

1883

Sylvester Farewell reception

~~older 31~~

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MS. 1

Quincy

Give here full address to which reply should be sent:

U. S. Coast and Geodetic Survey,

Nanovon N.H.

Dec. 19, 1883.

To the Trustees of The Johns Hopkins
University:

Gentlemen:

I very much

regret my inability to accept your
kind invitation to the family assem-
bly in honor of Professor Sylvester.

Although not personally acquaint-
ed with him it would give me
great pleasure to meet him before
he goes to his new field of labor.

I beg you to assure him of
my high esteem & my sincere wish
for his future prosperity.

Respectfully Yours,

E. P. Quincy.

Stone

LEANDER MCCORMICK OBSERVATORY,

UNIVERSITY OF VIRGINIA, Dec. 18th 1883.

To the Trustees of the Johns Hopkins University,
Gentlemen:

I regret exceedingly
that an important engagement
will prevent my attending the
farewell reception in honor of
Professor Sylvester. Probably
no one has done so much toward
the promotion of the study
of Mathematics in this Country
by original investigation as
he. His departure therefore

creates a vacancy which is
greatly to be deplored. Please
extend to him my best wishes
for his success in his new
field of labor.

With the highest esteem,

I am, Very truly Yrs,
Ormond Stone.

✓
Perice

Cambridge 751030

My Dear President

I have strong hopes
that I can accept your
kind invitation and be
present at the Sylvester
dinner of Friday. If
I should be disappointed
and be prevented from attending,
it will be a grievous
disappointment to me.

Yours faithfully

and respectfully

Benjamin Peirce
President

21-21-41-

Benj. Pierce

Nelson



CENTRE COLLEGE
Chair of Mathematics.

Danville, Ky., Dec. 18, 1883.

To the Secretary of Johns Hopkins University,
Dear Sir:-

Please
accept ^{my} thanks for the invitation to the fare-
well entertainment given to Prof. Sylvestre.
I regret very much that I cannot be pres-
ent.

It is with the greatest reluctance that
the mathematicians of this country surren-
der the greatest living mathematician,
even at the call of his native land. He
has given an impulse to the study of
mathematics here that will never cease
to be felt. American mathematicians can
never be sufficiently thankful for what
he has done for their favorite science,
under the wise liberality of the trustees of
Johns Hopkins University.

With cordial wishes for the fu-
ture welfare of Prof. Sylvester, I am
Very respectfully,
A. P. Nelson.

Craig

* Mr Halsted I think knows the date
of the conferral of this medal.

Sylvester (James Joseph) M.A. F.R.S.
Professor of Mathematics Johns Hopkins University.
Was born at London Sept. 3, 1814 and educated at the University
of Cambridge; for a short time a Professor in the University of Va.,
a Professor of Natural Philosophy in University College London, became
a member of the Royal Society in 1839; Professor of mathematics in
the Royal Military Academy at Woolwich 1855; Professor of Mathem-
atics in the Johns Hopkins University Baltimore Md. in 1876; an
Honorary L.L.D. of the Universities of Dublin and Edinburgh; corres-
ponding member of the Institute of France, a member of the
Imperial academy of ^{Sciences} St. Petersburg and of the Royal Academies
of Berlin and Göttingen, also of the leading Italian and
American Societies. ^{Otained a gold medal of the Royal Society of London in 1871}
Author of a large number of scientific ~~works~~
memoirs, 112 of which are recorded in the index of scientific
papers published by the Royal Society ^{in 1863}. Among the most impor-
tant of these is a paper of great value both from a mathemat-
ical and from a historical point of view. It is one on New-
ton's rule for discovering the number of ^{real} positive, negative
and imaginary roots of an equation. This rule Professor
Sylvester ^{was the first to demonstrate and} has generalized making it a Theorem of re-
markable comprehensiveness and beauty, and one

Communication
from Tracy
concerning
Prof. Lyman

^{very}
I will repeat here as nearly as I can a few remarks
made by Professor Sylvester at the reception

President Silman's reception. He was standing in
the hall and had been talking to me for some
time about his last and greatest discovery. I may
remark that Professor Sylvester regards these latest
results of his as being of almost infinitely greater
importance to the mathematical world than were
the researches published in his famous "Trilogy".
We were surrounded by a large number of Baltimore
gentlemen who had gathered round to listen to
the Professor who had become very enthusiastic.
He ~~became~~ was silent for a minute and then
broke out in spontaneous praise of the University.
He said "The advantages that are offered by this
University and ~~noted~~ character of the work that
is being done here cannot, I am sure, be surpass-
ed by any other institution either in America or
abroad. There is for instance Professor Rowland, whose
lectures on Thermodynamics I attended, they were
perfectly beautiful - I have attended a great
many courses of lectures in my life - but never
did I attend such a magnificent course - nor
one so beautifully arranged" at another time the Professor
said "I believe that in Professor Rowland another Hel-
holtz - a man of whom the University may well
be proud" he continued "There is ^{Dr. Martin and} Dr. Brooks in Biology
and Dr. Lauman in Sanskrit &c they are doing
an certain splendid work - I know it is unsurpassed
by the corresponding work in any other institution.
With all its large ~~of~~ corps of teachers I verily be-
lieve that if any one ~~could~~ (here - wanting
some thing that was as yet unprovided for
that the University would immediately procure
it for him")

The Professor continued talking in this strain for some time. I can not relate exactly what he said. I only know that it was all in praise of the University its methods and administration, and that he was eagerly listened to by a number of gentlemen from the city - but of whose presence he seemed utterly oblivious.

T. C.

Sylvester

REMARKS of PROF. SYLVESTER, at the Farewell Reception
tendered to him by the Johns Hopkins University, Dec. 20, 1883.

(Reported by Arthur S. Hathaway.)

Ladies and Gentlemen :---

It really is very difficult for me to speak at this time, after the expression of these feelings of regard and friendship which are so dear to me, and as a notion has possessed me that those tributes to the influence which I may have had the happiness of exercising in this great Institution are far too highly colored. Before I say any more touching the pleasant occasion, I would like to make a statement which only concerns the immediate members of my class ; which is, to express my regret at what occurred yesterday evening. I think they all know I am subject to certain tricks---seizures of unrecollection. (Laughter.) I failed in my duty, and I shall regret it as long as I live, by not being present at the last meeting of the Mathematical Society, held in this building. (Laughter.) My only excuse is that, of course, which I have offered. I had something on my mind when I was at dinner---I knew it was something I ought to be doing---I could not think what it was. (Laughter.) Of course I had a great deal to think of, as I expect to leave here for New York tomorrow night, and sail on board the Arizona across the sea early

the following morning ; and then, I may say in extenuation that I really was working up to almost noon yesterday, and for several days previously, in leaving some sort of record or legacy to this cherished University in the form of a contribution to the Johns Hopkins Circular and the Mathematical Journal, on a very interesting subject. (Laughter.) I am almost tempted to give you some idea of what it is all about. (Laughter and cries of "don't.") I cannot hope to be quite as clear and intelligible as my honored and revered friend Prof. Cayley in his Inaugural Address, when he spoke of space of every dimension, it being of course granted that in taking any number he made the subject perfectly clear to the mearest capacity.

The subject on which I have written for our Journal takes its origin in a very remarkable Memoir written by Prof. Cayley himself in the year 1858---25 years ago---relating to really a second birth of Algebra. I can only in the most general terms give you what this generalization consists in. If you have a certain number of terms, different in make up and value, you may call that difference, form and content. Between that form and content I was, I believe, the first to pronounce a divorce---a divorce nisi. (Laughter.) But then, what takes place ?---A most wonderful theorem, illustrating what I read in a book in the Library about the

negative : "The negative is the course which the positive takes on its way to a new and fuller positive." So this form at first divorced from quantity, presents you with the negative of quantity, being nullity, but that quantity, which for the moment has disappeared, subsequently re-emerges (as I have written in my series of Lectures---I am publishing a series of Lectures) in a new and unthought of kind, in a sort of glorified shape---really so !

(laughter.) That is the foundation of an entirely new order of ideas. That was first caught sight of by the genius of my illustrious friend whose Memoir I alluded to. This quantity which has disappeared re-emerges in a new and unthought of form.

"Natura expellas furca, tamen usque recunet."

"Chassez le naturel, il revient au galop."

This is from Detouches, my friend tells me, and not from Boileau, as I thought.

That is the beginning of my contribution to the Mathematical Journal. I have treated the subject from a more advanced point for the Johns Hopkins Circular---one of those valuable instruments for propagation of thought and spreading the fame of John Hopkins University for which we are indebted to our venerated President. But this theorem is very strange indeed, namely :

that the subject that relates to what we call algebraical opera-

tions is a kind of operation in pure space---an algebraical operation is a sort of motion in world of pure order. What I find is a tendency---and the more accurately to convey it to you, most of you have heard of Newton's three laws of motion---I find, I won't say an analogy, but three great fundamental laws in this new science of Universal Algebra, all of which admit of being separately and independently established ; and those three laws stand in a direct relation of affinity with Newton's three laws of motion, each pairing off with each. So that is my title of this paper, "On the Three Laws of Motion in Universal Algebra," which I hope will not be absolutely worthless as a souvenir of my connection with this University.

It is very curious that it was by an Englishman (Harriott) that the first Algebra which ordinarily goes by that name (Monomial Algebra, I call it,) was published in a work after his death in the year 1632. He was a very modest man himself, and did not publish it during his lifetime. And strangely enough, in the place where I was staying, a very beautiful place in the County of Sussex, in Petworth, the seat of the Earl of Egremont, which is well known for the treasures of art it contains, I was allowed to hold in my hands manuscripts, not on Algebra, but relating to the spots of the sun and to a great comet, I suppose it was not Hal-

ley's comet, it was long before Halley's time---the work of this great man ; and I almost felt that some emanation of the spirit was entering my soul when I held those time-worn and yellow papers in my hands. Harriott was one of the three "Magi" of the Earl of Northumberland. The Earl kept three great mathematicians of that day with him in the Tower, of whom Harriott was one. He also had been to this country and had been instrumental in bringing over the potato and the tobacco plant to Europe. This work of Harriott's, "Artis Analyticae Praxis," was published after his death, in the year 1632. That was the real foundation of what I call the Accession of Algebra of the First. Just two hundred and fifty years---a quarter of a millennium---from that time, the first course of Lectures was delivered by myself on this new Algebra, in the Halls of this University, , originating in Cayley's great, immortal Memoir, I will call it. Harriott in 1632, myself, under the inspiration of Cayley, and subsequent reflection, in 1882,---just two hundred and fifty years !

(Referring to notes.)

On account of another of those fits of forgetfulness to which I have alluded, I have been obliged to put down a few points, to which I refer, as my subject has escaped from me altogether.

(Putting the notes away.)

Certainly I could never have been prepared with notes referring to these---I will not call them complimentary, but---more than friendly terms in which I have been spoken of by my most valued and honored friends, the President and Dean of the Faculty of this University. I cannot do justice to my feelings to attempt to express in words the gratitude I feel for the kindness. I can only say, if they have had pleasure in conassociation with me, I have had not less pleasure and honor in conassociation with them. There is not one man now in the University of whom I would not say with the utmost sincerity---and I have said it again and again in private---"He is the right man, and the best man, in the right place."

See what has been done ! Looking where I can begin, look at the work of the Philological Journal, and the impulse it has given to Philological studies in this country. I have seen that Journal lying about in the Athenaeum and the Bodleian Libraries, and I have heard the Librarians of the best colleges, the Rectors of Balliol, Merton, Exeter and others, speak of it as the most important Philological work published in the English language. My own acquaintance with Philology does not, of course, avail me to single out any special work of Prof. Gildersleeve for this Journal, but that is what I was delighted to hear when I was last in Eng-

land.

It would be difficult to tell where next to begin. See what Remsen has done ! Look at his ^{Chem-}~~Medical~~ Journal ! He has almost obliterated part of the Journals. They cannot get contributions now, so they say ! Look at his investigations into the different forms of oxygen. Unhappily, he does not establish as many forms as I would like, but that is not his fault. It has been shown of recent years---I have had something to do with it, and Prof. Clifford also---that there is an intimate and closest possible connection between the highest forms of modern Chemistry and modern Algebra.

Look at Rowland ! All the world is speaking of him. Look at his gratings. Look what he has done ; and not only his fame fills the world, but look at what his pupils have done. Look at Hall's discoveries in the electro-magnetic and electric current.

Look at Hastings, so distinguished in his relations with the surface of the sun and the transit of Venus. He has declared war to the death against the sun's corona ! (Laughter.)

These names are too many. I could occupy all the evening if I were to attempt to make a catalogue of the work that has been done in this University. But it is not necessary for me to

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speak on that point. One who can speak with greater authority has expressed his opinion, and that two or three years ago, when things were not as ripe as they are now,---the illustrious President of the Royal Society. I heard one of the most honored members of our Board of Trustees report what Huxley told him in the presence of a large assembly : "This youthful, this baby University, as I call it, is doing more for the promotion of science and original research than any University in England or the world." That is Huxley's opinion.

O, I am going to forget---certainly I must not forget a name second to none. Look at my friend Martin and what he has done ! His very first paper in the Philosophical Transactions has been selected for the honor of being awarded the Croonian Lectureship---the greatest distinction that could be conferred upon a paper submitted to the judgment of the Royal Society. And not only that, but he drags others along with him. Some of his pupils, I am told, expect to, and have every reason to believe, that some of their contributions which have been submitted to the Royal Society are to be published.

I do not know where to turn. Look at my friend Brooks, and what he has done. I know that the paper he has contributed for the Philosophical Transactions is one that is considered of the

highest importance. Look at the practical work he is doing for the oyster, which comes home to every Baltimorean bosom (laughter and applause), and for some other forms of animal life which are interesting to the people of this Metropolis---this intellectual and gastronomical Metropolis ! (laughter and applause)---in protecting the wild duck and turkey, so that they shall not be subject to the gradual process of extinction, and in promoting the welfare of that grateful mollusk, with whom we all love to be familiar. (Laughter.)

And now, I cannot content myself with referring only to the labors of my colleagues, I cannot refrain from saying how much we are indebted to the labors of our President. If this University is pursuing a great idea, and is calculated to produce a lasting impression upon the intellectual forces of this country, I say, what I have said at all times and seasons, in sunshine and cloud, when I have been on the most friendly terms with him, and when we have had occasional tiffs (laughter), I say that that is due to our President. (Loud and continued applause.)

You have spoken about our Mathematical Journal. Who is the founder ? Mr. Gilman is continually telling people that I founded it. That is one of my claims to recognition which I strenuously deny. I assert that he is the founder. Almost the first

day that I landed in Baltimore, when I dined with him in the presence of Reverdy Johnson and Judge Brown, I think, from the first moment he began to plague me to found a Mathematical Journal on this side of the water something similar to the Quarterly Journal of Pure and Applied Mathematics with which my name was connected as nominal editor, I said it was useless, there were no materials for it. Again and again he returned to the charge, and again and again I threw all the cold water I could on the scheme, and nothing but the most obstinate persistence and perseverance brought his views to prevail. To him, and him alone, therefore, is really due whatever importance attaches to the foundation of the American Journal of Mathematics, which bears that delightful motto for which I am indebted to my friend ^{Prof. Gibbs} ---that is, I had the idea of it, and he gave me the exact quotation, "Pragmaton elegchos ou blepome non." --- The only journal in the world which ^{has} ~~contains~~ a Greek motto ! (Laughter.) That is the clinching of things invisible---that is the leading idea of Mathematics.

But whatever may have been done among ourselves by my colleagues and myself, whatever support we may have derived from the great ideas and the ability for organization really amounting to nothing less than genius---very different from administrative power, administration is one thing, organization is another, and

requires an amount of intellectual activity, and sympathy with every form of intellectual development which is most uncommon, and which is possessed in so eminent a degree by our chief---all that would be ineffectual if we had not been so well seconded and supported by that distinguished body of men, "the cream of Baltimore citizens," who form the Board of Trustees, (applause) selected by our sole munificent Founder, Johns Hopkins, who knew the men who were fitted to carry out his ideas. And very nobly and ably have they discharged their task of laying the foundation of an institution which ought, and I hope will, last for centuries and centuries to come.

I do not know whether I have the honor of addressing any of those millionaires who form the glory of this great city of Baltimore. Chalon, in France, one of the cities of Champagne, they call the city of millionaires ; but from what I hear, there are as many millionaires in Baltimore as in Chalon. If they would, I think they might do a great deal that would be beneficial to us and the University, which would serve to commemorate their names. Look at the Radcliffe Observatory, the Bodleian Library ! The names of Radcliffe and Bodley will be remembered to all times. We have some splendid statues---the Chemical Laboratory, the Biological Laboratory, which I believe are as perfect or more perfect than

any other laboratories. They have only forgotten one thing, they have forgotten to provide residences for the Professor and his wife. The director of the Observatory should be always on the spot, and able to go to his work. I say that quite seriously.

Why should not some one do something towards erecting and endowing an Astronomical Observatory? His name would tower to the clouds, like the building itself, in memory to all time.

Then again, there is another thing, if only the Trustees would carry it out, but we have so many claims upon them. It grieves me to the heart that some of our best men, like Mitchell, Durfee, Ely, Franklin and others, who have done so much, and shown such ability and aptitude for the highest forms of abstract thought, so valuable to myself in the highest way, and leading a life of intellectual aspiration, should, after two or three years, at the end of a Fellowship, be taken away. What happens to them? They are absorbed by inferior though valuable colleges and institutions, and their work droops. They write to me or to their friends, "We miss the stimulus of the Johns Hopkins." What a great thing it would be if means were found for providing traveling scholarships or Fellowships for a year or two, that they might prolong their studies, and come in contact with scientific men and science in England and on the Continent of Europe. It would be a great

thing if there was a Confrere de Tour, or Traveling Fellowship of two years in our department. It would not cost very much, and I am sure would bear most abundant fruit.

I am so glad that the Trustees have thought of providing for the physical training of our young men. It was a very grand thing, the opening, in which I had the pleasure of assisting with many of you the other evening. I think it is a great thing, the founding of base-ball clubs, Newington Park, and our estates at Clifton. I hope the town will soon march out to Clifton and we march out after the town.

What did I hear Prof. Martin say ? He does not want them to use the Gymnasium as a place for muscular training alone, but also as a place where they can meet together and have a good time of it. Now, I think there ought to be a place where the Professors can meet together and have a good time of it. What has happened ? It has actually happened that Professors have come and gone and never met. I may have met several members at what are called Auxilliaries at Faculty meetings, but one most illustrious and distinguished importation, who did such grand work in the Semitic--if I pronounce the word right; I beg pardon, I was going to call it Shemetic--by the veriest chance I had the honor of being introduced to him, otherwise, I should have gone to-morrow, and

never known what he looked like even. (Laughter.)

I have said so much, by the way, of what I sincerely feel, that you would think me insincere, if I did not speak of some things which I did not think were quite perfect, that did not go quite according to my wishes, which I think, of course, must be the normal---what is right and perfect.

The object of the University, it seems to me, is to bring men of different pursuits not only into contact, but into absolute intercommunication and contact and collision; and not only to intermingle, but collide studies about. One man who is a mathematician should be able to take a sly look at a book on Chemistry, a Biologist at Mathematics, or a Mathematician should be allowed to feast his eyes occasionally on a Greek text. It has pained me more than anything else which has happened at this University that our Library, where Professors might meet and have a chance to interchange ideas, and see something beyond their own necessarily narrow and isolated line of research---I feel as the woman might have felt when the judge ordered her child to be cut in two; that our Library should be torn into fragments, a part in the Chemical, another in the Biological, a third in the Philological department. I dare say they do very good service where they are bestowed, but that ought not to be done at the expense of the general Library.

If it is necessary that those things should be where they are wanted, why should not the Trustees provides duplicates. Do not ruin the Library. It is like pulling down some great work of ancient art to get out stones for building so many little private residences !

What happened to me the other day ? I hope my friend will excuse me, but I am going to punch him who said such kind things of me. I met a Latin word, and could not find its meaning, and I called for Forcellini's Dictionary. "O, sir," said the Sub-Librarian---a very nice young fellow indeed---"it has gone over to Bentley Hall. I will fetch it for you." He was kind enough to do it, but I ought not to wait for a commission to be executed before I could see a book. It is not only the books ; those who occupy these buildings in which they are entrenched know what they want, and they can go to the Library and find it. But it is we who are not Greek and Latin scholars, biologists, chemists, who do not know what we want, and want to have a chance of seeing what we want. It is of far more consequence to have the books before us, who do not know what we want, than it is for those who do know what they want. My valued friend and colleague, Prof. Gildersleeve, gave me a quotation from Horace. I went to the Librarian and asked for the volume. What did he give me ? A little duodecimo,

with nothing but the text, and not a single note ! and that is the Johns Hopkins University ! That is a wrong which I think ought to be cured.

Another point, too, I will venture to speak of, inasmuch as I am going away. It is a sort of dying confession, a statement in articulo mortis. (Laughter.) There is another way in which this institution might distinguish itself, and that is, if the Trustees, in their wisdom, would think of some scheme by which provision should be made in the form of pensions, for superannuated Professors. It is a very important point. In the first place, you would attract many who would not leave advantages in Europe to come over to this country, however large salaries you might offer. But in the second place, it is very important in this respect, that when men get too old for their work, they are not obliged to continue ; they have an opportunity to retire upon their pension or some moderate provision before their vital and intellectual forces are exhausted. The provision at the Universities of Oxford and Cambridge is, that when a Professor becomes too old for his work, or mentally disabled, they appoint a coadjutor. This coadjutor, if he is an able man, is one who may expect to be appointed full Professor on the death of his Principal, and he usually receives

one-third, and the retired Professor the other two-thirds of the salary. In that way you have a means of getting rid of that very pernicious material which, I believe, goes by the name of "dead wood." (Laughter.)

Allusion has been made, in the kindest and most friendly terms, to the immediate future which lies before me, appointed to the Chair of Savilian Professorship in the University of Oxford. As far as my wishes are concerned, I am quite satisfied. I want nothing more. I do not want to be Prime Minister---I would not care to be, nor Lord Chancellor, nor Lord Chief Justice. It is a sure haven, an honored position, but what I value most of all, an opportunity for uninterrupted thought, and evolution of one's ideas. I do, undoubtedly, feel it a very great honor and distinction, and I am grateful to my friends for considering me worthy of being appointed to that honor of the chair which does deservedly rank among the most honored chairs existing in any old English University.

I only speak the truth when I say that much as I feel that honor---and I have told people in England so---I do not consider it one whit more honorable than the position which I occupied in this Johns Hopkins University---not one whit, because, what is the position of the man who holds the chair of Mathematics in this

University ? This University is really, in fact, besides much more, the Normal School of the United States ; and the man who occupies my position as Professor of Mathematics in the John Hopkins University has practically the moulding of the mathematical studies and education of more than fifty-nine millions of people (if Mr. Finerty is correct in his calculations) as intelligent as any on the face of the globe---an influence far greater than any influence I can exercise in any chair that I know of in either of our great Universities in Great Britain. But, of course, like all men, I have a yearning to return to the land of my birth. And more than that, I make a confession which is perfectly true and sincere, and that is, that one great motive, and one which induced me to wish for a transfer, one great cause of my uneasiness in my present position, was not any feeling of the place not being considerable enough for me, but of myself not being considerable for the place.

It has been alleged, and it may be true to some extent, that I have succeeded in giving an impulse to the studies of the place, but I am conscious that the science of mathematical knowledge has taken so vast a development that I cannot hope to keep abreast of it in all its branches. Why then take a similar position ? It is not similar. There a single branch is committed to

me. You want one to succeed me who possesses a breadth of culture and a systematic knowledge of all the branches of this prodigiously fruitful science which I cannot lay claim to. I think, however, I may venture to say that I have done, to the best of my power, a good turn to this University in suggesting the name of one who can do all that I can do, and a great deal more besides. I would be flattered to think that there is considerable probability that we may be able to attract him to these shores to take part in the work which devolves upon the Professors of this University. I must not do more. Perhaps I might inform you that his name is insignificant, his stature tall, his reputation gigantic, filling the whole world. I hope the University may succeed in enrolling him among its teachers. If so, I feel that I shall have done more good in leaving this University, and in suggesting the name of this illustrious man, a man of whom I heard Prof. Cayley say, "Certainly he leads the van of mathematical science in Germany and Europe," if my suggestion be the means of having him brought in connection with this University, than all the work I have done, or may have been supposed to have done in the last seven years. He will do far more for you, my friends, my pupils and colleagues, than I.

I ought to acknowledge the immense aid I have derived, not only from my pupils, but from my colleagues and assistants.

He may do far more for you than I have been able to do, or should be able to do, but one thing I venture to say, you won't do more for him than you have done for me. I have written a great deal, and almost every paper that I have written in the course of the last seven years, has originated either in the work of the Lecture room, or in private communication with my own pupils ; and there are few papers in which their names do not appear. Now I remember a considerable Memoir, which you may say I have the bad taste to entitle "A Constructive Theory of Partitions---"there is no fault to be found in that part of the title, but now comes the objectionable part,---"arranged in three Acts, an Interact and an Exodium." (Laughter..) That paper, extending over 85 pages of the American Journal of Mathematics, originated with one of my students who has just left to take a Professorship somewhere in New York. Mr. Durfee, in response to a question I propounded to him, brought me an answer, in less than 24 hours, founded upon a principle, vast and fertile, due to a method discovered more than 30 years ago, but which had remained sterile and abortive until the discovery of Durfee gave it vitality and energy. Except for that method and the improvement made by Durfee, this long paper in three acts, an interact and an exodium would never have been written.

In that same connection, I have occasion to refer to Mr. Ely, who left almost at the same time. These two were admirably adapted to each other, almost another Damon and Pythias, living together, working at the same table, and exchanging thoughts over the same studies. He also made valuable contributions to that paper.

Above all, there is my former pupil and associate, Dr. Franklin. It would be difficult to count how many times his name occurs in the course of what papers I have written in the last seven years.

I might also mention Dr. Story, who has always been ready to give me most loyal and valuable assistance, and to whose suggestions I have been very largely indebted upon very many occasions.

I feel what I say, that I hope to find in my pupils lifelong friends. I trust they regard me in that light, and that they will never fail to write to me, and confide to me anything that is on their minds, as long as they and I live. I shall always remain in spirit in the sacred precincts of this great University, and always have a grateful recollection of the kind feeling that you have evinced towards me, and the favor and indulgence which I have experienced on all sides, during the seven years I have passed in this city.

All that remains to me, is to beg you to excuse the bald-

ness and unpreparedness of this address. By the way, that word "baldness" puts me in mind of something that is not very important. It is a curious coincidence. You have heard of one,---my friend Matthew Arnold, who sat at my table at the Athenaeum Club in London, seven years ago, and said that he never had had such a parting before, and who now is here just as I am reversing the departure and going back to the other side. I remember when I was a little fellow, just seven years of age---really the story is too trifling, but I am committed now, and must go on---I was in the hands of the barber, who made this remark: "Your hair grows out from two centres, which I think is very unusual." I had plenty of it in those days, an uncommon quantity of it, and it could not be got under control. He said, "You have two crowns, and you will eat your bread in two countries." That has been very much my fate. I have been thrown from one side to the other like a shuttlecock. After leaving the University of Cambridge,---it was a very great institution in all respects but one---I came over to the University of Virginia. Then I went back to England, following various occupations, trying to make a livelihood in some sort of way independently. Then I got the Professorship of Mathematics---I was the Professor, I was the only one that bore that title---at the Academy of Woolwich. Then I came back to this country,---this way, that

way, this way---and seven years I served in the position of Professor in the Johns Hopkins University, and now I am changing for the fifth time, making the fifth change back to Oxford, where I hope to remain. I hope you will excuse my telling you this very trifling story, a biographical incident, which can be of no interest except to the relator.

Allow me, in all seriousness, to express my gratitude to you, and my deep appreciation of the kind way in which remarks have been made about me, and in which they have been received by you all. (Continued applause.)

Just one word more I want to add. (Applause.) I was looking in one of ^{Bacon's} ~~Beethoven's~~ works, the other day, for a passage which I was told was in it. It expressed the idea of an ideal college, which I think is very like what is actually realized in this city. Instead of finding what I wanted, I met with a quotation from one of Cicero's letters, which, I think, was to this effect, as far as I can recollect : When Cicero returned from the exile to which he had been condemned by, what I think I shall not give offense by saying was, the Democratic party of Rome, (Laughter) perhaps the Republicans would have done no better, if it had been on the other side, (Laughter) Cicero said, "I should be wanting in gratitude if I did not wish to call on all my friends in

Rome. I should be wanting in politeness if I called on some and did not call on others." That is my position. I think I have sinned against all the laws of social etiquette and really good breeding, in not having been able, under press of circumstances, to call and give my respects and say farewell to the numerous kind friends I have the advantage of possessing in this community. I hope they will take the same excuse from me as was urged by Cicero ---I should have wished to have called upon you all. It would have been impolite to have made exceptions. (Prolonged applause.)