The University of Chicago

C-v3

April Twenty Four
1 9 2 9

Mr. Moulds:

I note that the Michelson request for privileges on the Midway or somewhere in the park system has now been withdrawn, and I am sending a copy of your letter of the 22nd to Mr. Woodward.

L. R. Steere

LRS:EVB
CC Mr. Woodward

COPY

Cr3

The University of Chicago

April Twenty Four
1 9 2 9

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L. R. Steere

LRS:EVB
cc Mr. Woodward

COPY

The University of Chicago

April 22, 1929

Mr. Steere:

Thank you for sending to me the copy of Mr. Woodward's letter of April 5 relating to the Michelson experiment on the Midway or somewhere in the park system.

We had proceeded with the matter and were well on the way towards receiving the approval of the park officials and their cooperation in carrying out the experiment when we were advised by Mr. Michelson that he had changed his plan and had decided to conduct the experiment in California instead. I have verified this with Dean Gale who tells me that it is now definitely decided to conduct the experiment in California and that there is nothing more for us to do in connection with it at the University.

JOHN F. MOULDS

JFM:HS

COPY

The University of Chicago

April 22, 1929

Mr. Steere:

Thank you for sending to me the copy of Mr. Woodward's letter of April 5 relating to the Michelson experiment on the Midway or somewhere in the park system.

We had proceeded with the matter and were well on the way towards receiving the approval of the park officials and their cooperation in carrying out the experiment when we were advised by Mr. Michelson that he had changed his plan and had decided to conduct the experiment in California instead. I have verified this with Dean Gale who tells me that it is now definitely decided to conduct the experiment in California and that there is nothing more for us to do in connection with it at the University.

JOHN F. MOULDS

JFM:HS

C-23

The University of Chicago

Office of the Vice-President and Business Manager

ROOM 1300, 189 W. MADISON ST.
TELEPHONE FRANKLIN 1034

April Eight
1 9 2 9

Dear Mr. Woodward:

I have your note on the Michelson experiments to be undertaken on the Midway and shall be very glad to take this matter up and advise you promptly.

Very truly yours,

LRSteere

L. R. Steere

Mr. Frederic Woodward
The University of Chicago

LRS:EVB

C13

C-V3

April 5, 1929

My dear Mr. Steere:

Professor Michelson wishes to make a preliminary experiment on the velocity of light over a half mile stretch along the Midway or somewhere in the park system, possibly along the outer drive. The experiment would involve the construction of two concrete piers and the erection of a couple of small wooden buildings. Both piers and small buildings would be removed completely as soon as the experiment was finished.

I wonder if Mr. Fairweather, Mr. Moulds, or someone else can take this matter up with the officials of the South Park Board and see if permission can be obtained. If further information is desired I suggest that Mr. Michelson be consulted.

Yours cordially

FREDERIC WOODWARD

Acting President

Mr. L. R. Steere
City Office

April 5, 1929

My dear Mr. Steere:

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FREDERIC WOODWARD

Acting President

Mr. L. R. Steere
City Office

Mr. Gale thinks that two months will cover the time the piers and buildings would have to stand.

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The University of Chicago

Ryerson Physical Laboratory

April 3, 1929

President Woodward,
Faculty Exchange.

Professor Michelson would like to try a preliminary experiment on the Velocity of Light over a half mile stretch along the Midway. The experiment would involve the construction of two concrete piers and the erection of a couple of small wooden buildings. We would, of course, expect to remove all traces of our occupancy after the experiment was finished.

Will you see if you can secure permission for us to do this, either along the Midway or elsewhere in the Park System, possibly along the outer drive?

Very truly yours,

Henry G. Gale

HGG/R

Henry G. Gale.

The University of Chicago

Ryerson Physical Laboratory

April 3, 1929

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Faculty Women.

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Will you see if you can secure permission for us to do this, either along the Midway or elsewhere in the Park System, possibly along the outer drive?

Very truly yours,

Henry G. Gale

HGG/R

E-3

July 12, 1929

My dear Mr. Heisenberg:

In conference with other administrative officers I have attempted to reach some solution of your difficulty in the matter of keeping engagements that you wish to meet in the Orient on the way back to Germany.

It is true that we have provided at times to reduce a few days the contract period of instructors by having them give extra lectures or secure substitutes. The second method in your case is obviously out of the question inasmuch as your materials are uniquely your own. Furthermore, we believe that presenceon the Quadrangles for questions from advanced students may be quite as important as lectures delivered formally. For these reasons, and because we should feel under obligation to the Board of Trustees to carry out their contract with you, I greatly regret that it is not practicable for us to attempt condensing your second term program into the first ten days of the second term. I hope that you will find it possible now to arrange for all of the needs of your work up to the opening of the final week so that we may feel our obligations to the University approximately accomplished.

Cordially yours,

DAVID H. STEVENS

Associate Dean of the Faculties

Mr. Werner Heisenberg
Department of Physics
Faculty Exchange

July 12, 1929

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Cordially yours,

DAVID H. STEVENS

Associate Dean of the Faculties

Mr. Werner Heisenberg
Department of Physics
Faculty Exchange

G-23

September 26, 1927

Dear Mr. Lemon:

I have just read your letter of September 3 regarding work proposed by the American Institute.

Of course, such attempts are always interesting and have an undoubted permanent value. If you decide to take on the work I have no doubt that leave of absence for six months, without pay, would be granted by the trustees in case the department makes the recommendation.

You ask for my frank personal opinion. That I am glad to give, though it is not the result of much thought. Personally, I rather doubt whether the work would be worth the disturbance in your normal effort which it would produce. Six months is a good deal of time, and my personal feeling is that I should look at it with a great deal of doubt if I were in your place. It is one thing to cut off work entirely and another to devote odd intervals of time to projects of this sort.

Sincerely yours,

Max Mason

President

Mr. Harvey B. Lemon
Faculty Exchange

C-73

September 26, 1927

Dear Mr. Lemon:

I have just read your letter of September 8 regarding work proposed by the American Institute.

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Sincerely yours,

Max Mason

President

Mr. Harvey B. Lemon
Faculty Exchange

HARVEY B. LEMON
BONNIE DUNE
PIER 35, HAMLIN LAKE
LUDINGTON, MICHIGAN

September 3, 1927.

President Max Mason,
University of Chicago.
My dear President Mason:

Before answering the enclosed letter from Director L.W.Hutching of the American Institute of the City of New York I should like to have your advice on several matters.

Do you think their proposed plan of spending One Hundred Thousand Dollars for a winter series of popular scientific lectures, each lecture running a week in some New York theatre is good educational policy and propaganda? I know very little about this organization, distinguished perhaps in the past, certainly not a leading

organization in national or even local affairs today. This is an attempt at rejuvenation I believe.

Their letter of course is tentative and not definite. In case an adequate program of able lecturers is arranged, and adequate funds provided to carry it out, would you regard it as desirable from the point of view of the University and our department for me to undertake the direction of the production from a technical side of the entire series as they propose?

Would you regard this desirable from my own point of view? It would involve laying aside (except for conferences with my graduate students) a research program in which I am much interested, of course only for six months.

Finally could I obtain leave of absence for such work for this period provided my department would concur in the request ?

I enclose their letter and outline of plan for the series for your reference and will appreciate return of the same for my file.

With sincere appreciation of your frank opinion, ~~and~~ warm personal regards and the hope that you may be having some recreation and vacation during September,

Very respectfully yours,

Harvey B. Lemon

Harvey B. Lemon.

250 WEST 57TH STREET

CHARTERED 1828

PHONE: COLUMBUS 2742

The AMERICAN INSTITUTE

OF THE CITY OF NEW YORK

~~322-324 WEST 23RD STREET~~

August 31, 1927

Dr. Harvey B. Lemon
Bonnie Dune
Pier 35, Hamlin Lake
Ludington, Michigan

Dear Dr. Lemon:

You will recall that Mr. Hilberry wrote you back in June about a possible demonstration by you in New York City next winter. Since then many things have happened towards making this series of demonstrations possible, but the project is not even yet definitely assured. We have found what we sensed in the beginning, that such an undertaking was exceedingly difficult -- particularly so, because we were determined that it should not degenerate into demonstrated lectures.

My purpose in writing you now is to find out if you could be interested in doing a certain job if in the next two or three weeks the project could be definitely assured. Would you be in a position to take on the job of directing the production of the entire series of demonstrations? This would mean, of course, at least six months full time of intensive effort; it would mean working from New York City.

I fully appreciate how difficult such a move may seem to you, and, of course, it may be utterly impossible. But after talking it over with Dr. Sheldon and others it seemed that there could not be any harm done by asking you.

280 WEST 57TH STREET
PHONE: COLUMBUS 2742

CHARTERED 1928

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I am enclosing a copy of a demonstration plan worked out by Mr. Hilberry, as he says, "from experiments.....by Dr. Harvey Brace Lemon". Perhaps he has already sent you a copy of this.

You will be interested to know that plans have now been completed by The Institute for bringing out next winter an industrial history of the last hundred years. It is to be edited by Frederic William Wile, Introduction by Secretary Hoover, chapters by some twenty-five industrial leaders, and published by George H. Doran.

I trust, Dr. Lemon, that you will give our request the proper consideration, understanding that it is mentioned to you at this moment only to learn if you would be in a position to do the work, providing, ~~providing~~ all other arrangements were satisfactory.

Very truly yours,

L. W. Hutchins

LWH:BC

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LWH:BC

GENERAL PLAN FOR

A SERIES OF

POPULAR SCIENTIFIC DEMONSTRATIONS

TO BE GIVEN IN

NEW YORK CITY

DURING THE WINTER OF 1928

UNDER THE AUSPICES OF

THE AMERICAN INSTITUTE

OF THE CITY OF NEW YORK

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of the City of New York

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The American Institute of the City of New York was organized in 1828. Its charter, granted by a special act of the New York Legislature, reads:...."incorporated for the purpose of encouraging and promoting domestic industry in this State and the United States .....by such ways and means as shall appear to be most expedient;.....To establish and maintain professorships and lectures in said City of New York on Natural History, Physics and Chemistry, and their application to the Arts.

The American Institute has, during its ninety-nine years of continuous operation, performed a wide variety of works in the interest of American industry. A brief list will serve to indicate their diversity:

> The annual Fairs of the old American Institute, beginning in 1828, portrayed the current growth and progress of youthful America. Improvements and accomplishments in all fields of endeavor--"in agriculture, commerce, manufactures and arts" -- were displayed for the enlightenment and encouragement of a striving people.
>
> The buildings occupied, far-famed in their respective times, indicate the importance of the Institute Fairs:
>
> 1828-1833--Masonic Hall, Broadway and Pearl Street, then the center of "little old New York."
>
> 1833-1846--Niblo's Garden, now the Aquarium in Battery Park, "where Jenny Lind once sang."
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> 1846-1855--Castle Garden, on Sixth Avenue, between 40th and 42nd Streets, destroyed by fire while occupied by the Fair.

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1858-1863--Palace Garden, on 14th Street near Sixth Avenue.

1863-1869--Academy of Music, 14th Street and Irving Place.

1869-1891--The Home of the American Institute, the entire block on Third Avenue between 63rd and 64th Streets and through Second Avenue. In this large hall, for more than twenty years, mammoth exhibitions were held.

1891-1924--At other New York Show Places, including old Madison Square Garden and the Engineering Societies Building, the Fairs were held.

Other typical acheivements of The American Institute are:

An act of the Legislature of New York State providing for a geological survey of the State "was passed in consequence of a resolution of the American Institute adopted March 19th, 1835."

A committee of the Institute was successful in effecting the passage through the Legislature of a bill authorizing the building of the Canal from Olean to Rochester, connecting the Alleghany River with the Erie Canal.

To investigate and ascertain, if possible, the causes of the Panic of 1837, the Institute called a national convention of business men at Philadelphia. One hundred delegates, elected without regard to political affiliations, were in session for four days, and before adjourning a vote of thanks was given the American Institute for its exertion in promoting American industry.

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Among measures presented for Congressional action were the resumption of specie payments, the National Bankruptcy Act, the substitution of cash payments for Custom House credits, and a division of public lands among the several states of the Union.

The first Agricultural Convention was held under the auspices of the American Institute.

In an effort to establish the silkworm industry in this country the Institute imported seeds of the white mulberry and distributed them.

The Polytechnic Section of the Institute was started in 1843 as the Conversational Club.

The reorganization of the patent laws and the establishment of the Patent Office during the early days of patents in this country, were in large part due to the work of the American Institute.

The American Institute, due to changing industrial conditions, has found it necessary to seek a new field of usefulness. After an extensive survey of industrial conditions, it was found that science, particularly fundamental scientific research, needs popular presentation that the general public may better understand its importance and in turn be led to support it in such ways as may be presented from time to time. Further, it was recognized that this particular work, while different in its methods, is basically the same as performed by the Institute throughout the centure -- a work for which a general membership organization is particularly suited.

Prospectus of Operations for 1928,

Centennial year of The American Institute

Science in its various phases is presented periodically to scientific and semi-scientific audiences by means of

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Science in its various phases is presented periodically to scientific and semi-scientific audiences by means of

papers, lectures and demonstrations. These meetings undoubtedly serve their purposes admirably. But it is easily understood that the same methods are unsuited for the presentation of science to the general public.

In this day of many interests -- a day when the motion picture, the radio, the drama, golf, and countless other interests made demands on time and purse -- it is too much to expect that any new undertaking will receive notice unless it is initiated and carried out on a large scale. The public could not be expected to be attracted to a single scientific demonstration, and it would not be interested in the usual type of scientific lectures with demonstrations.

By proceeding on the general premises stated above, a plan has been evolved whereby science may be brought to the general public through a series of dramatized scientific demonstrations. Instead of attempting to bring the public to the scientist, it is purposed to ask the scientist to come to the public. This means that the scientist must be willing to show his most interesting, even spectacular, demonstrations in the most effective manner developed by the theatrical producer, and that he must further prepare himself to explain these demonstrations in every-day terms.

The American Institute purposes renting a theatre building in mid-town Manhattan for the winter of 1928. This building will be used daily during ten weeks for the production of ten of these dramatized scientific demonstrations. This means that each one of the series will continue for six consecutive days or one week; that the scientist in charge -- the speaker or interpreter of the demonstration -- will repeat a set performance six consecutive times (it is possible that this number may be extended by certain matinees for special groups, such as high school or college students).

That attendance may not be left to chance and that the audience may be to some extent predetermined, it is planned to seel subscriptions to the series in advance, during next fall. Coincidentally with the subscription sales campaign and continuing throughout the

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demonstration series, an extensive publicity campaign will be prosecuted.

While the above are the plans in outline to date, several extensions, in most part taking their foundation in the demonstration series and serving to aid in the success of the undertaking without hazarding the success, present themselves. These include a book based on the demonstrations and lectures; a series of syndicated scientific articles, released coincidentally with the several production; the taking of motion pictures, possibly talking pictures, of the stage productions; the inspiration towards making 1928 a national "scientific year", using to this end such forces as the programs of the Women's Clubs, the radio, and the example of Society.

It is obvious that the undertaking is large in scope, that it demands a great amount of work by many people, and that a large amount of money is involved. It is equally obvious that its size, perhaps more than any other factor, legislates in its favor. The necessary work can only be accomplished through the whole-hearted support and cooperation of all persons and forces interested in science and scientific application. This, the enterprise is already somewhat assured of, and indications are that it will be made unanimous once the plans are sufficiently advanced and generally known. Finally, it should be understood the enterprise is figured on a basis whereby it will pay its own way if 80 or 85 percent successful. However, it is considered too much to expect that the returns will be sufficient to cover costs. This means that the entire undertaking should be financed in advance, probably by means of an underwriting plan, from sources outside The American Institute funds.

It is estimated that the total cost will be in the neighborhood of one hundred thousand dollars. By accepting this figure as being near enough for the purpose, it is suggested that underwriting be secured to that amount, it being understood that any deficit up to that amount will be cared for by the underwriters in proportion to their respective subscriptions.

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September 10, 1927

My dear Mr. Lemon:

In the absence of President Mason this will acknowledge the receipt of your letter of September 3 and let you know that it will be placed before him immediately upon his return.

Very truly yours,

Secretary

Mr. Harvey B. Lemon
Bonnie Dune
Pier 35, Hamlin Lake
Ludington, Michigan

September 10, 1927

My dear Mr. Lemon:

In the absence of President Mason this will acknowledge the receipt of your letter of September 5 and let you know that it will be placed before him immediately upon his return.

Very truly yours,

Secretary

Mr. Harvey B. Lemon
Bonnie Dune
Plat 53, Hamlin Lake
Ludington, Michigan

List of scientific fields compiled at a meeting of the Scientific Advisory Committee on June 1. It is intended that the ten subjects will be chosen from this list.

Nature of Sound

Radiant Energy

Illumination -- Light & Color

Structure of Matter

Electricity & Magnetism

Fundamental Mechanical Discoveries

Television, Talking Movie, Radio

Colloidal Chemistry

Electro-Chemistry

Psychology

Embryology

Health & Disease

Evolution

Astronomy

Scientific Method

Archaeology

Geology

Paleontology

The Advisory Committee further agreed that tentative moves should be begun immediately towards securing the ten scientists who will direct the assembly and set-up of demonstration material and interpret the demonstration to the audiences.

List of scientific fields compiled at a meeting of the Scientific Advisory Committee on June 1. It is intended that the ten subjects will be chosen from this list.

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Norman Hilberry, Instructor of Physics
Washington Square College
New York City

A. B. Oday
Engineer in Charge, Lighting Practice Section
Edison Lamp Works
Harrison, New Jersey

Jesse E. Whitsit, Prof. of Chemistry
DeWitt Clinton High School
59th Street and 10th Ave.
New York City

Dr. J. B. Johnson
Western Electric Co.
463 West Street
New York City

Joseph W. Roe, Prof. of Industrial Engineering
New York University
University Heights
New York City

Dr. Chas. H. Herty, Advisor
Chemical Foundation
85 Beaver Street
New York City

Dr. William Crocker, Director
Boyce-Thompson Institute for Platn Research
Yonkers, New York

Dr. A. P. Link, Instructor of Psychology
Washington Square College
New York City

Dr. F. C. Brown, Acting Director
Museum of Peaceful Arts
24 West 40 Street
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Dr. S. M. Cadwell, Research Chemist
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Van Cortlandt Park S. & Saxon Aves.
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Bell Technical Journal
195 Broadway
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June 24, 1927

Dear Professor Compton:

In answer to your letter of June 15, 1927, it seems to me that application for a grant of $1000 from the Publication Fund of the National Academy is justifiable as a measure for temporary relief. I am supposing that the application will state that plans for permanently financing the situation are being studied, and it is improbable that a renewal of the grant would be requested.

Sincerely yours,

Max Mason

President

Professor K. T. Compton
Princeton University
Princeton, New Jersey

June 24, 1927

Dear Professor Compton:

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Max Mason

President

Professor K. T. Compton
Princeton University
Princeton, New Jersey

June 15, 1927

Professor Max Mason
University of Chicago
Chicago, Illinois

Dear Professor Mason:

At the last meeting of the Council of the American Physical Society attention was called to the serious financial situation confronting the Physical Review which results from the rapidly increasing volume of material to be published. A committee is being formed to consider various means for meeting this situation and will report to the Council probably at the next meeting of the Society. As a temporary measure of relief it has been suggested that we make application for a grant of $1000 from the Publication Fund of the National Academy. Up to the present time the situation has not been so serious as to warrant our making such an application.

I have consulted with several members of the Physics Section of the Academy with whom I have had occasion to correspond and find that they are unanimous in favoring an application for such a grant. I am therefore writing to all the members of the Section in order to obtain their support of this application in case it is their judgment that the application should be made. As I understand it the Committee on Grants meets early in the autumn.

I shall greatly appreciate your assistance if you will drop me a line at your earliest convenience stating whether you favor the proposed application or not.

Very sincerely yours

K. T. Compton

KTC/L

June 15, 1927

Professor Max Mason
University of Chicago
Chicago, Illinois

Dear Professor Mason:

At the last meeting of the Council of the American Physical Society attention was called to the serious financial situation confronting the Physical Review which results from the rapidly increasing volume of material to be published. A committee is being formed to consider various means for meeting this situation and will report to the Council probably at the next meeting of the Society. As a temporary measure of relief it has been suggested that we make application for a grant of $1000 from the Publication Fund of the National Academy. Up to the present time the situation has not been so serious as to warrant our making such an application.

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Very sincerely yours

K. T. Compton

KTC/L

C21

December 16, 1926

My dear Mr. Compton:

It occurs to me that you may be glad to learn of the excellent prospect of a gift which will enable us greatly to increase the space and facilities of the departments now housed in Ryerson Laboratory. It is only a proppect, but the President is very hopeful that it will be realized.

I know you and your wife have been deeply concerned about the difficulty of securing satisfactory living quarters and at the suggestion of the President I wish to ask if there is any way in which the University can be of assistance to you. Other new memberx of the faculty have experienced the same difficulty and we realise that we must do everything possible to assist in solving the problem. I hope you will be perfectly frank in making any suggestion that you may have in mind.

With warm regard, and with the hope that you are having a good time,

Yours sincerely,

Frederic C. Woodward

Mr. Arthur Compton
c/o Ryerson Laboratory
Faculty Exchange

FCW*L

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Mr. Arthur Compton
c/o Ryerson Laboratory
Faculty Exchange

FCW:L

PHYSICS DEPT, 1925-1929

The University of Chicago

Ryerson Physical Laboratory

University of the Panjab,
Lahore, India.
Dec. 1, 1926.

President Max Mason,
The University of Chicago,
Chicago, Ill., U. S. A.

Dear President Mason:

This letter is occasioned immediately by a letter just received, offering me again a professorship at Princeton. It deals, however, with a matter which we have discussed several times in conversation - the pitifully inadequate condition of the equipment of Ryerson Laboratory. There is no one who is informed regarding the situation who will not agree that in order to place our laboratory in a position to do effective physics research and effective instruction in the methods of research there are needed greatly increased equipment and shop facilities. It is only by wise handling of the available funds that Michelson and Gale have made it possible for some research of first quality to be done. At the same time, work on many other problems that have been under way has been greatly handicapped and even stopped by lack of facilities.

This situation has repeatedly been called to the attention of the administration, which has always been sympathetic; but conditions still remain as they were when I came in 1923. In particular, I made a formal request through Dean Gale and Professor Michelson to President Burton in the autumn of 1924 for $100,000 to be spent at once for equipment and $40,000 as an annual budget for the department. Though no definite promises were made, I was given the assurance that every effort would be made to supply the department with approximately this income. Yet when I left Chicago last summer our budget remained at $25,000, and no additional money had been made available for the purchase of equipment. As one whose life is devoted to experimental research and the teaching of methods of research, I am unwilling to leave myself any longer in a position where my students and I are handicapped by the lack of needed equipment.

I feel that the following program is a minimum of what is necessary to put the experimental work in Ryerson on an adequate working basis: (1) An annual working budget, from July 1, 1927, of $45,000 for equipment and running expense, and (2) an additional fund of $100,000 to start us with adequate equipment, to be spent or contracted for by July 1, 1929. I should like to have $25,000 of this fund available for buying apparatus in Europe this spring.

The University of Chicago

Ryerson Physical Laboratory

University of the Panjab,
Lahore, India.
Dec. 1, 1926.

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I hope that it will be found possible to supply the Physics Department with this money, for otherwise I do not see how I can afford to return to Chicago, in spite of the strong ties of loyalty and friendship which draw me back.

Will you kindly give this matter your immediate attention, since President Hibben awaits an answer from me which I cannot give until I hear from you.

In a letter to Dean Gale I am discussing these questions in greater detail.

With warmest personal regards,

Yours very sincerely,

Arthur H. Compton

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With warmest personal regards,

Yours very sincerely,

Arthur H. Compton

Arthur H. Compton

G21

October 19, 1926

Dear Hasbrook:

I hope it may be possible for you to come down this week and to make us that visit which I wrote about before. Both Gale and I will be here and will be free any time Saturday morning or Sunday. If you will be good enough to wire me when you can get here it will be a convenience to me.

Cordially yours,

Max Mason

Professor J.H. Van Vleck,
Department of Physics,
University of Minnesota,
Minneapolis, Minn.

MM R

October 19, 1926

Dear Hasbrook:

I hope it may be possible for you to come down this week and to make us that visit which I wrote about before. Both Gale and I will be here and will be free any time Saturday morning or Sunday. If you will be good enough to wire me when you can get here it will be a convenience to me.

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Department of Physics,
University of Minnesota,
Minneapolis, Minn.

MM R

J.S.
XIX

August 23, 1926

Dear Hasbrook:

I hope that it will be possible for you to drop into Chicago in the near future and talk with Dean Gale and myself regarding mathematical physics. We are anxious to strengthen our work at Chicago, are very much interested in what you are doing, and feel that there is more than a likelihood that we should all be very happy if your future work were done here. The Summer Quarter ends September 3 and Dean Gale will be leaving at that time for his vacation. I would be available at any time on a few days notice, but it would be preferable if you could make your visit before September 3. This, of course, at University expense.

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Max Mason

Professor J. H. Van Vleck
c/o Department of Physics
University of Minnesota
Minneapolis, Minnesota

MM*L

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c/o Department of Physics
University of Minnesota
Minneapolis, Minnesota

MM*L

XIX 45

University of Minnesota
College of Science, Literature, and the Arts
Minneapolis

DEPARTMENT OF PHYSICS

G21

Sept. 20, 1926.

President Max Mason,
University of Chicago,
Chicago, Ill.

Dear President Mason:

I did not return to Minneapolis from Europe until yesterday, and so I have just now received your letter of August 23, which I much appreciate. I am sorry there been such a long, though unavoidable delay in my answer. Unfortunately your letter reached here just a little too late to be forwarded to my European address.

If you still desire me to come to Chicago for a conference, I should be glad to do so. I can come the latter part of this week, before classes start here, or I can doubtless arrange my work to get away some day at a later date. Possibly you may prefer the latter if Dean Gale has not yet returned from his vacation, or if you are very busy this week.

Very sincerely yours,

J. H. Van Vleck

10/26/26 Rec. for $40 - ~~travel~~ expenses ~~to above~~, to and from Minneapolis on invitation from President Mason.

PHS

L5 hq 1-8

University of Minnesota
College of Science, Literature, and the Arts
Minneapolis

DEPARTMENT OF PHYSICS

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Very sincerely yours,

J. M. Van Vleck

Also for Gale — Cannot express himself from quotations from Franklin Mason.

Gale

Papers by J. H. Van Vleck.

(1) The Dilemma of the Helium Atom.
Phys. Rev. 19, 419, 1922.

(2) The normal helium atom and its relation to the Quantum Theory.
Phil. Mag. 44, 842-869, 1922.

(3) Kemble and Van Vleck.
On the theory of the temperature variation of the specific heat of hydrogen.
Phys. Rev. 21, 653-661, 1923.

(4) Notes on Quantum Theory of the helium arc spectrum.
Phys. Rev. 21, 372, 1923.

(5) Two notes on quantum conditions.
Phys. Rev. 22, 547-558, 1923.

(6) The specific heat of an elastic gyroscopic model of the hydrogen molecule.
Phys. Rev. 23, 308, 1924.

(7) The absorption of radiation by multiply periodic orbits and its relation to the correspondence principle and the Rayleigh-Jeans law.
Part I. Some extensions of the correspondence principle.
Phys. Rev. 24, 330-346, 1924.

(8) Part II. Calculation of absorption by multiply periodic orbits.
Phys. Rev. 24, 347-365, 1924.

(9) Journl. Optical Soc. 9, 27, 1924.

(10) Half quanta and the stability of relativistic orbits.
Phys. Rev. 25, 108, 1925.

(11) Virtual oscillators and the scattering in the Quantum Theory.
Phys. Rev. 25, 242, 1925.

(12) Hutchinson and Van Vleck.
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Phys. Rev. 25, 243, 1925.

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(13) Proc. Nat. Acad. 11, 612, 1925.

(14) Bulletin of the National Research Council, No. 54, 1926. 316 pages.

(15) The statistical equilibrium of multiply periodic orbits in classical black body radiation. Part III. To appear in Phys. Rev.

(13) Proc. Nat. Acad. 11, 612, 1925.

(14) Bulletin of the National Research Council, No. 54, 1926. 116 pages.

(15) The statistical equilibrium of multiply periodic orbits in classical black body radiation. Part III. To appear in Phys. Rev.

September 27, 1926

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I have a letter from Van Vleck who has just returned from Europe. He will come down almost any time we ask him to. Will you please get in touch with me by telephone on your arrival that we may arrange a day convenient for both of us for his visit.

Sincerely yours,

Max Mason

Dean Henry G. Gale
Faculty Exchange

MM*L

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MM*L

September 22, 1926

My dear Mr.VanVleck:

Your letter of September 20 to President Mason was received during his absence. I have been in communication with him, however, and he states that he would prefer to have you come down at some time after this week. He will communicate with you regarding a convenient time upon his return.

Sincerely yours,

William E. Scott

Secretary to the President

Mr. J.H. VanVleck,
University of Minnesota,
Minneapolis, Minnesota.

WES R

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WES R

October 27, 1926

My dear Mr. Van Vleck:

An order has been entered with the Cashier of the University for payment of your travel expenses made necessary by the invitation of President Mason. This payment should reach you within a few days.

Sincerely yours,

Assistant to the President

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University of Minnesota,
Minneapolis, Minnesota.

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Assistant to the President

Mr. J.H. Van Vleck,
Department of Physics,
University of Minnesota,
Minneapolis, Minnesota.

May 24, 1926

Dear Mr. Williams:

I will be very glad to bear in mind your letter of May 18, 1926, in regard to openings in Physics and appreciate the fact that the situation that you outline is becoming more and more common in many institutions where the department is so top heavy that anything except very gradual advancement is rather out of the question.

Sincerely yours,

(Signed) Max Mason

President

Mr. E. H. Williams
Physics Department
University of Illinois
Urbana, Illinois

MM*L

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Urbana, Illinois

MM*L

STAFF
A. P. CARMAN
C. T. KNIPP
F. R. WATSON
J. KUNZ
W. F. SCHULZ
E. H. WILLIAMS
R. F. PATON
C. C. SCHMIDT
K. O. SMITH
W. M. YOUNG
C. N. WALL
E. M. LITTLE
F. W. COOKE
V. M. ALBERS
A. D. HUMMELL
K. H. HUBBARD
G. M. RASSWEILER
W. D. LANSING
A. J. McMASTER
P. W. KETCHUM
R. L. TAMBLING
H. N. SWENSEN
B. F. RUNYON

UNIVERSITY OF ILLINOIS
PHYSICS DEPARTMENT
URBANA, ILLINOIS
1925-1926

NATIONAL RESEARCH FELLOW
E. E. LIBMAN
INSTRUMENT MAKER AND MECHANICIANS
A. TORNQUIST
W. C. DEEM
C. W. FIEG
CLERK
DELLA ROGERS

F5

May 18, 1926.

President Max Mason,
University of Chicago,
Chicago, Illinois.

Dear President Mason:

You probably do not remember me as I left Wisconsin soon after you came there. However, being in need of advice, I am writing to you knowing that you will help me if it is possible for you to do so.

I have been in the Physics Department at Illinois long enough so that I should be receiving advancement but, on account of our department's being "top heavy", Professor Carman is unable to obtain it for me although he has said repeatedly that I deserve it. The Physics Department at Illinois is peculiar in that there are four Professors and one Associate Professor ahead of me (I am Assistant Professor) and one Associate and no instructors below me. We have a large number of assistants.

I did my undergraduate work and two years of graduate work at Wisconsin. The last year of my graduate work was with Professor Kunz at Illinois.

My relations with the department are cordial and the only reason that I have for thinking that I ought to attempt to secure a position elsewhere is the fact that there appears to be little hope for advancement here at the present time.

If you think I am right, I shall be very grateful to you if you will keep me in mind in case you hear of a vacancy in a Physics position. I am not personally very well acquainted with any members of the Physics Department at the University of Chicago. If I were I am quite sure that either Professor Compton or Professor Gale would have opportunity to put me in touch with vacancies.

I am sorry to intrude on your time but shall be grateful if you find that you can assist me.

Sincerely yours,

E. H. Williams

May 16, 1926.

Dear President Mason:

I know everybody do not respond as I left Ingersoll soon after you came there. However, being in need of advice, I am writing to you. Trusting that you will help me if it is possible for you to do so.

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My relations with the department are cordial and the only reason that I have for thinking that I ought to attempt to secure a position elsewhere is the fact that there appears to be little room for advancement here at the present time.

If you think I am right, I shall be very grateful to you if you will bear me in mind in case you hear of a vacancy in a teaching position. I am not personally very well acquainted with any members of the Physics Department at the University of Chicago, although I am quite sure that either Professor Compton or Professor Gale would be willing to put me in touch with vacancies.

I am sorry to intrude on your time but shall be grateful if you find that you can assist me.

Sincerely yours.

E. A. Williams

The University of Chicago
Ryerson Physical Laboratory

F S XIX

March sixteenth,
Nineteen twenty six.

President Max Mason,
The University of Chicago,
Chicago, Illinois.

My dear President Mason,

In view of the preparations necessary for my work at the Mount Wilson Observatory during the coming Summer it will be necessary for me to devote the greater part of my time to this preparation. I would, therefore, request permission to be excused from my regular duties during the Spring Quarter.

Yours very truly,

A. A. Michelson

M/K

March 20
1 9 2 6

Prof. A. A. Michelson
Faculty Exchange

Dear Professor Michelson:

I have your note of March 16 with reference to relief from ordinary work during the spring in order to prepare for the summer work at Mount Wilson.

I understand that this will have to be referred to the Board of Trustees. I shall be glad to pass it on to the new administration with my recommendation that it be granted.

Sincerely yours,

James H. Tufts

JHT*L

March 2, 1926.

Dear Dean Gale:

The President saw your letter of February 25 enclosing a statement from Professor Compton just before he left for California, but I think he did not have time to acknowledge it. I shall see that the matter is again called to his attention upon his return.

Yours sincerely,

F. C. Woodward (signed)

Dean Henry G. Gale.

FW:S

March 2, 1926.

Dear Dean Gale:

The President saw your letter of February 25 enclosing a statement from Professor Compton just before he left for California, but I think he did not have time to acknowledge it. I shall see that the matter is again called to his attention upon his return.

Yours sincerely,

P. C. Woodward (signed)

Dean Henry G. Gale.

PW:S

Physics Dept.
1925-1929

February 22, 1926.

Dear Dean Gale:

As the time for the administration's action on our department budget approaches, the matter of the inadequacy of our laboratory equipment is again forced upon my attention. On reviewing the correspondence of a year ago between President Burton and myself, I am convinced more strongly that ever of the essential accuracy of the estimate then made of the financial needs of our department. You will recall that this included an immediate outlay (within two or three years) of $100,000, supported by an annual appropriation of $40,000 starting at once. I have seen no indication that any material increase in our budget is contemplated (in spite of your recommendations), and I naturally view the future of the department with some apprehension.

The experience of the department during the past year has, I feel, emphasised the inadequacy of our equipment. I refer especially to our failure to secure the men we have desired in our department. In the case of Hull, the great disparity between the experimental facilities at the General Electric Company and at Chicago must have been a large factor in his decision to remain where he is. It stands to reason that the universities must afford their men facilities equal to, or at least comparable with, those of the leading industrial laboratories if they are to retain the leading experimental physicists. Chadwick also showed no considerable interest in coming here, and Osgood thinks it unlikely that he could be drawn unless we were in a position to offer him equipment for research in radioactivity equal to that at Cambridge. In an informal conversation with Foote last Spring I found that in his mind our shortage in such ordinary things as storage batteries, meters, etc. indicated a general lack of facilities which would be a serious handicap to any active research.

Furthermore, when we compare our own laboratory with those in such universities as Princeton, Harvard, California Tech and Yale, we cannot feel that we are setting the middle west a satisfactory example of the way in which experimental Physics research should be carried on. It seems that on the experimental side Chicago is standing still, while these and other universities are forging ahead as the rapid developments in Physics require that they should.

February 22, 1926.

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The fact that to finance the physics department in this way makes it a favored department cannot be avoided, and is frankly recognized in some universities. Perhaps President Mason is in an exceptionally difficult position thus to emphasise the physics department. It is justified, however, by the fact that the great advances in knowledge in this era seem to be coming in physics (and medicine), and the history of science has shown the importance of stressing the ~~important~~ fields where growth is rapid.

In any case it seems evident to me that unless our department receives substantially the financial support we recommended last year, we cannot long keep the leading place that we now hold.

Hopefully,

Arthur H. Compton

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Hopefully,

Arthur H. Compton

The University of Chicago
Department of Chemistry

J519

February 26, 1926.

President Max Mason.

Dear President Mason:

I sent Dean Gale a copy of my recent memorandum to you in regard to the new laboratory. Dean Gale informs me that he has exchanged no remarks whatever with you concerning the remodeling of Kent Chemical Laboratory. Evidently the remark to which I refer concerned a question in Mr. Gale's own mind.

I am,

Yours sincerely,

Julius Stieglitz

JS/KF

I acknowledged this. Call it to my attention again in a day or so. F.C.W.

The University of Chicago
Ryerson Physical Laboratory

February 25, 1926

J.H.T.
F.C.W.

President Max Mason
University of Chicago

Dear President Mason:

I enclose a statement which Arthur Compton recently sent to me and asked me to call to your attention.

Swann estimated before he left here that it would cost about $100,000 to really equip our Physics Department as most of the big Physics laboratories are equipeed at the present time. After Swann had left, Dr. Compton and I, at President Burton's request, made an entirely independent estimate which came to almost exactly the same amount. I think we could run along on $50,000 a year without this outlay or on $40,000 a year if we had the additional equipment. Even $50,000 a year would not enable us to compete for long, I fear, on an even footing with some half dozen leading Physics Departments.

While neither Professor Compton nor I hope that any large sum can be appropriated in the immediate future, we are very anxious that the matter should not be overlooked. Perhaps you will find some day a donor who would like to give that amount for equipping the Physics Department.

Very truly yours,

Henry G. Gale

HGG:M

Henry G. Gale

P. S. Dr. Stieglitz has sent me a carbon of his letter of February 23 to you. In the very brief conversation which I had with Dr. Stieglitz absolutely nothing was said to imply that I had exchanged a single word with you in regard to Kent Chemical Laboratory or the new Chemistry Building.

H.G.G.

The University of Chicago

Ryerson Physical Laboratory

February 25, 1928

H.G.W.
F.C.W.

President Max Mason
University of Chicago

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H.G.G.

FS XIX

January 22, 1926

Dr. A. W. Hull
1 Waverly Place
Schenectady, New York

My dear Hull:

I want to add a word of my own to those previously sent you by Henry Gale in relation to the possibility of your coming to the University of Chicago and casting your lot with the group in Ryerson Laboratory. I am enthusiastically hopeful that you are going to give favorable consideration to this proposal. I know you have many angles from which it is necessary to view this important change, but I want to assure you that you come among friends and that I believe the future will be a very happy one at Chicago.

I have no wish to bother you with arguments, but I feel one thing very strongly and venture to pass it on. A man capable of your kind of research work will, I believe, have more vital influence on the future of physics and the younger generation of physicists if associated with us than he would even in the research laboratory of the General Electric Company, and after all is not that a great point to consider? The Chicago family seems to me to be a very happy one. We are not going to try to make Chicago any larger, but we are resolved that the support of the men who are doing the great work in the faculty shall be second to none in the country.

I hope you are going to come.

Cordially yours,

Max Mason

MM:LC

January 22, 1926

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1 Waverly Place
Schenectady, New York

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Cordially yours,

Max Mason

MM:LC

GENERAL ELECTRIC COMPANY

RESEARCH LABORATORY

1 River Road
SCHENECTADY, N.Y.

February 1, 1926

Professor Max Mason,
University of Chicago,
Chicago, Illinois.

Dear Professor Mason:

I appreciate very much your kind letter in regard to the teaching of physics in Chicago, and it is with great reluctance that I finally decided to stay here, at least for the present. I want to assure you that it was thru no lack of attractiveness of your offer, but because of the equal attractivenss and opportunities of Schenectady, that I reached this decision.

You gave me the only real argument for leaving, namely, that there is a greater opportunity for influncing future physicists at a university. You are probably right, and if so, you may see me at your door asking for a position in the future.

Very truly yours,

Albert W. Hull

AWHull:B

CC to Dean Gale

F5 ~~XIX~~

file

January 19, 1926

Professor John R. Roebuck
Department of Physics
The University of Wisconsin
Madison, Wisconsin

Dear Roebuck:

This is a ridiculous time to be answering a letter of November 20, but frankly I wished to see how the budget looked for next year before I wrote you. I am sorry to say it does not look good, so that your suggestion which sounds fine to me must be salted away awaiting a further possibility of action.

I hope everything is going well with you and with yours. Please give our kindest regards to the family.

Cordially yours,

MM:CW
Signed by Max Mason

January 29, 1926

Professor John H. Roebuck
Department of Physics
The University of Wisconsin
Madison, Wisconsin

Dear Roebuck:

This is a ridiculous time to be answering a letter of November 20, but frankly I wished to see how the budget looked for next year before I wrote you. I am sorry to say it does not look good, so that your suggestion which sounds fine to me must be waited away awaiting a further possibility of action.

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Cordially yours,

MM:OW
Signed by Max Mason

AC9

THE UNIVERSITY OF WISCONSIN
MADISON

DEPARTMENT OF PHYSICS

Nov 20/25

President May Mason
Univ. of Chicago,

Dear Mason:-

It will be noted by all competent observers that the University of Chicago has no Cryogenic Laboratory. It might also be noted by specially favored observers that the writer spent some time studying that problem. If the connecting of two such facts awakens any interest in your mind I should enjoy talking the situation over, at such time as you can give to it. If you are interested enough to care for it, I will work up some estimates.

Yours sincerely

John R Roebuck

THE UNIVERSITY OF WISCONSIN
MADISON

DEPARTMENT OF PHYSICS

Nov 20/25

President Harry Pierce
Univ. of Chicago.

Dear Pierce:-

It will be noted by all concerned
observers that the University of Chicago
has no Eugenics laboratory. It
would also be noted by generally known
observers that the writer spent some
time studying that problem. If the
committee of two would form another
committee of one to work with I should
enjoy talking the situation over,
at least time as you can give to it.
If you are interested enough to care
for it, I will work up some tentative
plans.

Yours sincerely

John R Commons

Written for the
Physical Review.

Physics

ON THE APPLICATION OF INTERFERENCE METHODS TO ASTRONOMICAL MEASUREMENTS

By A. A. Michelson.

In the number of the Philosophical Magazine for July 1890 (30,1) a method was described for the measurement of the angular magnitude of astronomical objects such as the diameter of planetoids and satellites and the distance between double stars, when these are beyond the powers of the largest telescopes, and the hope was there expressed that it might not be impossible thus to measure the diameter of the fixed stars.

Briefly, the process consists in utilizing only the two portions of a large objective at opposite ends of a diameter. The interference fringes at the focus under these conditions will be a series of equidistant interference bands which are most distinct with a source subtending an infinitesimal angle. For an object presenting an appreciable angle the visibility is less and may become zero--the exact relation being readily expressed for any given distribution of light in the source.

A series of observations was taken on the satellites of Jupiter at the Lick Observatory, in 1891, with results which amply confirmed the practicability and accuracy of

Duplicate

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the method.

It is clear, however, that as in all probability the stars present an angular diameter less than one-hundredth of a second, it would be almost hopeless to make suchh measurements, utilizing the largest telescopes in existence; for it would require a distance between the apertures of at least 10 meters to observe the vanishing of the fringes. While such a large telescope would be entirely out of question, the interferometer arrangements figured in the article referred to may serve the purpose, as there is theoretically no limit to the effective base line and practically only that which depends on the atmospheric disturbanc disturbances.

With a view to testing the effect of these, a trial was made (August 25, 1919) with the 40-inch refractor at Yerkes Observatory, using two apertures 4 inches by 5 inches at opposite ends of a diameter. The result was very encouraging, the interference bands being remarkably steady, notwithstanding the relatively poor "seeing"-- 2 to 3 on a scale of 5.

On invitation from Dr. George E. Hale the test was applied (September 18, 1919) to the 60-inch reflector of the Mount Wilson Observatory and then to the 100-inch reflector, and in both cases the experience at the Yerkes

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Observatory was confirmed. (Astrophysical Journal, 51, 250, 1920)

In December 1919 and the months following, Anderson, using this method, obtained measures of the distance and position angles of the components of Capella with great accuracy (Astrophysical Journal, 51, 260, 1920). Upon the author's suggestion, an interferometer beam, 20 feet long, provided with movable auxiliary mirrors, was then constructed to test conditions of interference at distances greater than the diameter of the one hundred inch mirror itself. In August 1920 fringes were obtained with separations of the mirrors as great as 18 feet, the visibility of the fringes for Veda at this distance being as great as that at 6 feet.

Meanwhile Eddington, Russell, and Shapley had obtained values for the diameter of a number of stars based on estimates of apparent surface brightness, and their results indicated that several of these lay within the range of the 20 foot beam. α Orionis in particular was so large that Merrill investigated it with the apparatus used in the measurement of Capella and found a definite decrease in visibility for the maximum separation of the slits, (100 inch aperture), this holding true for all position angles.

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Observations were made at the Mt. Wilson Observatory by Mr. F. G. Pease on December 13, 1920, with the outer mirrors of the 20 foot beam at 121 inches separation. No fringes were visible on α Orionis, while observations on α Orionis before, and on α Canis Minoris afterwards yielded strong fringes with practically no change of setting. All measures were checked by Dr. Anderson. The seeing was very good on this night, but poor on the following nights, and it appears that better conditions are required than when working with fringes produced by apertures placed directly before the telescope. Nevertheless, observations made December 14-17 indicates that α Ceti, α Tauri and β Geminerum will come within the range of the 20 foot beam.

Assuming that the effective wave length for α Orionis is λ 5750 its angular diameter from the formula $\alpha = 1.22\ \lambda/a$ proves to be 0".047 and with Schlesinger's parallax of 0".016 its linear diameter turns out to be 271 x 10 miles, or slightly less than that of the orbit of Mars.

The uncertainty of the present measurement is about 10 per cent. The effect of a possible darkening at the limb, which has been disregarded, would tend to make the measured results too small.

University of Chicago and
Mt. Wilson Solar Observatory.

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University of Chicago and
Mt. Wilson Solar Observatory.

F5 XIX

October 23, 1925.

Dear Professor Debye:

Since I had the pleasure of seeing you in Madison, I have had to desert my work in Mathematics and have assumed the Presidency of the University of Chicago. I learned recently from Professor Gale that he had written to you in the hope that you might consider favorably the possibility of coming to America permanently, and joining with the Physics Department of the University of Chicago. I was greatly disappointed to learn that you had not considered it possible to accept that offer at the time it was made, but I appreciate the fact that the first letter sent you did not reach you, and that the request was made of you for almost immediate acceptance, which, no doubt, rendered very difficult, if not impossible, your willingness to consider favorably our offer.

I am writing now to ask you if there is not some hope that you will renew your consideration of the offer in regard to a future time. I am sure that you will find the University's scientific work to be on a very high plane. I am sure you would find find most interesting colleagues to work with; that you would have conditions very favorable to your own work; and I assure you that you would come among friends, if you make this decision. I should greatly appreciate it if you could give me your frank opinion in regard to the matter, and I assure you of my earnest cooperation with your work in case you decide to accept.

If you feel that you are unable to make a decision for the permanent situation, I wonder if you would not care to lecture at the University during the Summer Quarter, which begins June 21st and ends September 1st. The Fall Quarter begins October 1st. If you feel that you would like a longer time to settle your affairs in Zurich, in case you look favorably upon the proposition to work at the University of Chicago permanently, you could begin your work with us on October 1st next.

October 23, 1925.

Dear Professor Debye:

Since I had the pleasure of seeing you in Madison, I have had to desert my work in Mathematics and have assumed the Presidency of the University of Chicago. I learned recently from Professor Dale that he had written to you in the hope that you might consider favorably the possibility of coming to America permanently, and joining with the Physics Department of the University of Chicago. I was greatly disappointed to learn that you had not considered it possible to accept that offer at the time it was made, but I appreciate the fact that the first letter sent you did not ~~convey~~ you, and that the request was made of you for almost immediate acceptance, which, no doubt, rendered very difficult, if not impossible, your willingness to consider favorably our offer.

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Our feeling, as you see, is that we want you permanently as soon as you will come, but we do not wish to hurry you unduly, and if the worst comes to the worst, we would rather you would agree to come for the Summer Quarter than to give just "no" for an answer.

If there are any of the details in regard to the position as presented by Professor Gale which you would like to see changed, I hope you will write me quite frankly in regard to them.

Cordially yours,

Max Mason (signed)

President.

Professor Doctor P. Debye,
Technological Institute,
Zurich, Switzerland.

MM:S

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President.

Professor Doctor P. Debye,
Technological Institute,
Zurich, Switzerland.

MM:S

~~Debye~~

~~Did you receive my~~

~~letter of Oct 3~~

please

Cable collect

reply my letter

Debye

Zurich Switzerland

Oct 23.