

Hale

The University of Chicago

FOUNDED BY JOHN D. ROCKEFELLER

CHICAGO Dec. 6th, 1894.

Prof. George E. Hale,

Chicago,

My dear Sir:-

Will you consider the following suggestions:

1. We must exercise the greatest economy in the organization of the work at Lake Geneva. The work of instruction at the University should be so combined as to minimize the total expenditure of the Department. We must recognize the fact that Astronomy is one department of the University.

2. As I understand it, the observatory will open with at most only four instruments, namely, the forty inch equatorial, the twelve inch telescope, your own, a three inch transit instrument for time service and possibly another telescope. Shall we not limit ourselves to the number of observers who will make proper use of these instruments?

3. Am I right in the following calculation: Professor Burnham will use the forty inch telescope two nights of the week; you will take charge of the solar work with the twelve inch telescope and use the forty inch say two nights in the week. We ought to arrange for pr. See and Dr. Laves to use the forty inch on one night of the week, and the sixteen inch, if we have one, on two nights of the week.

4. Having all these things in mind, would not one addition

al observer cover the case, namely, Barnard?

5. We ought to organize the work at the University so that Dr. See and Dr. Laves may be absent alternately, one each quarter.

6. Are there not Astronomical journals in which the regular observations and results of the observatory will be published without additional expense? Is any annual report needed if a statement of the work can be published in the Astronomical Journals. There would be, of course, a special appropriation required to publish such a work as Prof. Burnham's catalogue.

I find that it will be absolutely impossible to arrange for so large a sum as even \$15,000., and as I consider the matter, I do not now see that more than I have indicated above is really necessary. I shall be glad to hear from you in reference to these matters.

I remain

Yours very truly,

William K. Harper

GEORGE E. HALE
JAMES E. KEELER
EDITORS

THE UNIVERSITY OF CHICAGO

KENWOOD OBSERVATORY

Board
CHICAGO, Jan. 25th 1895. 189

The Board of Trustees

of the University of Chicago.

Gentlemen,

I respectfully request the consideration by the Board of Trustees, of the question of providing suitable houses for the astronomers who are to be connected with the Yerkes Observatory at Lake Geneva. As the contractors promise that the buildings will be completed by September 1, 1895, it is evident that this question calls for early attention.

That the matter is an important one cannot fail to be appreciated by anyone visiting the site selected for the Observatory. I think I am not mistaken in saying that there are no houses in which one could obtain comfortable lodgings within a radius of a mile. In the small village of Williams Bay, over a mile distant from the Observatory, single rooms might be rented in one or two houses. These might perhaps serve as temporary summer quarters for unmarried members of the staff, but not without great loss to the Observatory. It has been demonstrated again and again that an astronomer who expects to do good work, and employ advantageously the time when the sky is clear, must live within a few hundred feet of his observatory. It frequently happens that after an hour's observation in the early evening the sky clouds over, leaving little hope of clearing before morning. In such

CHICAGO, Jan. 25th 1925. 189

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circumstances an astronomer living at a distance would probably go home, for he must sleep when the opportunity comes in order to be able to keep up his work during the day. In all probability he would thus lose the cloudless or only partially clouded intervals which so frequently follow, and which might be of the utmost importance in his investigations. Even if he could be called by some one on the watch, the long walk to the Observatory might unfit him for the delicate work with the telescope, which requires a steady hand, and is in itself quite sufficient to tire out a strong man in some hours of constant observation.

It is evident that what has been said applies with special force to winter work, for after a heavy snowfall it would be difficult or impossible for a pedestrian to go from the Observatory - in its isolated position away from the travelled roads - to the village. The bitter cold weather so common at Lake Geneva would under these circumstances add nothing to the astronomer's comfort, or to his efficiency as an observing machine.

If, on the other hand, houses were provided in which the astronomers might live in comfort on the Observatory grounds, all of these difficulties would be done away with. One of the duties of the engineer or firemen on night service would be to watch the sky, and warn the astronomers of any break in the clouds.

CHICAGO, ILL. - 1900

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Nearly all of the large observatories, and many small ones, furnish houses rent free to the astronomers. In describing the Nice Observatory in his "Report on a Visit to Certain European Observatories" (Washington Observations for 1885, Appendix I), Lieutenant Winterhalter says:- "All of the personnel of the observatory - observers, their families, servants, laborers, etc - reside on the grounds. The advantages of this can not be overestimated. Being especially necessary for the isolated position of the Mont-Gros Observatory, it is, however, indispensable for obtaining the best results that all observers be near their work. If they are they can take advantage of every favorable opportunity. Many an observation is lost if the observer is forced to reside at a distance. Besides, an interest in his work is better sustained when he is always near it".

The Lick Observatory has recently provided a new house for Professor Barnard, as the one he had previously occupied was not considered suitable. In inviting him to the Yerkes Observatory it would seem only reasonable to offer him some means of obtaining a home.

It should not be overlooked that a very large number of American and European astronomers will visit the Yerkes Observatory. Many of these who come for brief visits will of course be entertained by the Director or some of the astronomers, if they have homes suitable for this purpose. Others, who have achieved marked success in certain

CHICAGO, I - 25 - '95. 189

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CHICAGO, 1 - 25 - '95. 189

fields of investigation, should be invited from time to time to make use of the unrivalled facilities of the Yerkes Observatory in carrying on researches beyond the capacity of the inferior instrumental equipment of their observatories. If the services of such voluntary observers are to be secured it is evident that suitable accommodations must be provided for them. A house should be erected for the use of such temporary members of the staff, the unmarried astronomers, and the graduate students at work in the Observatory.

As it may be impossible to follow the custom of other large observatories in furnishing houses free of rent, should not the University adopt means of making an investment that would be certain to yield a fair return?

Respectfully submitted,

George E. Hale

CHICAGO, I - 25 - '25. 189

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Respectfully submitted,



GEORGE E. HALE
JAMES E. KEELER
EDITORS

THE UNIVERSITY OF CHICAGO
DENWOOD OBSERVATORY

Hale.
G. E.

CHICAGO, April 22 1895

President Wm. R. Harper,

University of Chicago.

My dear Sir,

I regret that Professor C. A. Young, who spent Saturday and Sunday with me, was unable to find an opportunity to address the students, as you wished him to do. He wished me to thank you for your invitation.

I am sorry to say that one of the copies of the Journal of Geology, bound in the cover of the Astrophysical Journal, was sent to Professor Young. He is, as you know, one of our Associate Editors, and an astronomer of great distinction. He immediately wrote to the University Press, calling their attention to the mistake, and requesting that another copy be sent. Although he enclosed a directed envelope he had received no reply more than ~~three~~ ^{two} weeks later, and no copy of the Journal was sent. Such conduct on the part of the University Press, which I regret to say is the rule, and not an exception,

THE ASTROPHYSICAL JOURNAL
AN INTERNATIONAL REVIEW OF SPECTROSCOPY
AND ASTROPHYSICAL PHYSICS
GEORGE E. HALL
JAMES E. MEYER
EDITORS

THE UNIVERSITY OF CHICAGO
LIBRARY OF THE UNIVERSITY OF CHICAGO
JAN 10 1897

April 23 1897

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My dear Sir,
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CHICAGO, _____ 189_____

cannot fail to be most damaging to the University's reputation. Had I known last autumn the way in which the University Press ~~was~~ conducted I would never have taken the time and trouble required to raise the guarantee fund and the amount for the purchase of Astronomy and Astro. Physics. At a future time I will lay before you such details as will fully explain my dissatisfaction.

Yours very truly
George E. Hale

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CHICAGO

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Hale
G. E.

CHICAGO, May 3rd 1895. 189

My dear Dr. Harper,

I should indeed be sorry to have you cease to regard me as one who expressed moderate views, and I trust you will return to your old opinion after a careful consideration of the matter. I regret that my expression "such conduct on the part of the Press, etc." was so ambiguous as to lead you to suppose it to refer to "a mistake that was made by the printers down town". Such a remark would of course be a very foolish one to make, as ~~that~~ mistake is one that could not possibly occur frequently. Mr. Chase construed my meaning to apply to the monthly work of addressing the wrappers. Here, of course, the work is done in a routine way, and no one could make a very large percentage of errors. The remark referred to the apparently unnecessary delays of the Press in attending to the details of its duties, such as sending out the copies of the Journal when ordered by new subscribers, as in the case of Mr. R. G. N. Swift; filling orders for sample copies as in the case of Mr. Barr; replying to such communications as that of Professor Young; sending bills, as in the cases cited in my letter to Mr. Chase; etc. This last instance seems to me particularly worthy of your attention.

I might go on to multiply instances, but as it has been intimated that personal prejudice affects my judgment, it would certainly be best to eliminate this question of personality. I propose, therefore,

CHICAGO, May 27th 1895.

My dear Dr. Harper,

I should indeed be sorry to have you come to regard me as one who expressed moderate views, and I trust you will return to your old opinion after a careful consideration of the matter. I regret that my expression "such conduct on the part of the Press, etc." was so ambiguous as to lead you to suppose it to refer to "a mistake that was made by the printers down town". Such a remark would of course be a very foolish one to make, as that mistake is one that could not possibly occur frequently. Mr. Chase construed my meaning to apply to the monthly work of addressing the wrappers. Here, of course, the work is done in a routine way, and no one could make a very large percentage of errors. The remark referred to the apparently unnecessary delays of the Press in attending to the details of its duties, such as sending out the copies of the Journal when ordered by new subscribers, as in the case of Mr. R. C. U. Swift; filling orders for sample copies as in the case of Mr. Barry; replying to such communications as that of Professor Young; sending bills, as in the case cited in my letter to Mr. Chase; etc. This last instance seems to me particularly worthy of your attention.

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CHICAGO, 5 - 3 - '95. 189

with your permission to submit the entire matter, with the correspondence, to those members of the faculty who through their editorial work are fully qualified to form a correct opinion of the efficiency of the University Press. Many of these gentlemen have the advantage of me in years, and therefore, presumably, in patience. If, after examining the question, they find my remark - "such conduct, etc." an immoderate expression, I shall be glad to acknowledge myself to be in the wrong. But if, on the other hand, they feel inclined to support my view, I should hope to be restored to my former place in your opinion.

Assuring you that in this whole matter I have been actuated solely by the combined interests of the Journal and the University, I am,

Very respectfully yours,

George E. Hale

CHICAGO, ILL. - 3 - '95. 189

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George E. Hale

Hale
Let John

CHICAGO, May 28 1895

My dear Dr. Carpenter,

I am glad to see that Mr. Barrett has received the Graduate Fellowship. I am giving him such assistance as I can by paying for work done in the Observatory. Perhaps I can do the same thing next fall.

I learned from Mr. Ryerson that there is little probability that the University will build the houses at Lake Geneva. It thus seems likely that the Observatory cannot be used during the greater part of the year, and under such circumstances Mr. Barnard would certainly remain at Mt. Hamilton. Mr. Ryerson has promised to bring the matter up at the meeting of the Board next Tuesday. I hope you will consider the importance of the decision, and take an active part in the discussion.

Yours very truly
George E. Hale

THE ASTROPHYSICAL JOURNAL
AN INTERNATIONAL REVIEW OF ASTRONOMY
AND ASTROPHYSICAL PHYSICS
EDITED BY
JAMES E. KIRBY
GEORGE E. HALE
LONDON

THE UNIVERSITY OF CHICAGO
KECKWOOD OBSERVATORY

Chicago, May 20, 1892
My dear Dr. Kirby,

I am glad to see that Mr. Bennett has received the Bulletin of the Committee. I am giving him such assistance as I can by paying for work done in the Observatory. Perhaps I can do the same thing next fall.

I learned from Mr. Pease that there is little probability that the Committee will build the tower at Lake Geneva. It then seems likely that the Observatory cannot be used during the greater part of the year and under such circumstances Mr. Bennett would certainly remain at Mt. Hamilton.

Mr. Pease has proposed to bring the matter up at the meeting of the Board next Tuesday. I hope you will consider the importance of the decision, and take an active part in the discussion.

Yours very truly
George E. Hale

Hale
G. E.William Bay, Wis.
Sept. 13, 1895.

Dear Dr. Harper,

Thank you for sending me the enclosed. I am very glad to hear of Dr. Lee's success, and shall read his paper in the Nachrichten with interest.

I hope to hear soon that you have secured an appointment with Mr. Yerkes. On account of the time required to construct the apparatus every day's loss is to be regretted.

Will you not be kind enough to see if something cannot be done in regard to the power-house? I understand that Mr. Cobb has long had authority to push forward the work, but I cannot succeed in inducing him to ^{experience} do anything. Unless work is commenced soon ^{will} another serious delay.

Very truly yours, George E. Hale

William Bay, M.A.
Sept. 13, 1892

Dear Dr. Hooper,

Thank you for sending me the enclosed. I am very glad to hear of Dr. Hooper's success, and shall read his paper in the Northampton with interest.

I hope to hear soon that you have secured an appointment with the Y.M.C.A. on account of the time required to conduct the operations every day. It is to be regretted.

Will you not be kind enough to see if something cannot be done in regard to the former house? I understand that Mr. Todd has been about to find a new house, but I cannot understand why inducing him to do anything. I have not a chance to see him. I shall be glad to see you.

GH CHICAGO, Jan. 16 1896

My dear Dr. Harper,

I was greatly delighted to hear of the action of the Board, and wish to thank you for securing immediate attention to my request. My Father has not returned from New York, but I am inclined to think he will agree with me that we should reciprocate the action of the Board by ordering the optical glass for the great mirror at once. We hope, however, that Professor Keeler will be appointed next year.

I hope to be able to induce a friend of mine to pay for the construction of a ruling machine for the manufacture of optical gratings. But one such machine is now in use - that of Professor Rowland at Johns Hopkins - and the gratings made on it are used all over the world. As a grating large enough for the solar spectro-scope we are building for the 40-inch telescope would probably cost about a thousand dollars, and as we cannot afford to expend so large a sum, I am doing my best to secure a machine on which this grating and the large number of others

CHICAGO Jan. 11 1896

My dear Dr. Keeler,

I was greatly delighted to hear of the action of the Board, and wish to thank you for securing immediate attention to my request. My father has not returned from New York, but I am inclined to think he will agree with us that we should reappoint the action of the Board by ordering the optical glass for the great mirror at once. We hope, however, that Professor Keeler will be appointed next year.

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needed for special investigations at the Observatory can be ruled at no expense to the University. Unfortunately, the person I have in mind refuses to give the machine to either the Observatory or to the University. I think it not unlikely that he will give it to me if the University will allow the tools in the Observatory workshop to be used in constructing it, and permit me to set up and use the machine in the constant temperature room of the Yerkes Observatory. In return, the University would receive the use of all gratings needed at the Yerkes Observatory, and special ones would be made for particular investigations. The University would be put to no expense, other than that involved in the use of its tools and power. As most of these tools were presented to the University by my Father and myself, the proposal seems to me a reasonable one. Kindly inform me at your early convenience with regard to this matter.

I have learned from Dr. Goodspeed just what action was taken last year and also at the last

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CHICAGO, _____ 189__

meeting with regard to mechanics for the Observatory. The sum of \$750. was appropriated in the budget of 1895-'96 to pay the salary of a mechanic from Oct. 1, 1895 to July 1, 1896 on the basis of \$1000. per year. Without knowing that the name must first come before the Board, but after securing permission from Mr. Ryerson, I engaged Mr. Edmund Kandler at a salary of \$1000. per year. Mr. Kandler commenced work at the Kenwood Observatory on Dec. 16, 1895, and none of his salary has yet been paid. I trust you will have his name acted upon by the Board at the next meeting.

I also request that Wm Goertner be appointed as the second mechanic, whose employment was authorized by the Board last Tuesday, at a salary of \$900. per year.

Can you not bring up at the same time the question of a house for Professor Hadsoworth? As Mr. Barnard's house will probably cost not over \$3500., and mine about \$5000., an additional expenditure of perhaps \$2000. ^(over and above the \$10,000.) would provide a house for Mr. Hadsoworth.

Very truly yours George E. Hale

CHICAGO, 1897

meeting with regard to mechanism for the
Observatory. The sum of \$1500. was appropriated
in the budget of 1892-93 to pay the salary
of a mechanism from Oct. 1, 1892 to July 1, 1893
on the basis of \$1000. per year. Without know-
ing that the same must first come before
the Board, but after securing permission
from Mr. Hyslop, I engaged Mr. Edmund
Kuebler at a salary of \$1000. per year. Mr.
Kuebler commenced work at the Observatory
on Dec. 1, 1892, and none of his
salary has yet been paid. I trust you will
have his name voted upon by the Board
at the next meeting.
I also request that Mr. Hyslop be
appointed as the second mechanism, whose
employment was authorized by the Board last
Tuesday, at a salary of \$500. per year.
Can you not bring up at the same time
the question of a house for Professor Hyslop?
As Mr. Hyslop's house will probably cost not
over \$3000., and will save about \$2000. an additional
requisite of perhaps \$1000. would provide a house
for Mr. Hyslop. I am truly yours George E. Hale

THE UNIVERSITY OF CHICAGO.

KENWOOD OBSERVATORY

CHICAGO,

Aug. 24 1896

Hale
34
to Mr. Hale
35
6

Dear Dr. Harper,

On Sept. 11 or thereabouts the Astronomer Royal of England, the Savilian Professor of Astronomy of Oxford and other well-known English astronomers, with perhaps some from France, will visit Chicago for the express purpose of seeing the Yerkes Observatory. Cannot you, and perhaps some of the Trustees, go to Lake Geneva with us? And is it not likely that Mr. Bughitt would be glad to furnish a car for the occasion? Although the Observatory will not be completed, there will be much to see, as all the iron work of the dome will be in place. We are thinking of giving a dinner to the astronomers. How would it do to have it at the Quadrangle Club?

Has anything been done with regard to the matter of passes or that of admission to the Observatory?

Very truly yours
George S. Hale

Dear Dr. Hooper,

I am left. 11 on Thursday
the Astronomer Royal of England, the President
Professor of Astronomy of Oxford and other
well-known English astronomers, with perhaps
some from France, will visit Chicago for
the express purpose of seeing the Yerkes Ob-
servatory. I must go, and perhaps some of
the Trustees, go to take dinner with us? And
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Very truly yours
George F. Drake

Hale

YERKES OBSERVATORY, UNIVERSITY OF CHICAGO
WILLIAMS BAY, WISCONSIN

CABLE ADDRESS
ARCTURUS CHICAGO

May 25, 1897.

President W. R. Harper,
University of Chicago,
Chicago.

(87)

My Dear Dr. Harper, -

Now that the great objective is safely mounted on the telescope and the instrument in actual use for observations, it would seem to me that there need no longer be any delay in the matter of inviting Professor H. C. Vogel, Director of the Imperial Observatory, Potsdam, Germany, to give the principal address at the dedication of the Yerkes Observatory next October. I therefore trust you will send this invitation to Professor Vogel when convenient, and request that when the invitation is sent you will kindly let me know, in order that I may also write Professor Vogel regarding the matter. As Professor Vogel knew that it was intended to have Dr. Huggins make the address, it is desirable that I write to him and explain the matter, and also to urge his acceptance of the invitation.

I am sure you will be glad to know that last night we had some wonderful views of various celestial objects with the large telescope. We are all most favorably impressed with its performance, and Professor Barnard is especially delighted to find that in certain respects it is decidedly superior to the Lick telescope.

Very truly yours,

George F. Hale

Howe

UNIVERSITY OF CHICAGO
JAMES GASTON UNIVERSITY OF CHICAGO
WILLIAM H. WILSON

CARL A. ADAMS
JANUARY 1907

May 25, 1897.

(87)

President W. R. Harper,
University of Chicago,
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Professor Barnard is especially delighted to find that in certain res-
pects it is decidedly superior to the Lick telescope.

Very truly yours,

James G. Thompson

Hale

YERKES OBSERVATORY, UNIVERSITY OF CHICAGO
WILLIAMS BAY, WISCONSIN

CABLE ADDRESS
ARCTURUS CHICAGO

June 23, 1897.

President W. R. Harper,
University of Chicago,
Chicago.

Dear Dr. Harper,-

I have found food for reflection in the circumstances which attended the visit of the Y. M. C. A. students to the Observatory this afternoon. A tremendous storm came up about noon, after it had been arranged that the students were to be at the Observatory at two o'clock. I sent word to the encampment that it would be best to defer the visit until a more favorable day, and it was announced in the Auditorium. Unfortunately, however, a good many failed to hear the announcement, and we were visited by some 200 men. I supposed all were here, and thought it best to go ahead with the matter, as many of them told me that it would be impossible to come later in the week. I therefore made a general statement to them regarding the Observatory and its work, and conducted them to all parts of the building, in accordance with Mr. Ryerson's request. I think they were interested in what they saw, and that their visit to the Observatory was a very good thing. But several matters connected with it must, nevertheless, be given consideration. In the first place, it turned out that only about half the students in the camp came to the Observatory, the other half remaining away because of the announcement. This I did not know until Mr. Nichols called at the Observatory just after the visitors had left. In the second place we found at the front door just as the men were going out, a large par-

YERRES OBSERVATORY UNIVERSITY OF CHICAGO
WILLIAMS HAY WISCONSIN

June 28, 1897.

CABLE ADDRESS
YERRES OBSERVATORY CHICAGO

President W. R. Harper,
University of Chicago,
Chicago.

Dear Dr. Harper,--

I have found food for reflection in the circumstances which attended the visit of the Y. M. C. A. students to the Observatory this afternoon. A tremendous storm came up about noon, after it had been arranged that the students were to be at the Observatory at two o'clock. I sent word to the encampment that it would be best to defer the visit until a more favorable day, and it was announced in the Auditorium. Unfortunately, however, a good many failed to hear the announcement, and we were visited by some 200 men. I supposed all were here, and thought it best to go ahead with the matter, as many of them told me that it would be impossible to come later in the week. I therefore made a general statement to them regarding the Observatory and its work, and conducted them to all parts of the building, in accordance with Mr. Ryerson's request. I think they were interested in what they saw, and that their visit to the Observatory was a very good thing. But several matters connected with it must, nevertheless, be given consideration. In the first place, it turned out that only about half the students in the camp came to the Observatory, the other half remaining away because of the announcement. This I did not know until Mr. Nichols called at the Observatory just after the visitors had left. In the second place we found at the front door just as the men were going out, a large par-

Pres. Happer, 2.

ty of firemen from Lake Geneva, where an annual gathering of firemen from the surrounding country is being held. They asked to be admitted to the building, but I told them it could not be done. One of them then asked whether they could come if they brought a note from Mr. Walker, and of course I had to reply that if Mr. Walker gave them such a note they would be admitted to the building. From my last conversation with him I am inclined to think it probable that he will give them the desired permission. It will also be necessary to admit the remainder of the students tomorrow. As the time and energies of several members of the Observatory staff are necessarily wholly taken up in conducting parties through the building, and as a very large amount of mud is necessarily tracked about the floors on such a day as this, it seems to me of the highest importance to put into most rigid effect the rule which you yourself favor, viz., that for the present at least, no visitors be admitted to the Observatory. Personally I very much enjoyed having the students from the Y. M. C. A. here, and I have no feeling of antagonism for visitors. But it seems to me of the first importance that the work of the Observatory be protected to the fullest extent; and in addition to this, that Mr. Yerkes' wishes be carried out to the letter. If, therefore, you find it possible to convince Mr. Walker, Mr. Ryerson and other members of the Board of Trustees that permission to visit the Observatory, especially when given to large parties, is necessarily a serious tax upon the energies of the establishment and an equally serious interruption to the work, you will in my opinion contribute to the efficiency of the Observatory, and at the same time show to Mr. Yerkes that his wishes are ^{being} carried out to the letter.

Very truly yours,

George S. Hale

Pres. Happer, S.

ty of firemen from Lake Geneva, where an annual gathering of firemen from the surrounding country is being held. They asked to be admitted to the building, but I told them it could not be done. One of them then asked whether they could come if they brought a note from Mr. Walker, and of course I had to reply that if Mr. Walker gave them such a note they would be admitted to the building. From my last conversation with him I am inclined to think it probable that he will give them the desired permission. It will also be necessary to admit the remainder of the students tomorrow. As the time and energies of several members of the Observatory staff are necessarily wholly taken up in conducting parties through the building, and as a very large amount of mud is necessarily tracked about the floors on such a day as this, it seems to me of the highest importance to put into most rigid effect the rule which you yourself favor, viz., that for the present at least, no visitors be admitted to the Observatory. Personally I very much enjoyed having the students from the Y. M. C. A. here, and I have no feeling of antagonism for visitors. But it seems to me of the first importance that the work of the Observatory be protected to the fullest extent; and in addition to this, that Mr. Yerkes' wishes be carried out to the letter. It, therefore, you find it possible to convince Mr. Walker, Mr. Ryerson and other members of the Board of Trustees that permission to visit the Observatory, especially when given to large parties, is necessarily a serious tax upon the energies of the establishment and an equally serious interruption to the work, you will in my opinion contribute to the efficiency of the Observatory, and at the same time show to Mr. Yerkes that his wishes are carried out to the letter.

Very truly yours,

George B. Happer

Hale

YERKES OBSERVATORY, UNIVERSITY OF CHICAGO
WILLIAMS BAY, WISCONSIN

CABLE ADDRESS
ARCTURUS CHICAGO

July 26, 1897.

President W. R. Harper,
University of Chicago,
Chicago.

My dear Dr. Harper,-

I was very sorry to learn from Miss Cobb on Saturday that Lord Kelvin will not be able to be present at the dedication. It now seems to be too late to make further attempts to secure a foreign astronomer to make the address. After Dr. Huggins had found it impossible to be present I asked him to tell me who he would regard as the best person to take his place. As first choice he named Professor Vogel, and as second choice Professor C. A. Young of Princeton. We have failed in getting Professor Vogel, and as I thoroughly agree with Dr. Huggins that Professor Young should be secured in preference to any other American astronomer, I trust you will send him an invitation as soon as you can conveniently do so. He is now at Hanover, N.H., and a letter addressed to him there would reach him much sooner than one sent to Princeton. I think we should keep to our original idea of inviting Professor Newcomb to give the Convocation Address, as no one is better able ~~to~~ than he to do this. Professor Young, on the other hand, is better adapted to give the address at the Observatory, and I greatly hope it will be possible to induce him to come. As I am getting out the programmes for publication in the August number of the Astrophysical Journal, and also for early distribution, I hope you will be kind

HERBERT OBSERVATORY UNIVERSITY OF CHICAGO
WILLIAM H. WILSON

July 26, 1897.

CABLE ADDRESS
ASTROPHYSICAL OBSERVATORY CHICAGO

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University of Chicago,
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Pres. Harper, 2.

enough to invite Professor Young soon, and to let me know as soon as his answer is received. If for any reason he cannot come, Professor Langley, Secretary of the Smithsonian Institution and Director of the Smithsonian Observatory, should be invited to make the dedicatory address.

I am sure you will be as delighted as we are to hear that Miss Catherine Bruce of New York, to whom we were already indebted for her gift to the Astrophysical Journal, has just sent Professor Barnard a check for \$7,000 to be used in providing a photographic telescope (with suitable building) for the Yerkes Observatory. No instrument was more needed than this for our equipment, and we are correspondingly pleased to receive this substantial gift. Will it not be possible to have the \$7,000 which this will bring from Mr. Rockefeller appropriated to the Yerkes Observatory for improving its equipment? You of course know that we are still in sad need of the ordinary instruments found in every observatory, whether large or small, and as Miss Bruce's gift was obtained through Professor Barnard's efforts, it would seem ~~not~~unnatural that Mr. Rockefeller's duplication of it should come to the Observatory.

For various reasons we regard it as very important not to announce Miss Bruce's gift until the dedication. For one thing, I am not at all sure that Mr. Yerkes will be pleased to hear of this donation, and in ~~any~~ case he may intend to make any further gift to the Observatory at the time of the dedication it would perhaps be quite as well to have this announcement withheld until after he has made his

enough to invite Professor Young soon, and to let me know as soon as his answer is received. If for any reason he cannot come, Professor Langley, Secretary of the Smithsonian Institution and Director of the Smithsonian Observatory, should be invited to make the dedication address.

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Pres. Harper, 3.

statement. Of course the new telescope is not to be erected in the Yerkes Observatory, but will have a separate building for itself upon the Observatory ground. Nevertheless, it may be that he will not be as much pleased as the rest of us are.

I am receiving so many acceptances of the requests I have been sending out to astronomers to take part in our conferences, that it has been found necessary to place the meeting of the Board of Editors of the Astrophysical Journal on Monday, and to begin some of the conferences on Tuesday morning. I consulted Mr. Ryerson before making this change, and I feel sure you will not object to it. We hope to have many of the editors of the Journal here over Sunday, so that it will be possible to hold the meeting on Monday.

I hope you are thoroughly enjoying your vacation and rapidly recovering your usual health. I certainly should not have troubled you with any matters of business were it not necessary for you to extend the invitation to Professor Young.

Very truly yours,

George E. Hale

Pres. Harper, 3.

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George E. Hale

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THOS. T. ECKERT, President and General Manager.

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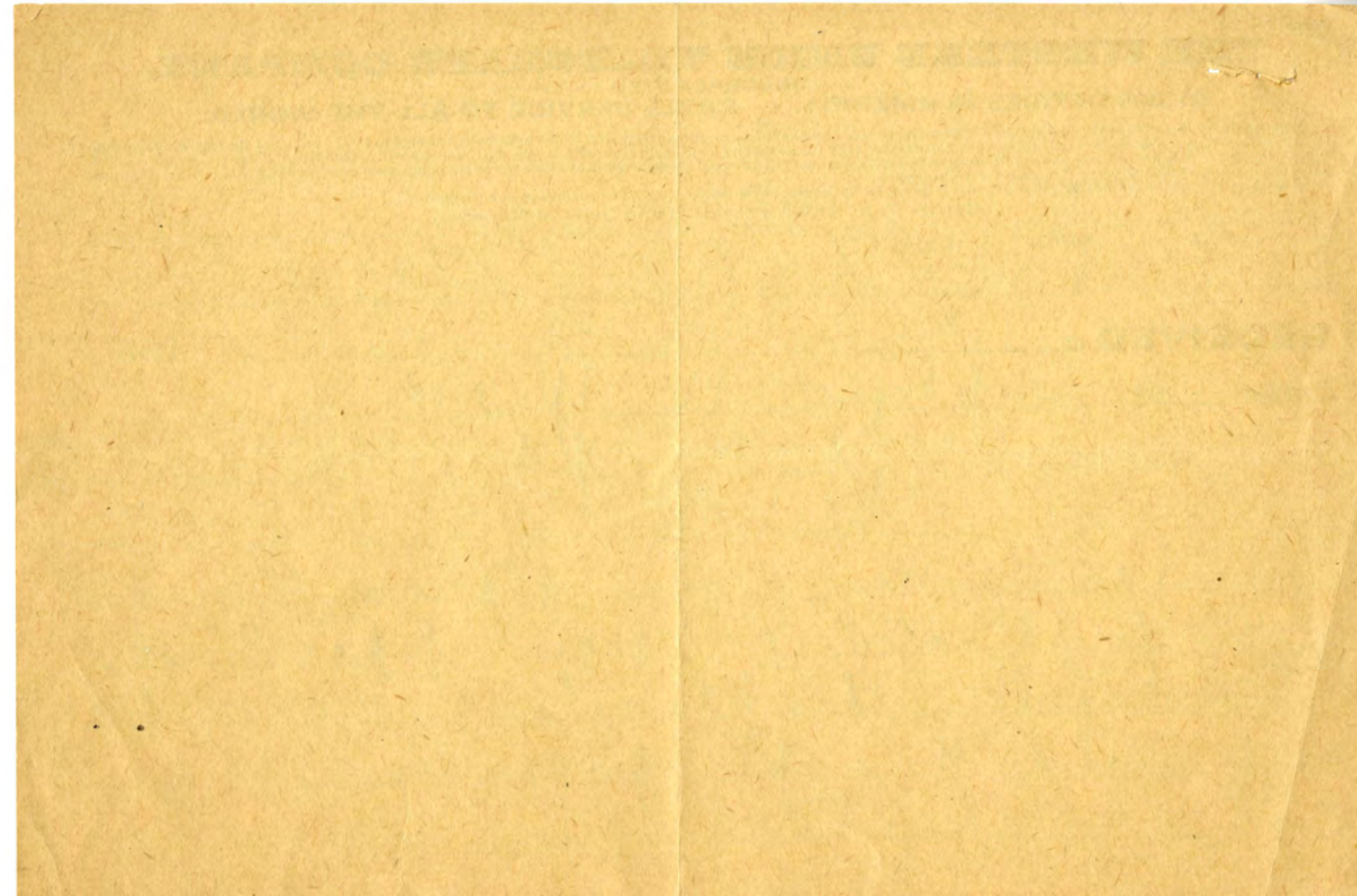
Brooklyn N.Y. 24

To

Pres. W.R. Harper,

U.S.

Miss Bruce gives fifteen thousand
if duplicated & Keeler appointed
Rockefeller duplication accepted
if used this purpose coming
Lick election



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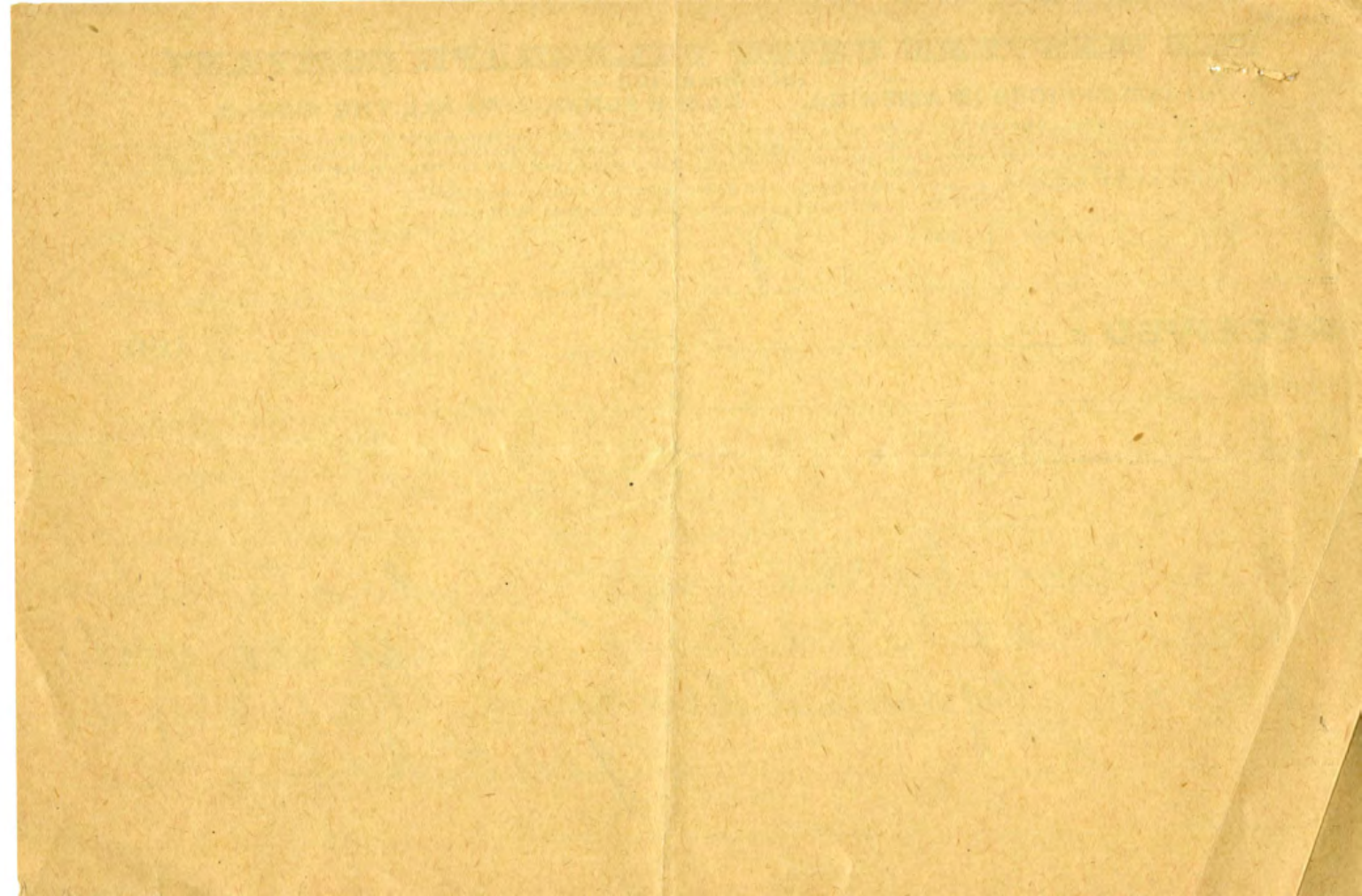
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		<i>J</i>	

RECEIVED at _____ 189

Dated _____

To _____

*necessitates immediate action
Telegraph reply three seventy
four Grand Avenue Brooklyn.
Geo E Hale.*



Pres. Harper writes
to Prof. Hale, ^{U. C.} outlining
his ideas for the
Astronomical work at
Lake Geneva.

1894

George E Hale

(Carbon old letter head - now discarded.)

THE ASTROPHYSICAL JOURNAL
AN INTERNATIONAL REVIEW OF SPECTROSCOPY
AND ASTRONOMICAL PHYSICS
YERKES OBSERVATORY, UNIVERSITY OF CHICAGO
WILLIAMS BAY, WISCONSIN

CABLE ADDRESS
ARCTURUS CHICAGO

374 Grand Ave.
Brooklyn, N. Y.
Jan. 4, 1895.

Dear Dr. Carpenter,

I think my father informed you on Christmas Day of Miss Bruce's offer of \$7,500, on condition that Keeler be appointed and that an equal amount, also to be applied to his salary, be obtained before March 15. This offer was made in response to a letter in which I asked her to endow the chair. In the same letter I received the permission I had requested to call ^{at her residence} at Miss Bruce's Fifth Ave., but Miss M. M. Bruce, who wrote the letter, informed that her sister, Miss C. M. Bruce, would not be able to see me. I immediately decided to see if it would not be possible to obtain the full endowment, and called for this purpose on the following day. Miss Bruce was out, but in response to a request for an appointment, invited me to luncheon. The result was that I spent the entire afternoon with her, and found that there was no hope of getting the endowment. After much trouble, however, I induced her to propose to her sister that the amount be made \$15,000 instead of half this sum. I received no word for several days, but on Jan. 1 a note

2

THE ASTROPHYSICAL JOURNAL
AN INTERNATIONAL REVIEW OF SPECTROSCOPY
AND ASTRONOMICAL PHYSICS
YERKES OBSERVATORY, UNIVERSITY OF CHICAGO
WILLIAMS BAY, WISCONSIN

CABLE ADDRESS
ARCTURUS CHICAGO

From Miss M. V. Bruce informed me that her sister
"considered \$15,000 a great deal of money, but a
decision might be expected within a few days."
I at once wrote Professor Pickering, requesting him
to recommend the gift to Miss Bruce; this was
done because she has frequently followed his
advice before. He lost no time in carrying this
out, his letter reaching her yesterday morning.
This morning I received the offer of \$15,000, "on
condition that Professor Keeler be appointed Astro-
physicist (Professor of Astrophysics) of Yerkes Observatory,
and with the further condition that an equal
amount, which is also to be set apart for the
payment of Professor Keeler's salary, be raised by
February first, 1898." Unless Mr. Yerkes should see
fit to give the additional amount, the only chance
of meeting the requirement would be to have Mr.
Rockefeller's duplicate gift of \$15,000, ^{used for this purpose.} Foreseeing this,
I got Miss Bruce's assent to this arrangement.

There ~~are~~ two reasons why action should be
taken immediately. The Lick election, which was to have
been held on Dec. 14, was postponed until this month, and

THE ASTROPHYSICAL JOURNAL
 AN INTERNATIONAL REVIEW OF SPECTROSCOPY
 AND ASTRONOMICAL PHYSICS
 HERBERT OBSERVATORY UNIVERSITY OF CHICAGO
 WILLIAM RAY WISCONSIN

CABLE ADDRESS
 HERBERT OBSERVATORY CHICAGO

from Mr. H. K. Bruce informed me that the order
 covered \$12,000 a great deal of money, but a
 decision might be expected within a few days.
 I at once wrote Professor Pickering, requesting him
 to recommend the gift to his name; this was
 done because he has frequently followed his
 advice before. He lost no time in carrying this
 out, his letter reaching me yesterday evening.
 This morning I received the offer of \$12,000, on
 condition that Professor Pickering be appointed to the
 position of Professor of Astrophysics (or Physics & Chemistry)
 and with the further condition that an equal
 amount, which is also to be set apart for the
 payment of Professor Pickering's salary, be raised by
 February first, 1898. Unless Mr. Pickering should see
 fit to give the additional amount, the only chance
 of meeting the requirement would be to have Mr.
 Pickering's duplicate gift of \$12,000, towards this.
 I got Mr. Bruce's consent to this arrangement
 There are two reasons why action should be
 taken immediately. The first objection which was to be
 put told on Dec. 14, was postponed until the next

THE ASTROPHYSICAL JOURNAL
AN INTERNATIONAL REVIEW OF SPECTROSCOPY
AND ASTRONOMICAL PHYSICS
YERKES OBSERVATORY, UNIVERSITY OF CHICAGO
WILLIAMS BAY, WISCONSIN

CABLE ADDRESS
ARCTURUS CHICAGO

will probably take place before the 15th. Keeler's name will be presented by President Kellogg, and also by one of the Regents, who has recently obtained his permission to do so. Again, my lecture engagements atassar and in Boston require me to leave here next Friday, Jan. 7, and I shall be here again only part of a day in passing through on my way to Pittsburgh, where I have a lecture engagement on Jan. 18. It may be necessary for me to see Miss Bruce again, and I therefore hope to receive some reply from you before I leave on Friday of this week.

I am sure you will recognize the importance of doing something at once. As Mr. Rockefeller's gift makes the amount thirty thousand dollars I hope the Trustees will make the appointment immediately. Recognizing the fact that the Observatory is not at all likely to have another chance of strengthening its staff and adding to its reputation so materially, I have devoted my best efforts to accomplishing this important result. With your coöperation a great advance may easily be made.

Hoping to hear from you, I am very sincerely yours
(over) George E. Hale

I came East on the same train with Mr. Yerkes, and told him what I had requested Miss Bruce to do. As he invited me to call at his New York residence I telephoned him today, but found that he is out of town. I intended simply to tell him what had been done, and to show him Miss Bruce's letter, giving him ample opportunity to offer the fifteen thousand, but making no request for it. Perhaps you may think it well to do this in Chicago.

THE WESTERN UNION TELEGRAPH COMPANY.

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THOS. T. ECKERT, President and General Manager.

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HYDE PARK.

Board of Trustees

38Ch:::Eb Wr 22 Paid 4:41 PM

PK Boston Mass 9

Prest W R Harper,
U of Chicago

Bruce Gift requires Permanent appointment Keeler Would not accept
less address Care Pickering Until Monday night rest week forty
Vanderbilt Hall New Haven

George H Hale.

THE UNIVERSITY OF CHICAGO
FOUNDED BY JOHN D. ROCKEFELLER

Hale

YERKES OBSERVATORY
WILLIAMS BAY, WISCONSIN

CABLE ADDRESS
ARCTURUS CHICAGO

WILLIAMS BAY, WISCONSIN.

March 29, 1898.

President W. R. Harper,
University of Chicago,
Chicago.

No answer

Dear Dr. Harper,-

Since I learned that Professor Keeler would be likely to accept the appointment as Director of the Lick Observatory I have been in correspondence with Professor Frost, Professor Young's successor as Director of the Dartmouth College Observatory. I wrote to inquire whether he would be inclined to take the position if he were offered ~~an~~ ~~his~~ a six year appointment. Of course I made no regular offer to him, as this is in the first place the function of the Trustees, and in the second place Miss Bruce has not yet agreed to allow us to use the \$15,000 for this purpose. As you may have seen some mention of the matter in the papers I quote below from a letter just received from Professor Frost in order that you may understand his position in the matter. He is an excellent man for the position, and I hope we can certainly secure his services. His principal difficulty is with regard to living at Williams Bay and obtaining a suitable house. I wish to ask what position the University will be likely to take on this question, as it is naturally a most important one from Professor Frost's point of view. The quotation from his letter follows:

"To my great regret, I find that this matter has gotten into the papers a little. Of course my Faculty friends were entitled to

March 20, 1908.

President W. R. Harper.

University of Chicago.

Chicago.

Dear Dr. Harper:-

Since I learned that Professor Koeler would be likely to accept the appointment as Director of the Lick Observatory I have been in correspondence with Professor Frost, Professor Young's successor as Director of the Barnard College Observatory. I wrote to inquire whether he would be inclined to take the position if he were offered \$12,000 a six year appointment. Of course I made no regular offer to him, as this is in the first place the function of the Trustees, and in the second place Miss Thorne has not yet agreed to allow us to use the \$12,000 for this purpose. As you may have seen some mention of the matter in the papers I quote below from a letter just received from Professor Frost in order that you may understand his position in the matter. He is an excellent man for the position, and I hope we can certainly secure his services. His principal difficulty is with regard to living at Williams Bay and obtaining a suitable house. I wish to ask what position the University will be likely to take on this question, as it is naturally a most important one from Professor Frost's point of view. The quotation from his letter follows:

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THE UNIVERSITY OF CHICAGO
FOUNDED BY JOHN D. ROCKEFELLER

YERKES OBSERVATORY
WILLIAMS BAY, WISCONSIN

CABLE ADDRESS
ARCTURUS CHICAGO

WILLIAMS BAY, WISCONSIN.

Dr. Harper, 2.

know that I was considering going away. So a rumor got to the students and mention was made in the college paper in a way that I should not have permitted, had I known in advance what they were going to say. Then some irrepressible student newspaper correspondent must have sent off some silly statement to the Boston papers; only a few lines, it is true, but those incorrect and the whole matter premature. I think President Harper might well feel annoyed if it should be called to his attention.

The pamphlet on Lake Geneva helped to give a good idea of the surroundings. It seems to me that the University gets very high rent for its houses so far from the city. I fear I should lose in a money way by a transfer from my present position. I should think the University ought to furnish the rent free, under the circumstances. I could not build, probably, nor would it be possible for me to think of paying as much as \$50 per month in rent."

Very truly yours,

George E. Hale

HERBERT OBSERVATORY
WILLIAMS BAY WISCONSIN

WILLIAMS BAY WISCONSIN

CABLE ADDRESS
PACIFICUR CHICAGO

Dr. Harper, S.

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Very truly yours,

Handwritten signature

Hale

THE UNIVERSITY OF CHICAGO
FOUNDED BY JOHN D. ROCKEFELLER

YERKES OBSERVATORY
WILLIAMS BAY, WISCONSIN

CABLE ADDRESS
ARCTURUS CHICAGO

WILLIAMS BAY, WISCONSIN.

June 27, 1898.

President W. R. Harper,
University of Chicago,
Chicago.

(17)

Dear Dr. Harper,-

I am sure you will be glad to receive the enclosed letter and check from Miss Catherine W. Bruce. I hope the Trustees will make direct acknowledgement to her of this important gift.

Cannot Professor Frost be notified at once of his appointment? He is very anxious to make arrangements to leave Hanover, but does not feel entirely free to send in his resignation there until he receives official notification of his appointment in the University of Chicago. Please note that he should be appointed Professor of Astrophysics, and not of Astronomy.

Very sincerely yours,

George E. Hale

*Check given to
Dr. Goodspeed.*

June 27, 1893.

President W. R. Harper,

University of Chicago,

Chicago.

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I am sure you will be glad to receive the enclosed letter and
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Very sincerely yours,

Henry C. Brown

W. R. Harper

THE UNIVERSITY OF CHICAGO
FOUNDED BY JOHN D. ROCKEFELLER

Hale

YERKES OBSERVATORY
WILLIAMS BAY, WISCONSIN

CABLE ADDRESS
ARCTURUS CHICAGO

WILLIAMS BAY, WISCONSIN.

May 31, 1899.

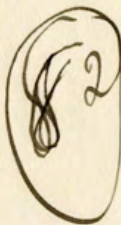
President W. R. Harper,
University of Chicago ,
Chicago.

Dear Dr. Harper,-

The \$1500 for the publication of Professor Burnham's catalogue of double stars came in the form of a check from Miss Catherine W. Bruce, of New York, who made the gift to him personally and not to the University. The check was made out in his name and was sent directly to him by Miss Bruce.

Very truly yours,

George E. Hale



YERKES OBSERVATORY
WILLIAMS BAY, WISCONSIN

CABLE ADDRESS
YERKES OBSERVATORY
CHICAGO

WILLIAMS BAY, WISCONSIN

MAY 21, 1898.

President W. R. Harper,

University of Chicago,

Chicago.

Dear Dr. Harper,-

The \$1500 for the publication of Professor Putnam's catalogue of double stars came in the form of a check from Miss Catherine W. Bruce, of New York, who made the gift to him personally and not to the University. The check was made out in his name and was sent directly to him by Miss Bruce.

Very truly yours,

George F. Johnson



Hale

THE UNIVERSITY OF CHICAGO
FOUNDED BY JOHN D. ROCKEFELLER

YERKES OBSERVATORY
WILLIAMS BAY, WISCONSIN

CABLE ADDRESS
ARCTURUS CHICAGO

WILLIAMS BAY, WISCONSIN.

June 6, 1899.

President W. R. Harper,
University of Chicago,
Chicago.

(87)

Dear Dr. Harper,-

I hardly know how Miss Bruce's gift of \$1500 to Professor Burnham could be counted in such a way as to get it duplicated, although it is virtually a gift to the University provided Professor Burnham is willing to have it considered such. It seems to me that it would be well for you to write to him on the subject, provided you think he would regard the matter favorably. I do not think Miss Bruce would be likely to raise any objection.

I see in a recent number of the University Record that I have been appointed a member of the Students' Fund Committee. Will you please be kind enough to inform me regarding my duties on this committee?

I have just received your letter on the action of the Trustees and very much regret that the appropriation could not be made. It will perhaps be possible to spare \$250 from our equipment fund for the 6-inch object glass, but this will of course have to be done at a sacrifice of some other instrument. It seems to me a great pity that the Observatory grounds cannot be improved, as their present condition is not altogether creditable.

Very truly yours,

George S. Hale

HERMAN OBSERVATORY
WILLIAM DAN WOODWARD

CASE & KERRICK
ASTORUM CHICAGO

WILLIAM DAN WOODWARD

June 8, 1902.

President W. R. Harper,
University of Chicago,
Chicago.

Dear Dr. Harper,

I hardly know how Miss Bruce's gift of \$1500 to Professor
Burnham could be accounted in such a way as to get it duplicated, although
it is virtually a gift to the University provided Professor Burnham is
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Observatory grounds cannot be improved, as their present condition is
not altogether creditable.

Very truly yours,

George S. Jones

THE UNIVERSITY OF CHICAGO
FOUNDED BY JOHN D. ROCKEFELLER

Hale

YERKES OBSERVATORY
WILLIAMS BAY, WISCONSIN

CABLE ADDRESS
ARCTURUS CHICAGO

WILLIAMS BAY, WISCONSIN.

Sept. 2, 1899.

President W. R. Harper,
University of Chicago,
Chicago, Ill.

7 (112)

Dear Dr. Harper,-

I enclose herewith a statement regarding the proposed expedition to observe the eclipse, which I have been much delayed in preparing on account of the time required to ascertain the cost of the instruments needed for the proposed work. I need not tell you that it is a very important matter that the University should be represented *by* an expedition of this kind, as practically all the larger Universities and Colleges and many of the small ones will send specially equipped expeditions. I hope it may be possible, in addition to collecting the \$3,000 needed, to secure from the Illinois Central Railroad passes for the members of the party. As I have pointed out on the enclosed statement, all of the special apparatus which must be purchased will become a permanent part of the equipment of the Observatory, and will be needed for our regular work.

On account of the fact that the Third Conference of Astronomers and Astrophysicists will meet at this Observatory next Wednesday, I think it would be well to send out requests for contributions to this fund immediately. From what he said to me last winter I should suppose that Mr. Ream would be glad to contribute two or three hundred dollars. Of course you will include in your list all of the more prominent people

YERKES OBSERVATORY
WILLIAM BAY WISCONSIN

WILLIAM BAY WISCONSIN

CHICAGO, ILL.

Sept. 2, 1888.

President W. R. Harper,

University of Chicago,

Chicago, Ill.

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Dr. Harper, 2.

THE UNIVERSITY OF CHICAGO
FOUNDED BY JOHN D. ROCKEFELLER

YERKES OBSERVATORY
WILLIAMS BAY, WISCONSIN

CABLE ADDRESS
ARCTURUS CHICAGO

WILLIAMS BAY, WISCONSIN.

around Lake Geneva. Mr. L. Z. Leiter has recently visited the Observatory and would very likely contribute. Possibly Mr. E. W. Blatchford would also give something.

I wish you could find time to spend a day with us during the session of the Conference, which opens next Wednesday and closes on Friday. It would be well if Mr. Yerkes could be here at that time. He attended one of the sessions of the First Conference, and seemed to be glad to meet the various astronomers. They were all very much pleased with him, and it is easy to see that the reception they gave him pleased him greatly.

Very truly yours,

George E. Hale

YERKES OBSERVATORY
WILLIAMS BAY, WISCONSIN

CABLE ADDRESS
YERKES CHICAGO

WILLIAMS BAY, WISCONSIN

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Very truly yours,

Langley

THE UNIVERSITY OF CHICAGO
FOUNDED BY JOHN D. ROCKEFELLER

Hale

YERKES OBSERVATORY
WILLIAMS BAY, WISCONSIN

CABLE ADDRESS
ARCTURUS CHICAGO

WILLIAMS BAY, WISCONSIN.

Sept. 11, 1899.

President W. R. Harper,
University of Chicago,
Chicago.

on

Dear Dr. Harper,-

I am very glad to receive your letter of September 8 and to know that you think it likely that the money for the eclipse expedition can be secured. You will be interested to hear that I have just received a check from Miss Catherine W. Bruce for \$2300, to pay for a new spectrograph for use with the 40-inch telescope. The check has been sent to Mr. Rust. Miss Bruce requests that no public mention be made of the gift, which she desires to keep out of the newspapers.

I have just received notification from the Recorder that the final examination of George Lincoln Brown for the degree of Ph. D. will be held on Friday of this week. Mr. Brown's principal subject is Mathematics and his secondary subject Astronomy. All of his work was done at the University under Dr. Laves. In cases of this kind I consider that Dr. Laves should be placed on the examining Board instead of myself in order that he may receive proper recognition for his work in directing the instruction in Mathematical Astronomy, and because my own subject of Astrophysics is so different from that under consideration that I am not well qualified to conduct an examination of this nature. Will you therefore be kind enough to request Dr. Laves to act in this and similar instances?

Very sincerely yours,

George E. Hale

✓
*done
+ W.S.*

Sept. 11, 1899.

President W. R. Harper,

University of Chicago,

Chicago.

Dear Dr. Harper:-

I am very glad to receive your letter of September 8 and to know that you think it likely that the money for the eclipse expedition can be secured. You will be interested to hear that I have just received a check from Miss Catherine W. Bruce for \$2800. to pay for a new spectograph for use with the 40-inch telescope. The check has been sent to Mr. Rust. Miss Bruce requests that no public mention be made of the gift, which she desires to keep out of the newspapers.

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THE UNIVERSITY OF CHICAGO
FOUNDED BY JOHN D. ROCKEFELLER

Hale

YERKES OBSERVATORY
WILLIAMS BAY, WISCONSIN

CABLE ADDRESS
ARCTURUS CHICAGO

WILLIAMS BAY, WISCONSIN.

September 9, 1899.

President W. R. Harper,
University of Chicago,
Chicago.

Dear Dr. Harper,-

Thank you for your letter of September 4th, informing me that you will take up the subscription for the eclipse expedition during the coming week. I hope you will make a strong effort to secure the necessary amount, as it is a matter of great importance that the University should be represented by a well-equipped eclipse expedition.

I enclose the envelope in which your last letter was sent. Two or three recent letters from you have been directed to Lake Geneva, and it might be well to call the attention of your stenographer to this mistake.

Very truly yours,

George E. Hale

YERRES OBSERVATORY
WILLIAM BAY WISCONSIN

CABLE ADDRESS
ANDRUS CHICAGO

WILLIAM BAY WISCONSIN

September 2, 1900.

President W. R. Harper,

University of Chicago,

Chicago.

Dear Dr. Harper, -

Thank you for your letter of September 14th, informing me that you will take up the subscription for the eclipse expedition during the coming week. I hope you will make a strong effort to secure the necessary amount, as it is a matter of great importance that the University should be represented by a well-equipped eclipse expedition. I enclose the envelope in which your last letter was sent. Two or three recent letters from you have been directed to Lake Geneva, and it might be well to call the attention of your stenographer to this mistake.

Very truly yours,

Henry S. Gannett

Letter referred to in telegram of Mar. 7.
COPY. *Rev. S. Hale*

Utrecht, Holland.

No. 130.

Febr. 22nd, 1900.

*File under
Hale*

Dear Sir:-

In 1901 a Dutch expedition is to be sent to our Indies in order to observe the total eclipse of the sun, May 10th. You have been so kind as to give most valuable information to Prof. v.d. Sande Bakhuysen, who has written you about the question. Now I also beg to ask you something about this matter.

Our Eclipse Committee, amongst whose members are Prof. v.d. Sande Bakhuysen from Leiden, Prof. Kapteyn from Groningen, Prof. Oudemans from Utrecht and the well-known Dr. J. G. v.d. Stok, Director of the Magnetical and Meteorological Observatory at Batavia, have decided to send out a party, consisting of Mr. Wilterdink from Leiden and myself, and to be assisted by several gentlemen in Dutch India : officials of the Magn. and Met. Obsy. at Batavia, of the Botanical Gardens at Buitenzorg, naval officers, etc.

Our expedition will be equipped with:

1. Two spectrographs, especially constructed by Toeffer for the purpose; these instruments are to photograph the spectra of both corona and flash.
2. A 6" Prismatic camera also for recording the spectra of the corona and flash.

Utrecht, Holland.
Febr. 22nd, 1900.

No. 130.

letter referred to in telegram of Mar. 7.
J. van der V. J. van der V.
COPY.
J. van der V. J. van der V.
J. van der V. J. van der V.

Dear Sir:-

In 1901 a Dutch expedition is to be sent to our Indies in order to observe the total eclipse of the sun, May 10th. You have been so kind as to give most valuable information to Prof. v.d. S. and Bakhuysen, who has written you about the question. Now I also beg to ask you something about this matter.

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2. A 6" Prismatic camera also for recording the spectra of the corona and flash.

3. 3 coronagraphs of different sizes.
4. A visual spectroscope.
5. Several other astronomical and meteorological instruments.

Now the trouble is, that, as neither Mr. Wilberdink nor I have ever witnessed a total eclipse of the Sun, we will probably be more annoyed by the unusual circumstances than is consistent with a good observation. Therefore we should like very much to attend the eclipse of May 28th 1900. We prefer America to Spain, especially as we are very anxious to see and to study your American instruments, and your skillful and practical methods of construction, packing and mounting.

Now we should feel very much obliged to you, if your kindness would allow us:

1. To pay a visit to your eclipse camp a few days before the eclipse, in order to see the instruments mounted and in working order.

2. To witness the eclipse itself, provided with two or three small portable instruments, in your camp. Of course, if we might have a chance of assisting to the real observation work, we should feel very happy: so if we might be of any use to you, for want of better and of more skilled observers, we are at your disposition. But, if your party is complete, then our intention is only to "see" the eclipse as amateurs.

3. To pay a visit to your famous Yerkes Observatory when the eclipse is over and you will have returned home.

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the eclipse as amateurs.

3. To pay a visit to your famous Yerkes Observatory when the

eclipse is over and you will have returned home.

In case there would be no objection to our visiting your party, please let me know the accurate place of your camp, how to get there, the date of your arrival which will suit you best, and the equipment of your expedition.

Yours very sincerely,

(signed) A. A. Nyland.

Director of the Utrecht Observatory,

Secretary to the Dutch Eclipse Committee

Professor George E. Hale,

Director of the Yerkes Observatory.

In case there would be no objection to our visiting your party, please let me know the accurate place of your camp, how to get there, the date of your arrival which will suit you best, and the equipment of your expedition.

Yours very sincerely,

(signed) A. A. Wyland.

Director of the Utrecht Observatory.

Secretary to the Dutch Eclipse Committee

Professor George E. Hale,

Director of the Yerkes Observatory.

X
17
Nov. 2, 1900.

My Dear Mr. Hale:-

I have not had any word from you in a long time. Are you afraid to come down to see me because of the Astronomy defecit,- or what is it?

Yours very truly

Mr. George E. Hale
Williams Bay, Wisconsin.

Nov. 2, 1900.

X

My Dear Mr. Hale:-

I have not had any word from you in a long
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of the Astronomy deficit, - or what is it?
Yours very truly

Mr. George W. Hale
Williams Bay, Wisconsin.

THE UNIVERSITY OF CHICAGO
FOUNDED BY JOHN D. ROCKEFELLER

@

YERKES OBSERVATORY
WILLIAMS BAY, WISCONSIN

CABLE ADDRESS
ARCTURUS CHICAGO

WILLIAMS BAY, WISCONSIN

September 13, 1901.

President William R. Harper

The University of Chicago ✓



Dear Dr. Harper:

I believe the University would certainly do well to engage Sir Robert Ball to give at least one of his lectures under its auspices. Of the three whose titles are given in the circular, "The Great Fire Mist" would be my choice.

All that the circular says regarding Sir Robert's gift of humor and his success as a popular lecturer is true. I am personally acquainted with him and thus have come under the influence of his peculiar charm. I have also heard him make a public address, which was most vigorously applauded. He is coming to the United States for the primary purpose of representing the University of Cambridge at the Yale celebration. He has also accepted an invitation to visit us here some time during the month of October.

I return Major Pond's letter enclosed.

Very truly yours

George E. Hale

Good idea
E. J. F.

WILLIAM HALL, WISCONSIN

September 13, 1901.



The University of Chicago

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Very truly yours

James E. Thompson

James E. Thompson



CABLE ADDRESS,
"STAMPHIX."
NEW YORK.
TELEPHONE No. 2884
18TH ST.

JAMES B. POND,

PROPRIETOR AND MANAGER.

ESTABLISHED IN 1873.



EVERETT HOUSE, CORNER 4TH AVENUE AND 17TH STREET, NEW YORK.

LECTURES, CONCERTS AND ALL DESCRIPTIONS OF MUSICAL, LYCEUM, AND LITERARY ENTERTAINMENTS. * * * ENGAGEMENTS WITH ALL THE MOST CELEBRATED LECTURERS AND MUSICAL ARTISTS MADE THROUGH THIS AGENCY.

SEASON OF 1900-1901.

LECTURERS.

ABBOTT, The Rev. LYMAN, D. D.
ADLER, FELIX.
BALL, Sir ROBERT, University of Cambridge (Astronomy.)
APACHE, ANTONIO.
BIGELOW, POULTNEY.
BLACK, ALEXANDER. (Illustrated.)
BOND, CARIE JACOBS. (New.)
BOOTH, Mrs. MAUD BALLINGTON.
BRADFORD, The Rev. AMORY H., D. D.
BRIDGEMAN, HERBERT L.
CABLE, GEO. W.
CARDEN, Lieut. GODFREY L. (New.) Illustrated.
CLARKE, W. J. (Wireless Telegraphy).
CLEMENS, SAMUEL L. (Mark Twain), 16 lectures.
COOK, Dr. FREDERICK A.
DONNER, Prof. H. MONTAGUE.
DRUMMOND, Dr. WILLIAM HENRY.
EDSON, Dr. J. TRACY. (New.)
ELIOT, The Rev. SAMUEL A.
ELLSWORTH, W. W.
FOX, JOHN, Jr.
GARLAND, HAMLIN.
GATES, Mrs. SUSA YOUNG.
GIELOW, Mrs. HENRY J.
GRAND, Madame SARAH.
HALL, G. STANLEY, LL.D.

HALSEY, FRANCIS WHITING.
HILLIS, The Rev. NEWELL DWIGHT.
HOWARD, JOSEPH, Jr. Illustrated. "New York as She Now Is."
HOWARD, Maj.-Gen. O. O.
HOWE, JULIA WARD.
HUBBARD, ELBERT. "The Work of the Boycrofters."
KING, Gen. HORATIO C.
KUNZ, GEORGE F. (Illustrated.)
LABORI, M. (If he lectures.)
LE GALLIENNE, RICHARD.
LIBBEY, Prof. WILLIAM.
LUMHOLTZ, CARL. (Illustrated.)
MABIE, HAMILTON W.
McELROY, W. H. (New Lecture.)
McKELWAY, ST. CLAIR. Editor "Brooklyn Eagle."
MILLER, POLK. Humorist. "Old Times Down South."
MUMFORD, JOHN KIMBERLY.
NAST, THOMAS (If he lectures.)
O'RELL, MAX. (Season 1901-02.)
PECKHAM, Prof. W. C. (Liquid Air.)
PENNINGTON, Rev. A. B.
PROCTOR, Miss MARY. (Astronomy.)
RALPH, JULIAN.
RAYMOND, H. W. Y.
RHODES, Mrs. CHARLES W. (Illustrated Music and Stereopticon.)

ROBERSON, FRANK R.
SCOVILL, The Rev. SAMUEL.
SERVISS, GARRETT P.
SECOUM, Capt. JOSHUA.
SMITH, Prof. CHARLES SPRAGUE.
STODDARD, S. R. (Illustrated.)
STRONG, Mrs. ISOBEL.
STRONG, The Rev. JOSIAH, D.D.
STRYKER, President, Hamilton College.
THOMPSON, ERNEST SETON. (Illustrated.) Personality of Wild Animals. (New.)
TOMLINSON, EVERETT T.
VAN DYKE, The Rev. HENRY D. D.
VILLIERS, FREDERIC.
WINTER, WILLIAM.
WYCKOFF, WALTER A.

SPECIALTY.

CHAPIN, BENJAMIN.
GREY, ANNIE. The Queen of Scotch Minstrelsy, and her Mother, ANNIE OGILVIE GREY.
GOETZ, Miss MARGARET. (Song Recital.)
MURPHY, Mrs. JEANNETTE ROBINSON. (Southern Folk Lore.)

LECTURE READING.

WEIL, HELEN.

READERS.

BAKER, Mrs. BERTHA KUNZ.
CARLETON, WILL.
DELLENBAUGH, HARRIET OTIS.
LOOMIS, CHARLES BATELL. (Humorist.)
MANHEIMER, Miss JENNIE.
MILNE, SAIDE VERE.
OLIVER, Miss KATHARINE E. (New)
ROBERTS, CHARLES, Jr.
SHORT, Miss MARION.

COMBINATIONS.

AKERS, Miss SALLY FROTHINGHAM, and Her Singing Girls.
CANTATA QUARTETTE (Ladies).
LOTOS GLEE CLUB. The Finest Male Quartette in Existence.
MYSTIC MIDGETS' LILLIPUTIAN CAR-NIVAL OF NATIONS.
NEW YORK PHILHARMONIC CLUB.
THE ORIGINAL SWEDISH (Male) QUARTETTE.

SOLOISTS.

CARRIE, Miss ROBINA, Harpist.
GLOSE, ADOLF. Pianist.
GULICK, EARL. Boy Soprano.
HANCHETT, Dr. HENRY G. Pianist.
HOVE, Miss EMMA S. Soprano.
MARSH, MINNIE MILDRED. Pianist.
WHITE, Miss PRISCILLA. Soprano.

I am simply agent, without proprietary right in any of these entertainments.

JAS. B. POND

All engagements made by this Agency are conditional upon the ability of the Artists or Lecturers to fulfill them. In case of detention by sickness, accident, or any legitimate or unavoidable cause, it is understood that there shall be no claim for damages, though a new date will always be given during the same season, if possible.

Everett House, New York, Sept. 6, 1901

Wm. R. Harper, Ph. D.,
Chicago, Ill.

Dear Sir:

Sir Robert Ball, Professor of Astronomy at the University of Cambridge, and Director of the Greenwich Observatory, is coming to America this fall to lecture. He is by far the best known public lecturer in England, and the most popular.

In the clearness of his style he resembles the late Professor Huxley, and has Faraday's wonderful ability to bring the principles of science within the understanding of even young children.

What Seton-Thompson has been doing in this country to create popular interest in wild animal life, Sir Robert Ball has done for astronomy in England.

Don't you want to secure him for a lecture, or better a course of lectures, at your college? An early reply would be appreciated.

Yours very truly,

What does
Prof Hall say?
Mrt

J. B. Pond

Use the CHICKERING PIANO, whenever it is possible, at Major Pond's Concerts.

SEASON OF 1800-1801.

JAS. B. FOND

Sept. 6, 1891

Wm. R. Harper, Jr., D.,
Chicago, Ill.

Dear Sir:

M. G. H.

The Cambridge Graphic

JULY 6, 1901.

CAMBRIDGE CHARACTER SKETCHES.

SIR ROBERT BALL.

Sir Walter Ball was sixty-one years old on Monday. The genial astronomer has kept his youth so well that it is difficult to believe that he has past the term of three score; but Sir Robert Ball is one of the men with whom Time in its flight has dealt very gently. Like the "boys" who were the inspiration of Oliver Wendell Holmes's well-known poem, he will always be "happy and youthful and gay."

The cardinal fact about Sir Robert Ball is that he is of Irish descent, and it is to his Irish affinities that he owes his inestimable gift of humour. There are people who think that the Celt has no turn for science, is too much under the sway of his emotions to be an accurate observer and an exact thinker. Of course, there is no justification whatever for this imputation upon the intellectual powers of the Celt. One need not go outside Cambridge to find men of Celtic birth whose place as workers in science is in the very front rank. Sir Robert Ball's career gives the lie effectually to the absurd generalisation.

Of Sir Robert Ball's contributions to astronomical knowledge, and of the results of the devotion of a lifetime to the study of the heavens, this is not the place to enter on an estimate. A matter more relevant to our purpose here is that as a popular expositor of one of the most difficult of sciences, the Lowndean Professor of Astronomy has no equal. The late Professor Huxley had the gift in a singular degree of bringing the principles of biology within the comprehension of the man in the street; but, albeit Professor Huxley had the mastery of a style of incomparable clearness, he cannot in this connection be preferred to Sir Robert Ball. To bring the principles of Astronomy within the understanding of young children whose minds on the subject have previously been a complete blank, is no easy feat, yet Sir Robert Ball has not only achieved it, but he has held the children enthralled as he has guided them across the heavens. As a popular lecturer and a popular writer, his skill cannot be too highly praised. And let no one say that he accomplishes his ends by cheapening his subject. It is easy to make people understand you if you slur over difficulties. To this Sir Robert Ball never condescends. It is true that when addressing popular audiences he does not indulge in disquisitions on the mathematics of astronomy, but he is convinced that to withhold the results of astronomical inquiry from those who are unable to follow the abstruse calculations by means of which these results have been arrived at is mere pedantry. It is merely intellectual arrogance to assert that because I am unable to appreciate the reasoning upon which Kepler's laws are based, I am not worthy to know what these laws are. Sir Robert Ball has steadfastly differentiated astronomical calculation from astronomical fact, and he has thus been enabled to bring the wonders of the heavens within the ken of thousands of people, who, but for him, would have remained blind to them. His success as a writer and a lecturer is to be attributed, in the first place, to his signal felicity in illustration, and, in the second, to his gift of humour. He is past-master in the use of illustration for the elucidating of difficult points. There is something of genius in the way in which he unravels the most tangled knots, and makes what is dark clear as noon-day.

Of his humour, bright, bubbling, and essentially Irish, there is no need to remind those who have ever heard him speak. There is no subject which defies the play of his wit. His humour is not of the obtrusive still less is it of the malevolent order. His sallies are all so unexpected that his audiences are taken captives before they

essentially Irish, there is no need to remind those who have ever heard him speak. There is no subject which defies the play of his wit. His humour is not of the obtrusive still less is it of the malevolent order. His sallies are all so unexpected that his audiences are taken captives before they are aware of it, and they are so genial that the most solemn-visaged cannot choose, but laugh. Like his compatriot, Father O'Flynn, he has a wonderful way with him. There is a charm about him which is all-prevailing.

Sir Robert Ball has lived by far the greater part of his life in Ireland. It was not until 1892 that he was appointed Lown-dean Professor of Astronomy at Cambridge. Although he has borne a useful and honourable part in the life of this University, he is, and always will be, delightfully different from the ordinary Cambridge don. He is too genuine an individuality to conform to a conventional type. He is, and always will be, Sir Robert Ball.

The "Daily Chronicle," in the selection of the poetical mottoes for Sir Robert Ball's birthday, was singularly happy in choosing for the expression of the good will and admiration which are cherished toward him all over the English-speaking world, the words of Shakespeare :—

"The heavens, through you, increase our
wonder,
And set up your fame forever.

M.

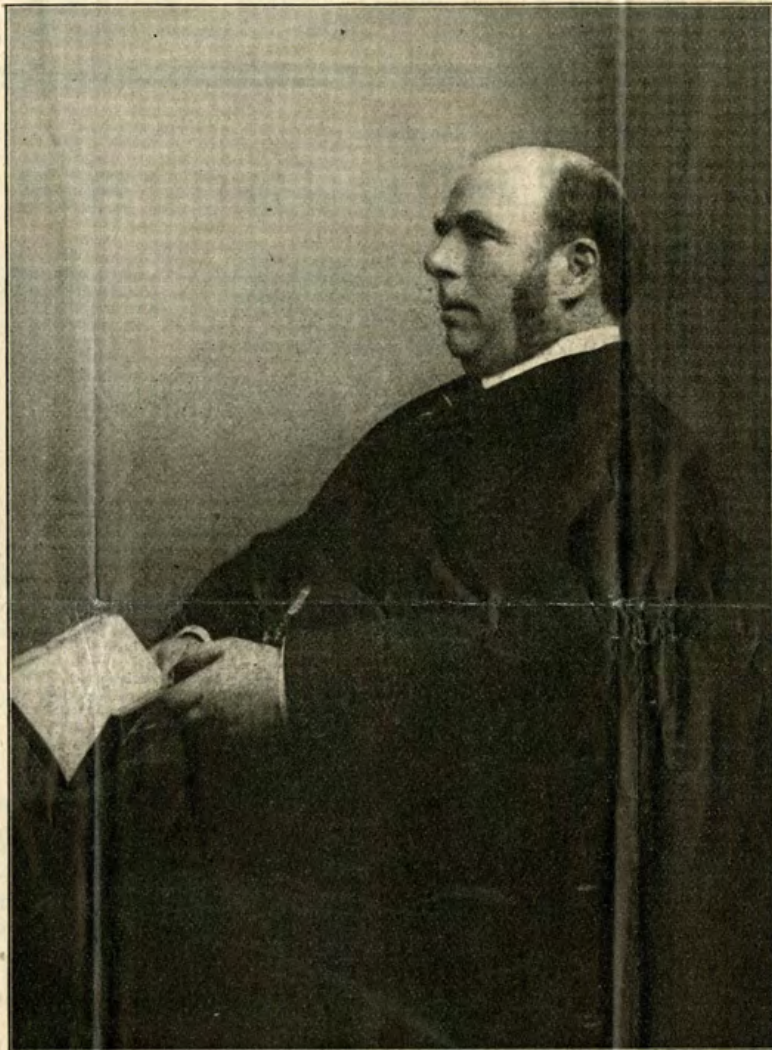
SIR ROBERT BALL

LL.D., D.Sc., F.R.S.



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THE BEST KNOWN PUBLIC LECTURER IN ENGLAND

AMERICAN LECTURE TOUR TO BEGIN OCTOBER, 1901

UNDER THE SOLE MANAGEMENT OF

MAJOR J. B. POND, *218 Fourth Avenue*, EVERETT HOUSE, NEW YORK



SEASON

1901

1902

SIR ROBERT BALL

—LL. D., D. Sc., F. R. S.—

LOWNDEAN PROFESSOR *of* ASTRONOMY and GEOMETRY in the UNIVERSITY *of* CAMBRIDGE; DIRECTOR *of* the CAMBRIDGE OBSERVATORY; FELLOW *of* KING'S COLLEGE, CAMBRIDGE; SCIENTIFIC ADVISER *to* the COMMISSIONERS *of* IRISH LIGHTS; EX-PRESIDENT *of* the ROYAL ASTRONOMICAL SOCIETY; HONORARY MEMBER *of* the UNIVERSITY *of* KASAN; HONORARY FELLOW *of* the ROYAL SOCIETY *of* EDINBURGH; and formerly ROYAL ASTRONOMER *of* IRELAND.

Announcement

Major J. B. Pond takes pleasure in announcing for the season of 1901-1902 the famous astronomer and physicist, SIR ROBERT STAWELL BALL, who has prepared three beautifully illustrated lectures, entitled:

- (1) The Great Fire Mist
- (2)* Other Worlds Than Ours
- (3) Time and Tide

These lectures are not technical, but are aimed to entertain the most general audiences and appeal equally to young and old. Each lecture is richly illustrated by stereopticon.

SIR ROBERT BALL has won no small distinction as a public lecturer. Since 1874 he has been lecturing, by invitation, before the leading institutions of Great Britain. His address at the opening of the Midland Institute in Birmingham, entitled "A Glimpse Through the Corridors of Time," attracted so much attention that the edition of "*Nature*," in which it was published, was almost immediately exhausted.

He was the first person not a professor of the Royal Institute to be invited by that body to deliver the Christmas course of lectures founded by Faraday, and four times since the same honor has been conferred upon him.

In 1884, when the British Association visited Montreal, Sir Robert Ball was entrusted with the important task of delivering the public evening lecture at Montreal. He was then invited to Philadelphia to lecture before the American Association of Science in the Academy of Sciences, and the same autumn he gave a course of Lowell lectures in Boston.

With each succeeding year the demand for the public lectures of Sir Robert Ball has increased, and whatever leisure he could obtain from his duties as Lowndean Professor in the University, and Director of the Cambridge Observatory, has not been adequate to enable him

Announcement—*Continued*

to accept more than a very small fraction of the invitations to lecture which pour in upon him. There is no important town in England, Scotland, Ireland or Wales, and no important scientific institution in those countries where Sir Robert Ball has not lectured, and in most cases lectured often. He is by far the best known public lecturer in Great Britain. At a very moderate estimate over one million people have heard him lecture.

Though Sir Robert Ball has been lecturing now for so many years yet his popularity is unabated, and it is doubtful whether any course of lectures ever given either by himself or by anyone else in London attracted as much notice from the public as his course last Christmas at the Royal Institution.

No man is better qualified than he to tell the story of the heavens, and his lectures and books, more than perhaps anything else, have helped ordinary folks to realize the beauty and wonder of starland.

He uses the simplest language. His illustrations are admirably chosen. He entirely avoids technical terms, and he keeps the mathematics of astronomy out of his lectures altogether. He is a past master in the art of lucid explanation. If he had not been an astronomer he would have made a famous journalist, for he has an unerring instinct for what is interesting.

Sir Robert Ball owes a great deal of his success as a lecturer to his humor. He is an Irishman and that explains a good deal. His humor is that of the educated Irishman who has retained the capacity of his race for seeing the amusing side of things. His rich brogue helps him much, and his quaint manner and witty sayings make one almost forget that one is attending a scientific lecture. His frank and genial disposition makes him a general favorite with all who have the good fortune to be acquainted with him.

He has largely facilitated the study of astronomy by his little book, "In Starry Realms," and especially by his "Astronomical Atlas," which marked a new departure in the cultivation of that science. "The Story of the Heavens," published in 1884, did so much to increase his reputation and add to his fame that he was knighted two years later.

In addition to these books, he has published "Starland," "In the High Heavens," "Time and Tide," "The Story of the Sun," "Great Astronomers," "The Cause of the Ice Age," "Elementary Lessons on Applied Mechanics" and a work "On the Theory of Screws."

The most important astronomical work he has carried out is, perhaps, a scrutiny of a selected list of 600 stars in a search for the nearest neighbor to the sun.

For many years he has been Lowndean Professor of Astronomy and Geometry at the University of Cambridge and Director of the Cambridge Observatory. He was Royal Astronomer of Ireland from 1874 to 1892, has been Scientific Adviser to the Commissioners of Irish Lights since 1884, also President of the Royal Astronomical Society and President of the Mathematical Association.

Whenever he is announced to lecture he is sure to command a large hearing. The largest audience that ever attended any scientific lecture in Great Britain was an audience of working men of the East End of London who came to hear Sir Robert Ball's lecture on "Other Worlds Than Ours."

PRESS COMMENTS

From The Western Mail

Sir Robert Ball has little of the scientist about his appearance, which is that of a bluff, genial, prosperous farmer of John Bullish frame and Irish physiognomy. He is a Kelt, and the fact beams forth in the wit and humor which sparkle in his lectures, and which impart fascination to dry scientific facts and figures. Sir Robert Ball is not only our leading astronomical lecturer and best known author, but he is a hard practical worker as well. Born just sixty years ago, he was for some time in charge of Lord Rosse's great telescope, and later became Royal Astronomer for Ireland, relinquishing that post for the Lowndean professorship of astronomy and geometry at Cambridge, a post he fills in connection with the directorship of the University observatory. Sir Robert has done much by his writings to promote the study of astronomy, and has always a kind word of encouragement for amateur observers.

From The Daily Mail

Sir Robert Ball, LL. D., F. R. S., lectured before a large and highly appreciative audience at the Park Hall, Cardiff, on Monday evening. Dr. Charles Vachell presided, and briefly introduced the distinguished lecturer, who for an hour and a half held the close attention of his hearers while he discoursed upon "Other Worlds than Ours." The interest in the lecture was greatly enhanced by the display of a number of splendid limelight views illustrative of the subject-matter.

From The Star

Last night, for instance, 5,000 people attended the great assembly hall to hear Sir Robert Ball's lecture on "Other Worlds" in connection with the Gilchrist Educational Trust. This is a larger audience than has ever attended any scientific lecture delivered in the country.

From The Times

The hall, which seats 5,000 persons, was crowded, and numbers were turned away from the doors. The success of these lectures in East London has been most marked.

From The Daily News

The remarkable success of the Gilchrist Lectures in the east of London is sufficient answer to those who say that London workmen cannot be got in large numbers to attend instructive and educational lectures. The great assembly hall, Mile End Road, was crowded last night with an audience of about 5,000 people to hear Sir Robert Ball on "Other Worlds." Audiences of between 1,000 and 2,000 have been frequent, but Sir Robert Ball's audience last night was the largest ever addressed by a Gilchrist Lecturer, or probably by a lecturer on a scientific subject at any time in Great Britain.

From The Echo

To be one of an audience of 5,000 people listening to a scientific lecture is a novel experience. Yet the great assembly hall at Mile End is said to hold that number, and it was full, nay, overflowing, last night, to hear Sir Robert Ball tell of "Other Worlds Than Ours." There was a crowd on the broad pavement of the finest road in London waiting for the doors to open. Every seat was occupied in the gallery, where we sat, and the gangway at the back was lined with standing listeners.

The Daily Telegraph

What is believed to be the largest audience ever gathered together in London, or probably in Great Britain, to listen to a scientific lecture, was to be seen last night in the great assembly hall, Mile End Road. In connection with the Gilchrist Education Trust, Prof. Sir Robert Ball discoursed on "Other Worlds," illustrating his subject with admirable limelight pictures. The attendance, mostly of the working classes, numbered about five thousand.

From The Mercury

In an eloquent and impassioned peroration on the magnificence of the starry heavens, the lecturer said that words failed to give expression to the sublime feelings which arose when they tried to realise the splendor and grandeur of the celestial space. He appropriately concluded by reciting the beautiful word-picture, "Richter's Dream," and resumed his seat amid a hurricane of cheers.

THE UNIVERSITY OF CHICAGO
FOUNDED BY JOHN D. ROCKEFELLER

YERKES OBSERVATORY
WILLIAMS BAY, WISCONSIN

April 1, 1902

President William R. Harper

The University of Chicago

My dear Dr. Harper:

Dr. Isham has ascertained for me that Mrs. Blackstone has returned ~~to~~ Chicago. It therefore seems to me that it would be well for you to see her as soon as possible regarding the five-foot reflector, particularly as I must go to Washington next week to attend the meeting of the Advisory Committee.

I send you herewith a statement regarding the reflecting telescope, a copy of my circular letter to eminent astronomers and physicists, asking their opinion of this instrument, and abstracts of their replies. I also send under separate cover a photograph of a sketch of a suitable observatory building which Mr. Rogers was kind enough to make for me. The other photographs (eleven in number) which I refer to in the enclosed paper, have been mailed to you by Dr. Isham.

In presenting the question to Mrs. Blackstone I should lay great stress upon the advantages of erecting such a telescope as a memorial to her husband. As anyone can easily conclude from reading the enclosed letters, there can be no doubt as to the great value of the contributions which this telescope will make to our knowledge of astronomy. This is strikingly illustrated by comparing the results obtained by our two-foot reflector, built at small expense in our own shop, with those secured with the great 40-inch Yerkes telescope. In certain fields of work the superiority of the two-foot reflector over the 40-inch is so

YERKES OBSERVATORY
WILLIAM H. WELLS

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foot reflector, built at small expense in our own shop, with those ob-

tained with the great 40-inch Yerkes telescope. In certain fields of

work the superiority of the two-foot reflector over the 40-inch is so

great that it might be used exclusively for the study of stars and nebulae too faint ever to be seen or photographed with the 40-inch. When it is remembered that the five-foot reflector will be an instrument precisely similar in type to the two-foot, but that it will gather six times as much light, and give images of the heavenly bodies on a scale three times as great as that of the smaller instrument, it is easy to see what great advances are to be expected from its use.

Mrs. Blackstone should of course understand that the five-foot mirror will be given without reservations of any kind, and that the telescope will be named for the donor. I have said nothing in the enclosed paper regarding the question of endowment. If, as I hope will be the case, the telescope is erected in southern California, some provision will be needed to maintain it. If Mrs. Blackstone would furnish an endowment of from \$100,000 to \$200,000, this would of course be a great advantage. But if she would not give a ^{total} amount greater than \$100,000, this ought to be accepted, as it is very probable that some assistance could be secured for the new observatory from the Carnegie Institution.

The necessity of taking action at the earliest possible moment regarding our five-foot reflector is becoming more and more apparent. Not only is it extremely probable that the Carnegie Institution will shortly acquire such an instrument, but the Lick Observatory, which has just completed the construction of a three-foot reflector, is starting a campaign to secure funds for one of about the same size as our five-foot. The remarkable success of the work done here with our two-foot has

great that it might be used exclusively for the study of stars and nebulae too faint ever to be seen or photographed with the 40-inch. When it is remembered that the five-foot reflector will be an instrument precisely similar in type to the two-foot, but that it will gather six times as much light, and give images of the heavenly bodies on a scale three times as great as that of the smaller instrument, it is easy to see what great advances are to be expected from it.

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The remarkable success of the work done here with our two-foot has

stirred up astronomers all over the world, and there can be no doubt that a large reflector will soon be in operation either in this country or elsewhere. We have a great advantage in the fact that our mirror is nearly completed, thus saving more than a year in time. But the very moment that the fact is announced that a similar instrument is to be erected elsewhere, our chances of securing funds will be seriously affected. In this emergency I am sure you will be willing to do everything possible to secure the money, particularly in view of the fact that our large mirror has been lying so long unused.

If there would be any advantage in my going with you to see Mrs. Blackstone, I should be glad to have you telegraph me regarding any appointment you may wish to make.

Very truly yours

George E. Hale

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If there would be any advantage in my going with you to see Mr.
Blackstone, I should be glad to have you telegraph me regarding any ap-
pointment you may wish to make.

Very truly yours

Langley

April 10th, 1902.

Professor George E. Hale,
Williams Bay, Wisconsin.

My dear Mr. Hale:

I have your letter of the seventh instant urging us to go forward with the students' observatory. You suggest that three hundred dollars be taken from the appropriation, for the building. May I ask what your idea is concerning the total cost of the building?

Very truly yours,

W. R. Harper

April 10th, 1903.

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Williams Bay, Wisconsin.

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W. R. Harper

THE UNIVERSITY OF CHICAGO
FOUNDED BY JOHN D. ROCKEFELLER

YERKES OBSERVATORY
WILLIAMS BAY, WISCONSIN

April 7, 1902

President William R. Harper

The University of Chicago

Dear Dr. Harper:

I have received your letter of April 5 regarding the Students' Observatory. Is it not absolutely essential that something be done, and that your suggestions regarding a special appropriation be carried into effect? For the building \$300 could be used from the appropriation which becomes available July 1, providing the necessary authority is given by the Board of Trustees. In my opinion this will be more than sufficient for this purpose, but additional funds should be appropriated for instruments. The matter of site, should not, in my opinion, be allowed to delay the matter indefinitely. Many places seem to be available for at least temporary occupancy, and the appearance of the buildings would certainly be far superior to that of the present ones. Will you not give Dr. Laves authority to go ahead at once?

Very truly yours

George E. Hale

(82)

YERKES OBSERVATORY
WILLIAM RAY WILSON

April 7, 1903

President William R. Harper

The University of Chicago

Dear Dr. Harper:

I have received your letter of April 6 regarding the
Students' Observatory. It is not absolutely essential that something be
done, and that your suggestions regarding a special appropriation be
carried into effect for the building \$500 could be used from the ap-
propriation which becomes available July 1, providing the necessary au-
thority is given by the Board of Trustees. In my opinion this will be
more than sufficient for this purpose, but additional funds should be
appropriated for instruments. The matter of site, water, etc., in my
opinion, be allowed to delay the matter indefinitely. Many places seem
to be available for at least temporary occupancy, and the appearance of
the buildings would certainly be far superior to that of the present
one. Will you not give Dr. Laves authority to go ahead at once?

Very truly yours

James C. Watson



May 10th, 1902.

My dear Professor Hale:-

Mr. Rockefeller would like very much indeed to go up to Lake Geneva, but this time he will not have the opportunity. The next visit he promises to go.

Yours very truly,

W. R. Harper

May 10th, 1902.

My dear Professor Hale:-

Mr. Rockefeller would like very much indeed

to go up to Lake Geneva, but this time he will not have the opportunity.

The next visit he promises to go.

Yours very truly,

W. R. Harper

THE UNIVERSITY OF CHICAGO
FOUNDED BY JOHN D. ROCKEFELLER

YERKES OBSERVATORY
WILLIAMS BAY, WISCONSIN

CABLE ADDRESS
ARCTURUS CHICAGO

OFFICE OF THE DIRECTOR
WILLIAMS BAY, WISCONSIN

May 5, 1902

(24)

President William R. Harper

The University of Chicago

Dear Dr. Harper:

I learn from the papers that Mr. John D. Rockefeller, Jr.
and Mrs. Rockefeller are to visit the University this week. Will it not
be possible for them to spend a night at Lake Geneva as our guests? Dr.
E. E. Hale will be here Friday night, but at any other time this week
or next we would be able to entertain them.

Very truly yours

George E. Hale

The University of Chicago

Division of the University
of the University of Chicago

Division of the University
of the University of Chicago

Division of the University
of the University of Chicago

May 5, 1902

(14)

President William H. Harper

The University of Chicago

Dear Mr. Harper:

I learn from the papers that Mr. John D. Rockefeller, Sr.
and Mrs. Rockefeller are to visit the University this week. Will it not
be possible for them to spend a night at Lake Geneva on our grounds?
Mr. E. Hale will be here Friday night, but at any other time this week
or next we would be glad to entertain them.

Very truly yours

George C. Brown

THE UNIVERSITY OF CHICAGO

FOUNDED BY JOHN D. ROCKEFELLER

YERKES OBSERVATORY
WILLIAMS BAY, WISCONSIN

July 23, 1902

President William R. Harper

The University of Chicago

Dear Dr. Harper:- A plan similar to that suggested here was published in one of the popular journals of science some years ago. It is of no practical value.

Very truly yours

George E. Hale

THE UNIVERSITY OF CHICAGO
COLLEGE OF DIVINE STUDIES

YERKES OBSERVATORY
WILLIAM H. WATSON

July 23, 1902

President William H. Harper

The University of Chicago

Dear Dr. Harper: - A plan similar to that suggested here was published
in one of the popular journals of science some years ago. It is of no
practical value.

Very truly yours

Samuel J. Van Hook

A tubeless Reflecting Telescope.

W. H. Hally

It has been said that the telescope as now constructed has about reached the limit of usefulness, and to increase the space penetrating power, i will suggest the following contrivance. have no tube but construct a plane mirror. fix it in a frame. and have a screw behind at the center, so that when it is turned it will make the mirror concave. with this focal length of hundreds of feet could be obtained. the image could be received in the end of a small tube containing a lense or lenses for magnifying. the mirror could be fixed, allowing the celestial objects to move in procession over it, or be moved by clock work so as to keep the same part of the heavens in view. the mirror and apertures could be placed on a motor vehicle so that it could be moved when desired. with this arrangement i think many discoveries could be made by the eye and photography.

The foregoing has been sent

to several institutions of learning, and
two professors have attempted to prove
that the plan would accomplish nothing.
their objecting when summed up
amount to thus, that a certain curvature
is required in astronomical work,
and owing to the law of flexure of
bodies. restraint at the verge, and
perhaps a slight lack of homogeneity
of material composing the body,
it would not have a suitable
curvature, and the result would be
a failure. now to all of this i
will say that if a circular elastic
plate of uniform thickness, when
flexed did not have a suitable curvature,
the thickness could be changed so that
it would have, for thinning towards
the verge would increase the curvature,
and toward the center diminish it.

and it seems to me that a curvature
of far less depth could be obtained
this way, than could be obtained
by shaping on the mirror side.

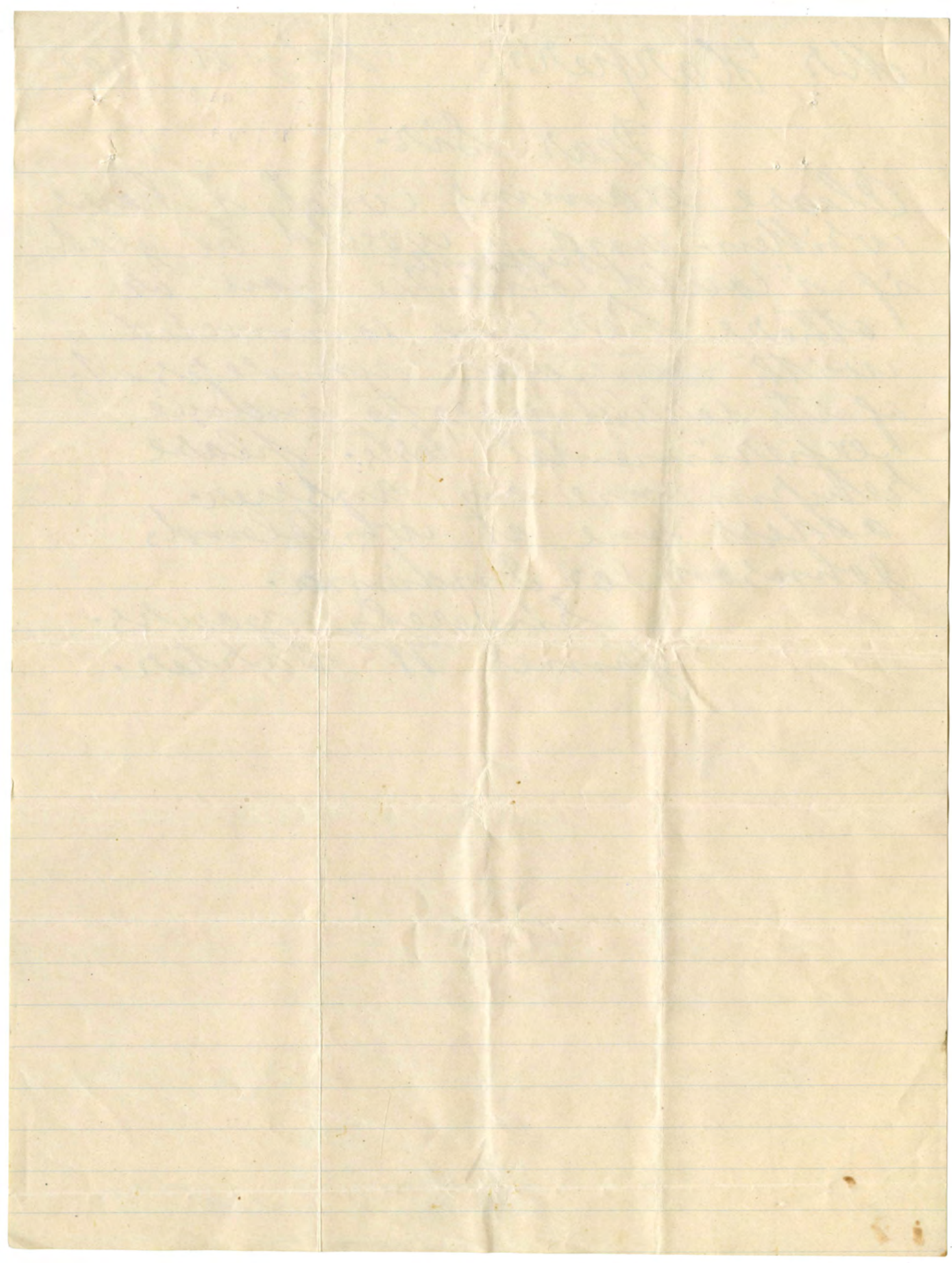
Mr Harper,

July 21st 1902

Dear Sir.

Please examine what I have written - and I would be glad if I could ^{sufficiently} convince you or others persons connected with ~~my~~ your university of its correctness, to induce experimental tests. please return me an answer. address me at Whiteland, Johnson Co, Indiana.

Sincerely yours.
James W. Carter.



45.6. Hale

March 2nd, 1903.

My dear Mr. Hale:-

We find that it is impossible to publish as much material as has been proposed. The greatest sinner is Astronomy. I am under the painful necessity of announcing that unless we can get some special fund for the purpose, we shall be compelled to diminish the size of the Astronomy volume very considerable. The simple fact is that we do not have the money.

Yours very truly,

W. R. Harper

Professor George E. Hale,

5747 Woodlawn Ave., Chicago.

March 2nd, 1903.

42. W. C. Harper

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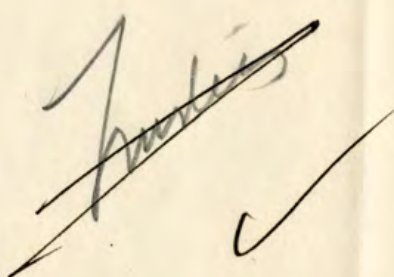
2747 Woodlawn Ave., Chicago.

YERKES OBSERVATORY
WILLIAMS BAY, WIS.

OFFICE OF THE DIRECTOR

CABLE ADDRESS
ARCTURUS CHICAGO

March 25th, 1903.



President W. R. Harper,
The University of Chicago.

Dear Dr. Harper:

The other day I had a long talk with Mr. Burnham about the question of his salary. I had feared from the fact that he had mentioned the subject to Dr. Isham and one or two others, that he would take an unreasonable attitude, but I was very agreeably disappointed. He simply told me of the very serious financial difficulties in which he is placed and the absolute necessity of doing something to relieve them. His total income is \$1,000 per year, which he receives from the University, as the only property he owns is a burden rather than a source of income. He has tried his best to sell it, but without success, and is compelled to pay taxes. I think his average expenses until recently have been about \$5,000 a year, as his family is a large one, and he has been called upon to support one of his married daughters and her children. He is about to move from his present house at the corner of 51st St. and Lake Av. to a less expensive one, but it is manifestly impossible for him to live on a salary of \$1,000 per year.

Dr. Goodspeed informs me that it is expected that the salary of Mr. Wolff, the Observatory carpenter, will be increased to \$50.00 per month on July 1st. If this is done, I will contribute \$500.00 toward Mr. Burnham's salary next year, beginning July 1st. The only further condition I would impose is that he know nothing of the source from which this comes, but shall be informed that the University has increased his

YERKES OBSERVATORY
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to pay taxes. I think his average expenses until recently have been

about \$5,000 a year, as his family is a large one, and he has been called

upon to support one of his married daughters and her children. He is

about to move from his present house at the corner of East 32nd and Lake Av.

to a less expensive one, but it is manifestly impossible for him to live

on a salary of \$1,000 per year.

Dr. Goodspeed informs me that it is expected that the salary of

Mr. Wolff, the Observatory astronomer, will be increased to \$50.00 per

month on July 1st. If this is done, I will contribute \$50.00 towards

Mr. Burnham's salary next year, beginning July 1st. The only further

condition I would impose is that he know nothing of the source from which

this comes, but shall be informed that the University has increased his

Dr. Harper,

-2-

salary by this amount.

Of course this increase is far from sufficient to provide for his support, and it will be necessary to take some further action if his connection with the University is to be retained. He feels that he will be compelled to remove from Chicago unless some arrangement enabling him to retain his connection with the Observatory can be made. I understand that he intended to write you on the subject, and I trust that you will arrange an interview in order that he may present the matter to you. The case is a most serious one, and I hope you will give it your careful attention.

Very sincerely yours,

George E. Hale

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Of course this increase is far from sufficient to provide for his support, and it will be necessary to take some further action if his connection with the University is to be retained. He feels that he will be compelled to remove from Chicago unless some arrangement enabling him to retain his connection with the Observatory can be made. I understand that he intended to write you on the subject, and I trust that you will arrange an interview in order that he may present the matter to you. The case is a most serious one, and I hope you will give it your careful attention.

Very sincerely yours,

Wm. S. Kitchin

YERKES OBSERVATORY
WILLIAMS BAY, WIS.

OFFICE OF THE DIRECTOR

CABLE ADDRESS
ARCTURUS CHICAGO

February 11th, 1903.

President W. R. Harper,
The University of Chicago.

Dear Dr. Harper:

Dr. Isham went to Lake Geneva over Sunday, and on the train encountered Mr. Burnham. Dr. Isham gathered from what Mr. Burnham said that he seriously considered giving up his place at the Observatory, and that he was greatly aggrieved that the University had not increased his salary. I had previously told Mr. Burnham that I hoped to get an increase of \$500 for him,* but he regarded this as altogether insufficient, and said that unless the increase were considerably more it would be necessary for him to break up and leave Chicago. His annual expenses amount to about \$5,000, as he has to provide for a daughter and two grandchildren, as well as his wife and perhaps one or two of his other children. I do not think he saved much, if anything, when Clerk of the Circuit Court. The situation is certainly a very serious one in several senses. Quite apart from the interest that we all have in Mr. Burnham's welfare, and the obligations which certainly result in some degree, at least, from the fact that he worked for us for some time without pay, there are other very practical questions to be considered. If Mr. Burnham were to break off his connection with the University, the appropriation from the Carnegie Institution would go to him directly, and we could have no advantage from the publication of his Catalogue, which I now believe can be brought out as one of the Observatory series of publications. Furthermore, - and this is a matter which Dr. Isham

* Of course he must know nothing of the possible source.

YERKES OBSERVATORY
WILLIAM DAY, WIS.

OFFICE OF THE DIRECTOR

February 11th, 1905.

42.3
Hawley

President W. R. Harper,
The University of Chicago.

Dear Dr. Harper:

Dr. Isham went to Lake Geneva over Sunday, and on the train en-
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and that he was greatly aggrieved that the University had not increased
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appropriation from the University's Institution would go to him directly,
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which I now believe can be brought out as one of the Observatory series
of publications. Furthermore, - and this is a matter which Dr. Isham
of course he must know nothing of the possible source.

President Harper,

-2-

suggested as not unlikely to be serious - if Mr. Burnham were to leave with the conviction, which he undoubtedly has, that he had been unfairly treated, and that the value of his services had been underestimated, there would certainly be a hue and cry in the newspapers which would be exceedingly difficult to down. Mr. Burnham undoubtedly ranks among the greatest astronomers in the world, and this fact would not be minimized in the newspaper stories. They would put it that the greatest living astronomer had been turned out in his old age with no means of support, after he had given many years of service to the University without compensation. Of course their view would be a greatly exaggerated one, but there would be so much truth in it that the principal points could not be denied.

I have been trying to see you about this, but you were away from your office, and I must go to the Observatory this afternoon. I return to Chicago Friday morning.

Very sincerely yours,

George E. Hale

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I have been trying to see you about this, but you were away from your office, and I must go to the Observatory this afternoon. I return to Chicago Friday morning.

Very sincerely yours,

George B. Jones

April 16th, 1903.

W. R. Harper

My dear Mr. Hale:-

I leave Friday morning for Texas. It will not be possible therefore for me to see you on Saturday. Perhaps it would be best, after all, for you to write a letter. I find that correspondence is really pretty satisfactory way of doing the work. I will look up your former letter and see what was overlooked. I congratulate you on the gift of Miss Snow. This is excellent. Can you put it in a form for me to report to the trustees?

Yours very truly,

W. R. Harper

April 18th, 1903.

W. R. Harper

My dear Mr. Harper:-

I leave Friday morning for Texas. It will
not be possible therefore for me to see you on Saturday. Perhaps
it would be best, after all, for you to write a letter. I find that
correspondence is really pretty satisfactory way of doing the work.
I will look up your former letter and see what was overlooked. I
congratulate you on the gift of Miss Snow. This is excellent.
Can you put it in a form for me to report to the trustees?
Yours very truly,

W. R. Harper

THE UNIVERSITY OF CHICAGO
FOUNDED BY JOHN D. ROCKEFELLER

Hale

YERKES OBSERVATORY
WILLIAMS BAY, WISCONSIN

WILLIAMS BAY, WISCONSIN.

CABLE ADDRESS
ARCTURUS CHICAGO

May 9, 1899.

President W. R. Harper,
University of Chicago,
Chicago.

Dear Dr. Harper,-

In accordance with your request I offer the following suggestions for such use as you may wish to make of them in your conversation with Mr. Yerkes. It is my belief that it would be well to present the question of the 60-inch telescope to Mr. Yerkes in connection with any request that may be made for an endowment. It is not at all unlikely that he believes the Paris telescope will overshadow ours, and would be only too glad of a chance to outdo it. A large perspective drawing of the 60-inch telescope is being made, and will be sent to you as soon as possible. It seems important that this be shown to Mr. Yerkes at the time of your visit.

The recent progress of physical science has resulted in the invention and development of many instruments of great delicacy and remarkable power, which would undoubtedly yield very important results if they could be applied to the study of the heavenly bodies. Such telescopes as those of the Yerkes and Lick Observatories are not adapted for this purpose, since the images formed by them are at the extremity of a moving tube in an open dome, while the physical instruments just referred to must be employed on fixed piers in a laboratory kept at a constant temperature. It fortunately happens that such perfect images

YERKES OBSERVATORY
WILLIAM HAY WOODWARD

CHICAGO, ILL.

WILLIAM HAY WOODWARD

May 2, 1893.

President W. R. Harper.

University of Chicago.

Chicago.

Dear Mr. Harper:

In accordance with your request I offer the following suggestions for such use as you may wish to make of them in your connection with Mr. Yerkes. It is my belief that it would be well to present the question of the 80-inch telescope to Mr. Yerkes in connection with any request that may be made for an endowment. It is not at all unlikely that he believes the Paris telescope will overtake ours, and would be only too glad of a chance to outdo it. A large perspective drawing of the 80-inch telescope is being made, and will be sent to you as soon as possible. It seems important that this be shown to Mr. Yerkes at the time of your visit.

The recent progress of physical science has resulted in the invention and development of many instruments of great delicacy and remarkable power, which would undoubtedly yield very important results if they could be applied to the study of the heavenly bodies. Such telescopes as those of the Yerkes and Lick Observatories are not adapted for this purpose, since the images formed by them are at the extremity of a moving tube in an open dome. While the physical instruments used in a laboratory must be employed on fixed glass in a laboratory kept at a constant temperature, it is absolutely necessary that such perfect images

Dr. Harper, 2.

as those given by the Yerkes telescope, which are so admirably adapted for purposes of observation and measurement, are not required in this work. It is only necessary to construct a telescope of great size and special design, which would form an exceedingly bright image, not at the end of a moving tube, but at a fixed point in a constant temperature laboratory. Such an instrument would make it possible to undertake investigations beyond the reach of any existing telescope. It would occupy a field of its own, which would not in the least interfere with that of the 40-inch telescope.

The mirror for such a telescope (which will be a reflector, not a refractor) has been in process of construction at the Yerkes Observatory during the past two years. It is made of a piece of glass 60 inches in diameter and 8 inches thick, weighing a ton, which was cast in St. Gobain, France, after a year's experimenting. This mirror, when silvered on its front surface, will collect about twice as much light as the object-glass of the 40-inch telescope. It will be mounted as shown in the drawing, and the star image will be formed in a room where the temperature will be maintained constant within a tenth of a degree.

Such a telescope would not only render possible the application of the most refined physical methods to astronomical problems; it would also give the means of obtaining better photographs of the heavenly bodies than any hitherto made. As the 40-inch Yerkes telescope was designed for visual observations, and not for astronomical photography, its work would here again be supplemented, and in no sense displaced.
A reflecting telescope of 60 inches aperture was made by Dr. Common

as those given by the Yerkes telescope, which are so admirably adapted for purposes of observation and measurement, are not required in this work. It is only necessary to construct a telescope of great size and special design, which would form an exceedingly bright image, not at the end of a moving tube, but at a fixed point in a constant temperature laboratory. Such an instrument would make it possible to undertake investigations beyond the reach of any existing telescope. It would occupy a field of its own, which would not in the least interfere with that of the 40-inch telescope.

The mirror for such a telescope (which will be a reflector, not a refractor) has been in process of construction at the Yerkes Observatory during the past two years. It is made of a piece of glass 60 inches in diameter and 3 inches thick, weighing a ton, which was cast in St. Gobain, France, after a year's experimenting. This mirror, when silvered on its front surface, will collect about twice as much light as the object-glass of the 40-inch telescope. It will be mounted as shown in the drawing, and the star image will be formed in a room where the temperature will be maintained constant within a tenth of a degree. Such a telescope would not only render possible the application of the most refined physical methods to astronomical problems; it would also give the means of obtaining better photographs of the heavenly bodies than any hitherto made. As the 40-inch Yerkes telescope was designed for visual observations, and not for astronomical photography, its work would have again to be supplemented, and in no sense displaced. A reflecting telescope of 60 inches aperture was made by Dr. Common

Dr. Harper, 3.

some years ago, but it cannot be compared with the proposed instrument because the mounting did not permit the fulfillment of the essential conditions of a fixed star image and constant temperature.

The 48-inch Paris Exposition telescope, which is designed primarily for popular amusement, is a combination of a reflector and a refractor. It is almost certain to give less perfect star images than our 40-inch telescope, and it will in no case give photographic images more than one-half as bright as the new 60-inch.

The cost of the mounting, dome, building, piers, etc., complete, if erected in California, would amount to about \$80,000. \$50,000 would be needed as endowment. If erected here the cost would be less.

It is desirable that the telescope should be established in Southern California as a branch of the Yerkes Observatory, just as the observatory at Arequipa, Peru, is a branch of the Harvard Observatory. The reasons for preferring a California site are as follows:

1. Southern latitude, allowing a great number of stars to be observed which are inaccessible here.
2. Long continued clear weather, particularly important for the special work for which this instrument is designed.
3. Mild winter weather, enabling some members of the Yerkes Observatory staff to carry on work at the California station during the severe weather which is so unfavorable here.
4. Uniformity of temperature in that climate, which would permit the great mirror to perform to the best advantage, and minimize the difficulty of maintaining a constant temperature in the laboratory where observations are to be made.

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The 48-inch Paris Exposition telescope, which is designed primarily for popular amusement, is a combination of a reflector and a refractor. It is almost certain to give less perfect star images than our 40-inch telescope, and it will in no case give photographic images more than one-half as bright as the new 80-inch.

The cost of the mounting, dome, building, pier, etc., complete, if erected in California, would amount to about \$20,000. \$50,000 would be needed as endowment. If erected here the cost would be less.

It is desirable that the telescope should be established in Southern California as a branch of the Yerkes Observatory, just as the observatory at Arequipa, Peru, is a branch of the Harvard Observatory. The reasons for preferring a California site are as follows:

1. Southern latitude, allowing a great number of stars to be observed which are inaccessible here.
2. Long continued clear weather, particularly important for the special work for which this instrument is designed.
3. Mild winter weather, enabling some members of the Yerkes Observatory staff to carry on work at the California station during the severe weather which is so unfavorable here.
4. Uniformity of temperature in that climate, which would permit the great mirror to perform to the best advantage, and minimize the difficulty of maintaining a constant temperature in the laboratory where observations are to be made.

Dr. Harper, 4.

The Director of the Lick Observatory has invited us to consider the advisability of establishing the telescope on Mt. Hamilton, but this is not considered desirable in view of the unfavorable winter conditions there.

You may also consider it well to say that by means of our instrument and optical shops we have supplied the Observatory with the greater part of the equipment we asked Mr. Yerkes for several years ago. There yet remain, however, a number of such indispensable instruments as clocks, chronometers, etc., which we have no means of making and still cannot get along without. Three thousand dollars would supply all we at present need in this direction, and also enable us to buy a comet seeker, with which Professor Barnard would undoubtedly add to his long list of comet discoveries and increase the general reputation of the Observatory.

Very truly yours,

George E. Hale

Dr. Harper, A.

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Very truly yours,

Henry D. Jones

January 17, 1905

95. 6. Hale
My dear Mr. Hale:

I have just received your letter of January seventh. I will of course wait until I see Mr. Ryerson. I have just returned from the east, where I talked with Mr. Gilman and others. All of these gentlemen feel that there is every reason why you should continue your connection with the University, at least nominally, and not separate yourself from it. In a talk with Mr. Carnegie himself in New York three weeks ago, the same feeling was expressed. I shall not present your letter to the Trustees until I have seen Mr. Ryerson and even then I shall hold it until I have written you what I intended to write.

Very truly yours,

W. R. Harper

Professor George E. Hale,
Pasadena, California.

95.
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W. R. Harper

Professor George E. Hale,
Pasadena, California.

SOLAR OBSERVATORY

MT. WILSON, CALIFORNIA

ADDRESS ALL LETTERS TO
OBSERVATORY OFFICE
PASADENA, CAL.

Pasadena, Cal., January 7, 1905.

Dr. W. R. Harper,
University of Chicago,
Chicago, Ill.

249

Dear Dr. Harper:-

I heartily appreciate your letter requesting me to defer sending my resignation. However, I have had opportunity to discuss all sides of the question with Mr. Ryerson since your letter reached me, and the enclosed letter is sent at his suggestion. He feels, with me, that the circumstances leave no option in the matter and that my only course under existing conditions is to present my resignation. I am sure you will share his view after he has had opportunity to discuss the question with you on his return. As my salary is needed for the payment of some of the men at the Yerkes Observatory, it seems essential that my resignation should be in your hands as soon as possible, in order that the necessary action may be taken.

I hope you will understand how much I appreciate your desire that I should retain a connection with the University. It is no exaggeration to say *that* to give up my position in the University is a trying ordeal, from which I would gladly escape if possible. I assure you, however, that the deep interest I feel in every detail of the University's progress will not decrease in *the* future even though I must devote myself to the work of another institution. The present situation has come about in a logical manner and the problems which are to be attacked on Mt. Wilson are the direct outcome of our work at the

Pasadena, Cal., January 7, 1908.

WHP

Dr. W. R. Harper,
University of Chicago,
Chicago, Ill.

Dear Dr. Harper:-

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Yerkes Observatory. For this reason, and many others, the Solar Observatory will endeavor to co-operate in every possible way with the Yerkes Observatory, to the advantage, I trust, of both institutions.

Believe me, with kind regards,

Yours very sincerely,

George E. Hale

I have just received your letter of January seventh. I will of course wait until I see Mr. Ryerson. I have just returned from the east, where I talked with Mr. Ryerson and others. All of these gentlemen feel that there is every reason why you should continue your connection with the University, at least nominally, and not separate yourself from it. In a talk with Mr. Carnegie himself in New York three weeks ago, the same feeling was expressed. I shall not present your letter to the Trustees until I have seen Mr. Ryerson and even then I shall hold it until I have written you what I intended to write.

Very truly yours,

W. R. Harper

Professor George E. Hale,

Pasadena, California.

W.R.H. 2

Yerkes Observatory. For this reason, and many others, the Solar Observatory
will endeavor to co-operate in every possible way with the Yerkes Observatory,
to the advantage, I trust, of both institutions.

Believe me, with kind regards,

Yours very sincerely,

Lucy E. Hall

Carnegie Institution of Washington

February 4 1905.

Professor George E. Hale,
Pasadena, California.

My dear Professor Hale:

I have your letter of January twenty-fifth. Inasmuch as you sent your resignation, I have waited a little in order to get some data before writing you. I have talked with Mr. Ryerson, and am withholding your resignation from the Board of Trustees. As a matter of fact, I do not think Mr. Ryerson's opinion on this subject is strong, and in any case it is with the President of the University, rather than with the President of the Board, that these matters ought to be taken up.

In view of the situation at the Observatory, no check will be sent you February first, but this will be taken up by letter a little later.

Hoping that you are all very well, I remain

Very truly yours,

W. R. Harper

February 4 1905.

Professor George H. Hale,
Pasadena, California.
My dear Professor Hale:

I have your letter of January twenty-fifth. Inasmuch as you sent your resignation, I have waited a little in order to get some data before writing you. I have talked with Mr. Ryerson, and am withholding your resignation from the Board of Trustees. As a matter of fact, I do not think Mr. Ryerson's opinion on this subject is strong, and in any case it is with the President of the University, rather than with the President of the Board, that these matters ought to be taken up. In view of the situation at the Observatory, no check will be sent you February first, but this will be taken up by letter a little later.

Hoping that you are all very well, I remain

Very truly yours,

W. R. Harper

SOLAR OBSERVATORY

MT. WILSON, CALIFORNIA

ADDRESS ALL LETTERS TO
OBSERVATORY OFFICE
PASADENA, CAL.

Pasadena, Cal., January 25, 1905.

President William R. Harper,
University of Chicago,
Chicago, Ill.

(59)

Dear Dr. Harper:--

I have received your letter of January 16th, and trust you will understand that I meant no discourtesy in sending my letter of resignation without waiting to hear from you further. I did not do this without asking Mr. Ryerson's opinion, and as he thought it the only proper course, I forwarded my letter at once. As my salary will be needed at the Observatory by February 1st, I trust it may be convenient to accept my resignation very soon.

Very sincerely yours,

George E. Hale

Carnegie Institution of Washington

SOLAR OBSERVATORY

MT. WILSON, CALIFORNIA

ADDRESS ALL LETTERS TO
OBSERVATORY OFFICE
PASADENA, CAL.

Pasadena, Cal., January 25, 1905.

29

President William R. Harper,
University of Chicago,
Chicago, Ill.

Dear Dr. Harper:-

I have received your letter of January 18th, and trust you
will understand that I meant no discourtesy in sending my letter of
resignation without waiting to hear from you further. I did not do this
without asking Mr. Peterson's opinion, and as he thought it the only proper
course, I forwarded my letter at once. As my salary will be needed at
the Observatory by February 1st, I trust it may be convenient to accept
my resignation very soon.

Very sincerely yours,

Lyman E. Johnson

February 11, 1905.

Professor George E. Hale,
Observatory Station, Pasadena, Calif.

My dear Professor Hale:

Mr. Frost and myself have been studying the situation from the financial point of view, and we find that we have fallen heir to some complications which give us not a little concern.

The arrangements entered into last spring which made it possible for you to remain associated with the Observatory and for the work to go on, were of course conditioned upon that part of the arrangement being carried out, and to that end certain additional obligations were assumed by the University in reference to the salary of Mr. Sullivan, the stenographer, etc.

In the middle of the year you have resigned, as well as Mr. Ellerman and Mr. Ritchey, and I am told that it is your thought that your salary should be used for the payment of the obligations to Schlesinger, Mr. Fox and Miss Ware, hitherto assumed by the Carnegie Institution. This of course was not a part of the scheme, nor is it possible without special action of the Trustees to pay University funds to the persons named.

February 11, 1908.

Professor George H. Hale,

Observatory Station, Pasadena, Calif.

My dear Professor Hale:

Mr. Frost and myself have been studying

the situation from the financial point of view, and we find that we have fallen heir to some complications which give us not a little concern.

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As a matter of fact it will require the money set free by these resignations to meet the demands made upon the Trustees by the new obligations which were assumed in view of the arrangement with you in May. The University apparently by your action is placed in a position which would compel it to pay the money hitherto paid by the Carnegie fund or see the Carnegie appointees suffer. It will be impossible to carry these appointees in the budget of the year beginning July 1, 1905, or at least any considerable portion of them. On the other hand, it is even more impossible to arrange for the maintenance of these parties between now and July 1, 1905. This is a difficulty which grows out of the situation, and which I take it we must try to deal with in a proper way, but we are at a loss to know how to do this, inasmuch as it is perfectly clear that the Trustees will not sanction the appropriation of the money set free by your salary for the payment of these new persons, whose names have not hitherto been upon the University payroll.

In this connection another question may be raised. Is not the Carnegie Institution indebted to the University for a considerable contribution, financial as well as moral, in the matter of the Observatory at Mount Wilson, namely, the salaries of those who have been doing this work during the preliminary

As a matter of fact it will require the money set free by these resignations to meet the demands made upon the Trustees by the new obligations which were assumed in view of the arrangement with you in May. The University apparently by your action is placed in a position which would compel it to pay the money hitherto paid by the Carnegie fund or see the Carnegie appointees suffer. It will be impossible to carry these appointees in the budget of the year beginning July 1, 1905, or at least any considerable portion of them. On the other hand, it is even more impossible to arrange for the maintenance of these parties between now and July 1, 1905. This is a difficulty which grows out of the situation, and which I take it we must try to deal with in a proper way, but we are at a loss to know how to do this, inasmuch as it is perfectly clear that the Trustees will not sanction the appropriation of the money set free by your salary for the payment of these new persons, whose names have not hitherto been upon the University payroll. In this connection another question may be raised. Is not the Carnegie Institution indebted to the University for a considerable contribution, financial as well as moral, in the matter of the Observatory at Mount Wilson, namely, the salaries of those who have been doing this work during the preliminary

G.E.Hale--3

period? Either the work is the work of the University of Chicago, and the breaking off of the relationship was taking from the University credit, financial or otherwise, which belonged to it, or it was the work of the Carnegie Institution. In the latter case should not the cost of the work from the beginning be paid by the Carnegie Institution, and would there not be in this case a sum of money which might properly be refunded to the University, under these circumstances. With such a sum of money perhaps this difficulty might be arranged through the present financial year. We shall await your consideration of these suggestions with some interest.

Very truly yours,

W. R. Harper

G.W.Hale--3

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Very truly yours,

W. R. Harper

Carnegie Institution of Washington

SOLAR OBSERVATORY

MT. WILSON, CALIFORNIA

ADDRESS ALL LETTERS TO
OBSERVATORY OFFICE
PASADENA, CAL.

Pasadena, Cal., February 11, 1905.

Dr. W. R. Harper,
University of Chicago,
Chicago, Ill.

Dear Dr. Harper:-

I am surprised to learn from your recent letter that you have any objections to my discussion with Mr. Ryerson regarding the matter of my resignation. It seemed to me an excellent opportunity that should not be lost, especially in view of the fact that I had no opportunity to discuss the question with you when I was at the Yerkes Observatory. I could not expect to be in Chicago again for many months, and therefore felt sure that you would be glad to have the results of a conversation with Mr. Ryerson, which is, of course, far more satisfactory than any amount of correspondence.

I do not see any practicable way of retaining a connection with the University of Chicago or I would not have sent in my resignation. It is essential that I should devote my entire time and thought to the work here; this would make it impossible for me to render any services to the University, and I do not believe in a merely nominal connection.

Very sincerely yours,

Lyons E. Hall

Garrigue Institution of Washington

SOLAR OBSERVATORY

MT. WILSON, CALIFORNIA

ADDRESS ALL LETTERS TO
OBSERVATORY OFFICE
PASADENA, CAL.

Pasadena, Cal., February 11, 1908.

Dr. W. R. Harper,

University of Chicago,

Chicago, Ill.

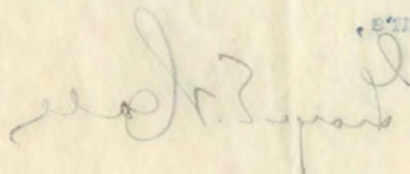
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Very sincerely yours,



February 17, 1905.

Professor G. E. Hale,

Observatory Station, Pasadena, California.

My dear Professor Hale:

I am afraid that my letter must have given you a wrong impression. I had certainly no objection to a discussion of the matter with Mr. Ryerson. It only happened that in this case Mr. Ryerson's opinions did not agree with those of the President of the University, and naturally the latter does not wish to be held responsible for the opinions of any member of the Board of Trustees. He is always willing to accept the opinion of the Trustees expressed officially, but he is always compelled to administer the University and its affairs according to his own opinion until such official expression of the Trustees is made.

You have received within a few days another letter from me, bringing up certain questions. We are at considerable loss to know how to adjust matters. I was seriously tempted last Saturday

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to telegraph you to come east. As you perhaps have learned by this time, I am to undergo another operation. I may say to you confidentially that the diagnosis of the physicians is cancer. The chances of my recovery are slight; and I was very anxious to get the astronomical affairs in shape before going on the operating table. As I considered how difficult it would be for you to leave your work, and although Mr. Heckman urged it most strongly, I decided that it was best not to place upon you this extra burden. I am quite sure the matters can be adjusted without your presence.

I note the second paragraph of your letter, with reference to connection with the University. I still have a very strong feeling upon that point, and will take an opportunity, if possible, at an early day, to indicate this. Up to this time I have not presented your resignation to the Trustees.

Very truly yours,

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Carnegie Institution of Washington

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PASADENA, CAL.

Pasadena, Cal., March 11, 1905.

President W. R. Harper,
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Chicago, Ill.

Dear Dr. Harper:-

I need hardly tell you how frequently I have thought of you during your serious operation. It is a great satisfaction to learn from the brief statements in the newspapers that the operation was as successful as could be expected, and that you are improving rapidly. I sincerely hope that the results of further treatment may be equally beneficial, and that you may completely recover your health.

I have necessarily delayed replying to your letter until I could consult with Mr. Simons, my attorney here, and also with several other gentlemen, whose opinion I value. Mr. Simons, in a written statement discussing the entire case, says, "There is certainly no legal obligation resting on the Carnegie Institution to make any refund, and there is no moral obligation whatever". This opinion is shared by the other gentlemen I have consulted, and it agrees entirely with my own view. A clause inserted at the end of the statement of our agreement which you sent me last summer distinctly states that the Carnegie Institution may establish a Solar Observatory of its own on Mt. Wilson, and that this would replace the expedition sent out from the University of Chicago. In my interview

Carnegie Institution of Washington

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with you I carefully explained that this might be done at the December meeting, and the clause as written by yourself contains no restriction as to time. If you had felt that the expedition must be continued for a considerable period in order to accomplish the purposes of the University of Chicago it seems as though you would have inserted some statement in the agreement to this effect.

I of course recognize, and heartily appreciate the aid given by the University to the new enterprise, and I do not fail to see that a transfer of the work to the Carnegie Institution may be regretted from the University's point of view. It had seemed to me reasonable to hope, however, that various compensations would offset any feeling of regret. For example, the agreement by myself to assume the entire salary of Romare last spring, when he was at work on the Snow telescope, materially reduced the expected deficit, and my assumption of Professor' Ritchey's salary contributed to the same end. Because of the failure of Mr. Yerkes to continue his grant for computers, the University was left without the means of retaining Mr. Adams on its faculty, but the funds to accomplish this were supplied by myself just when they were needed. The announcements made by yourself and myself of the sending of an expedition from the University of Chicago secured to the University the credit of inaugurating the work, and no subsequent change can take this away.

A gift of \$1,000 to myself personally, by Mr. J. D. Hooker of Los Angeles, will enable me to meet the expenses of Professor Barnard in his present work on Mt. Wilson. I am willing to have this work done under the sole auspices of the University of Chicago, employing the sum given by Mr. Hooker to meet the expenses, and furnishing various other facilities

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without which the expedition could not have been undertaken. Furthermore, in my offer to contribute personally \$500 toward the salary of Professor Burnham during the present fiscal year, I did so with the understanding that the balance of his salary would be furnished by the University. This of course did not mean that funds already appropriated for the Yerkes Observatory, as a part of my own salary, should be used for the purpose. Nevertheless, I am willing to waive this objection, if the necessary funds cannot be obtained elsewhere.

Immediately after returning here from Chicago last May, I proceeded to carry into effect my part of the agreement, paying salaries and meeting expenses in strict accordance with my promise. I not only expended the original grant of \$13,000, but in view of the necessity of developing the work on a proper scale, I made further expenditures and assumed various additional obligations at my personal risk, so that by November I had contracted for work costing about \$43,000, the full amount called for in the agreement. I of course hoped that the Carnegie Institution would reimburse me for these expenditures, but I took my chances, just as the University of Chicago agreed to take its chances that the expedition would be continued beyond December. The statements regarding the expedition published by myself in the various scientific journals, the letter heads and order blanks (of which I enclose samples), used up to the end of December, and all other available evidence go to show that I strictly carried out the terms of the agreement. My attorney states that the expedition was carried out precisely as I had told you it would be.

As the agreement contains no retro-active clause, I cannot see that I should be in any way justified in requesting the Carnegie Institution

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to reimburse the University of Chicago for the salaries paid to Mr. Ellerman and myself since last spring. Furthermore, it is perhaps only fair to point out that as Mr. Ellerman and I have never taken the regular University vacations, and as our salaries have never been increased on this account, we were entitled to more time than we have spent in California without diminution of salary. I wish to lay no stress on this point, but since you once told me that I could at any time obtain a leave of absence at full pay for a year by merely asking for it, the reference is perhaps a pertinent one. It can hardly be said that the salary paid me by the University of Chicago was unreasonably high, as the Carnegie Institution, by action at the February meeting of the Executive Committee, and not at my request, is paying me \$5,000 per year in place of the \$3,000 which I received (after October, 1903), from the University.

In suggesting that the University should use the salaries set free by the resignation of Mr. Ritchey, Mr. Ellerman, and myself to pay assistants at the Yerkes Observatory formerly employed through a grant from the Carnegie Institution, I did so only because Mr. Frost and I had agreed that this would be for the best interests of the Observatory. If the University prefers, however, to use these funds for other purposes, I shall of course raise no objection, though I have by no means lost my interest in the Yerkes Observatory, and I keenly regret to see its scientific efficiency so seriously diminished.

You will remember that the agreement made last spring was drawn up at your earnest solicitation, after I had expressed a feeling that it would be better and more logical for me to resign entirely from the Yerkes Observatory, and devote myself to the new work here. I was willing to

to reimburse the University of Chicago for the salaries paid to Mr. Ellerman and myself since last spring. Furthermore, it is perhaps only fair to point out that as Mr. Ellerman and I have never taken the regular University vacations, and as our salaries have never been increased on this account, we were entitled to more time than we have spent in California without diminution of salary. I wish to lay no stress on this point, but since you once told me that I could at any time obtain a leave of absence at full pay for a year by merely asking for it, the reference is perhaps a pertinent one. It can hardly be said that the salary paid me by the University of Chicago was unreasonably high, as the Carnegie Institution, by action at the February meeting of the Executive Committee, and not at my request, in paying me \$25,000 per year in place of the \$23,000 which I received (after October, 1903), from the University.

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For the reasons stated above, I do not feel justified in requesting the Carnegie Institution to refund any salaries or other payments made by the University of Chicago on account of the expedition for solar research. Furthermore, I do not wish to leave the University of Chicago with any feeling on the part of yourself or of the Trustees that I have not faithfully carried out the terms of the agreement. I am most anxious to assist the Yerkes Observatory in every possible way, and to secure the completion of the work undertaken there by the Carnegie appointees. I suppose it must be the case that you have overlooked the third page of our agreement, in which provision is made for replacing the expedition for solar research by a permanent solar observatory belonging to the Carnegie Institution. If, on further examination of the question, you come to the conclusion that I have carried out my contract, I am willing to recommend the following plan to the authorities of the Carnegie Institution. I understand that provision will be made for Mr. Parkhurst and Mr. Fox in the University budget. It therefore only remains to provide for Dr. Schlesinger and Miss Ware. On the above understanding, if you do not succeed in obtaining from some other source a

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sufficient sum to pay their salaries, I will recommend to the Carnegie Institution that \$2,600 be applied from the appropriation for the Solar Observatory to pay the salaries of Dr. Schlesinger and Miss Ware for one year, from January 1, 1905, with the understanding that they shall devote most of their time to the parallax investigations upon which they have been engaged. I should expect, however, that Dr. Schlesinger would take sufficient time to direct an additional computer, to be employed at our expense, in the work of reducing solar photographs, as suggested in my recent letter to Professor Frost. I should also expect him to make for the Solar Observatory a study of various methods of measuring and reducing solar photographs. My proposal also assumes that the University of Chicago will loan the Snow telescope and accessories to the Solar Observatory for a period of at least two years from January 1, 1905; convey to the Solar Observatory its interest in the Five-foot mirror at the Yerkes Observatory, on condition that all expenditure incurred by the University of Chicago on account of its construction be refunded; and furnish to the Solar Observatory certain photographs of the Sun, as explained in my letter to Professor Frost.

This plan is proposed because of my desire to relieve the situation at the Yerkes Observatory, and with the distinct recognition of the fact that it will involve expenditure for work of a class not contemplated in the plans of the Solar Observatory. I am inclined to think that the authorities of the Carnegie Institution, to whom the proposal must be referred, will share my view that the importance of completing the investigations undertaken by Dr. Schlesinger at the Yerkes Observatory is such as to warrant this use of the funds.

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W.R.H. 7

I hope this proposal will meet with your approval, and that you will feel, after careful consideration, that the University has gained much through its co-operation in initiating the work on Mt. Wilson. Mr. Ryerson felt that the Snow telescope should remain there for some time in order that it may be given a thorough test in actual work. Professor Frost and Dr. Isham, who represents Miss Snow, also hold this view. The fact that published accounts of the work will state that it has been done with the Snow telescope of the University of Chicago will be, in my opinion, of considerable advantage to the University.

With heartiest wishes for your continued improvement, and best regards, I am

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Carnegie Institution of Washington

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MT. WILSON, CALIFORNIA

ADDRESS ALL LETTERS TO
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Pasadena, Cal., March 27, 1905.

G. E. Hale
President William R. Harper,
University of Chicago,
Chicago, Ill.

Dear Dr. Harper:-

Thank you very much for your very kind letter of March 17th.

It is a great satisfaction to know that my work at the Yerkes Observatory was approved by yourself. Whatever success I may have attained there was due largely to your broad policy in permitting me a free hand.

In view of what you say, I can hardly insist that my resignation as a Professor in the University shall be accepted at once. I shall not be likely to go East before September, when I leave for a short trip to Europe in order to attend the International Conference on Solar Research at Oxford. I do think that my resignation from the professorship ought to go into effect by July 1st, and hope you will agree with this view.

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MT. WILSON, CALIFORNIA

ADDRESS CORRESPONDENCE TO
SOLAR OBSERVATORY OFFICE, PASADENA, CALIFORNIA

Pres Pap
Hale, George E 136

October 11th, 1907.

My dear Mr. Judson:-

I was glad to receive your letter, and want to thank you for your kindness in sending the volume to Professor Julius. While he was on Mount Wilson he read parts of my copy with the greatest interest, and was much struck with the difference between the university methods of Chicago and of Holland.

As one good turn deserves another, I want to ask you a question which I hope you can answer without difficulty. Throop Institute, a local school which has been doing all sorts of work from the kindergarten up, released its president last spring, and asked my opinion as to the best policy to pursue in its future development. I strongly advised that instead of attempting to do a great number of things, which included elementary and secondary school work, a so-called college and technical course, normal school, business college, art school, etc., that they should take some one thing and do it extremely well, even if the number of students were cut down from over five hundred to twenty-five. Much to my surprise the Trustees adopted this suggestion and decided to establish a first-class technical school, restricting the work at first to electrical engineering, and gradually adding other courses as opportunity might offer. I insisted that if this were done the instruction should be on as high a plane as that of the Massachusetts Institute of Technology, and that the equipment of machinery and apparatus should be the

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best obtainable. They agreed to this and have now purchased a new site, large enough for all future developments. They also have a partial promise of about \$75,000. toward the funds they are raising for the purpose of erecting a new laboratory of physics and electrical engineering, and toward the endowment that will be necessary to secure the able men for the faculty which the new policy will require. They have asked me to suggest a man for president, but I have not yet found the right one. The position will pay \$5,000., and there should be a good opportunity for the right kind of a man. If you can suggest someone, I shall be very much obliged.

The principal thing I wish to ask, however, is the best means of approaching the General Education Board on behalf of the school. If they could get an offer of \$100,000. or \$150,000., on condition that two or three times this amount be raised here, I think there would be a good chance of getting the money. The present assets do not amount to more than \$350,000. but the difficulty in the past has not been the lack of men with funds, but the feeling that the Institute was not doing work of a sufficiently high order. This will now be entirely changed, I feel certain. The Trustees have elected me a member of the Board, and have adopted all of my suggestions hitherto. As they have shown their willingness to reduce the number of students to twenty-five or thirty, if necessary, in order to reach the high standard they have in mind, I am sure that they will adhere to such a policy as the General Education Board would approve. If you can give me any suggestions as to the best method of presenting this case, I shall be under great obligations. I am slightly acquainted with Mr. Murphy, but doubt if I know any

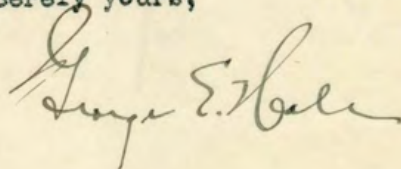
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other members of the Board except yourself.

We have gotten into our new house and are gradually getting settled, which, of course, means a great deal of work for Mrs. Hale. I have been in the hospital for the past week, undergoing a slight operation, but am now luxuriously reclining upon our new lawn, under the shade of a rubber tree - we have four or five fig trees but they are not in my immediate neighborhood at the present moment. Give my best regards to Mrs. Judson, and assure her that we are looking forward to a visit from you both in the near future. Within the limits of our great estate you can pick oranges, grape-fruit, lemons, guavas, figs, and several other things, besides looking at bananas, which unfortunately never come to perfection in this climate. You can also observe the finest sunsets to be seen in California, and keep cool in the sea breeze on the warmest days.

Very sincerely yours,

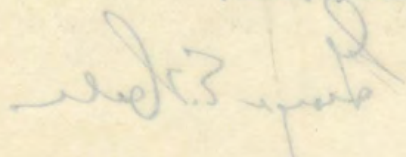
A handwritten signature in cursive script, appearing to read "George E. Hale".

President Harry Pratt Judson,
The University of Chicago,
Chicago, Ill.

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Very sincerely yours,



President Henry Pratt Judson,
The University of Chicago,
Chicago, Ill.

Professor George E. Hale,
Mt. Wilson, Cal.

September 24th, 1907.

My dear Mr. Hale:-

Your favor of August 29th was received during my absence. I understand that the report requested has been sent to Professor Julius, and I hope that he may find it of use.

I sympathize with you on the question of moving and fitting up a house. It is a laborious task and will try every quality of your soul and your wife's soul and your children's souls. I hope that you will as a result prove that you all have souls which will stand the wear and tear.

With sincere regards, I am

Very cordially yours,

H. P. Judson

Professor George E. Hale,
Mt. Wilson, Cal.

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Professor George H. Hale,
Mt. Wilson, Cal.

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Professor George H. Hale,
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Carnegie Institution of Washington

SOLAR OBSERVATORY

MT. WILSON, CALIFORNIA

ADDRESS CORRESPONDENCE TO
SOLAR OBSERVATORY OFFICE, PASADENA, CALIFORNIA

23

August 29th, 1907.

President Harry Pratt Judson,
The University of Chicago,
Chicago, Ill.

Dear Mr. Judson:-

Professor W. H. Julius, of the University of Utrecht, has been visiting us on Mt. Wilson during the past few weeks, engaged in solar research. Next year he is to be "Rector Magnificus" of his University, and is gathering material for his inaugural address, which is to be given in March. He will probably take for his subject the conditions of research, in universities and other institutions, in the United States and Holland. In this connection he has been reading with great interest President Harper's report on the University in the first volume of the Decennial Publications. If you could spare him a copy of this report, which he considers to be of the greatest importance, I am sure he would make good use of it. If a copy is available, will you kindly send it to Professor W. H. Julius, the University, Utrecht, Holland?

sent to acp

I have been extremely busy since my return, as this is our best observing season and much work is in progress. Mrs. Hale and the children are at Montecito for August and September. Please tell Mrs. Judson that we can sympathize with her, as we have just bought another house and are commencing the work of renovation and repair, with the prospect of removal

Carnegie Institution of Washington

SOLAR OBSERVATORY

MT. WILSON, CALIFORNIA

ADDRESS CORRESPONDENCE TO
SOLAR OBSERVATORY OFFICE, PASADENA, CALIFORNIA

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President Harry Pratt Judson,
The University of Chicago,
Chicago, Ill.

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Harry

only a few we
B

only a few weeks away.

Believe me, with many kind regards,

Yours very sincerely,

George S. Hale
per E. E. W.

Dictated from Mt. Wilson,
by telephone

only a few weeks away.

Believe me, with many kind regards,

Yours very sincerely,

Wm. E. Wilson

Wm. E. Wilson

Dictated from Mr. Wilson,
by telephone

George E. Hale

October 18th, 1907.

My dear Mr. Hale:-

Your favor of the 11th inst. is received. It seems to me that your policy with regard to Throop Institute is undoubtedly sound. There will be fewer students but the work of the Institute will be vastly more effective. I wish I knew the right man for you for president, but I have been in vain searching for such a man for one or two similar institutions.

With regard to the General Education Board, the proper thing is to lay the whole matter before the Secretary, Mr. Bullitt~~ek~~Buttrick, 2 Rector St., New York. All matters go to the Board through him. The work of the Board at present is confined to colleges and I cannot say whether the development of a technical institution would at this time be considered or not. Personally I should regard it as a thing to encourage. The Board has its next meeting the 29th inst. I suggest that you write to Mr. Buttrick immediately laying all the facts before him.

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Your favor of the 11th inst.

My dear Mr. Hale:-

October 14th, 1907.

344
Hale

and trust that there will be no recurrence of the conditions which led to your having to go there. Certainly your picture of convalescing on your lawn is a very tempting one. I wish that Mrs. Judson and I might be planning to see your part of the country in the near future. The nearest we can get to it this coming winter will be by way of a visit to Seattle, but we shall have to come back directly by Salt Lake City and Denver. Please give our cordial regards to Mrs. Hale, and believe me to be

Very truly yours,

H. P. Judson

Professor George E. Hale,

Solar Observatory Office, Pasadena, Cal.

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