further than this we can never go; the law of gravitation itself, that image of all a law of nature should be, has recently been suspected of small variations from the facts. Of *small* variations be it noted; the fact that we can make the quantitative errors of the laws of nature recede further and further is what renders a mathematical physics, and in general a precise science of any sort, at once possible and valuable. In the case of such laws as that of recapitulation in biology and of many psychological generalizations, the enormous quantitative error is concealed by a loose terminology, which is able to assume just such slight changes as to cover the facts throughout all the changes of the observations. Laws such as these are sometimes called empirical laws or generalization in a sense narrower than that in which this term has been employed in the present discussion. The justification for the larger sense of the phrase which has been employed here is that the distinction between the rawest generalization of a new science and the law of universal gravitation is simply one of degree: of the clearness of the terms employed, the measure of interrelation of the facts embraced with the other facts of the science, the amount of observation and research that has been made, and the rarity of observations contradicting the law. The law of gravitation is not *equally* fallible to the law of recapitulation in biology, but it is *similarly* fallible. For a discussion of the methods by which scientific laws are established (see INDUCTION); the discussion of induction under LOGIC.

NORBERT WIENER.

Among the Continental nations of Europe, of course, and particularly among races of Latin derivation, schools of Law had been firmly established from a period of remote antiquity and were held in exalted importance.

Thus, great schools of jurisprudence flourished, long prior, even to the time of Justinian, at Berytus, Rome and Constantinople, and became especial objects of the sedulous watch, care and protection of that great emperor to whose enlightened supervision the Roman law owed its systematization and codification at the hands of Tribonian and his colleagues. Although, in the earlier period of Roman history and under the republic, the youthful student who aspired to master the principles of jurisprudence usually attached himself to some lawyer of prominence from whose discourse and practice he might acquire the desired knowledge, this custom became obsolete to the degree that, under the emperors, nowhere in Rome's vast domain, outside of these three schools, of which the Sidonian was pre-eminently the most famous and successful, was professional instruction in law permitted to be given.

The impetus given by these law schools of antiquity, not alone to the study of legal principles but to the cause of learning in all branches, was incalculable. And, similarly, the renaissance of modern education has been justly held to date from the successful effort of Irnerius, at the dawn of the 12th century, to revive scholastic interest in the juridical learning of the civilians. This notable scholar and teacher, himself an alumnus of Constantinople, by the establishment, under the auspices of Frederick I of Germany and at the suggestion of Hildebrand's friend, the Countess Matilda, of his wonderfully successful lectureship on the *Corpus Juris Civilis*, provided the actual nucleus around which was eventually assembled the great university of Bologna, forerunner of all modern institutions of the kind.

But such was the history of the growth of the English common-law that slight parallelism existed between the methods by which instruction in its principles and practice could be