

Notes of Travel

No. I.

1876.

Joseph H. Ketron

June 19th, 1876.

Went to Springfield. Spent a few hours there. Went out to the cemetery on the street cars. Saw a great many monuments and tomb-stones. Some are marble - some are Scotch granite which has a reddish color. Saw the receiving tomb of Lincoln. Then went up to the Lincoln monument. As it is described

in a pamphlet I  
have, more fully  
than I can describe  
it - here, I say but  
little of it. The  
bronze statue of  
Lincoln is in  
place, but the other  
statues are not.  
Lincoln faces the  
south. There are  
40 tablets - abbre-  
viations of 37 dates  
appear on 37 of  
them. It has been  
suggested by some  
one that the  
letters "U. S. A."  
occupy the remain-  
ing tablet. This

will probably be  
the the case. The  
monument, stairs  
and all, are of  
granite. The  
top of what might  
be called the base  
of the monument,  
is covered with  
innumerable slabs  
of stone - gneiss-  
stone I think.  
I went to the top  
of the stairs in  
the obelisk which  
is almost a hundred  
feet high. The  
stairs begin at  
the top of the  
base. They consist

of a hundred and eleven  
steps. I believe  
there is nothing  
destructive without  
~~the~~ unusual  
means, except  
one door, and  
that - is a tem-  
perary one. Saw  
clearly through the  
grating, the marble  
sarcophagus, enclos-  
ing wooden coffin  
(cedar I think), and  
this enclosing a  
leadon casket  
which contains  
the body of Lincoln.  
In Chamberlain Hall  
saw Lincoln's sur-  
-

veying instrument,  
two chairs - plain  
old-fashioned  
ones - one of which  
Lincoln, bottomed  
of bark about 30  
years ago. The  
band that tied the  
knots of the bottom,  
untied the knot of  
straw. Saw a cast  
of his hand. The  
joints are much  
longer than mine.  
Saw a stone from  
Rome, and various  
other relics. - In an  
artificial lake  
in the city, there  
were  
" three swans. They

resemble large geese  
their bills, and  
legs and feet look  
bluish. Their feet  
are white.  
Returned and did various  
things.

June 20th, 1875.

Went through L. Messum  
in Normal University,  
saw Gibbs Hall, did  
some work, and in  
the afternoon with  
Mr. Oberguis, rode  
to water-works,  
cemetery and various  
places in the city.

June 22nd, 1876.

Left Bloomington, Ill.,  
about 8 A. M. - Normal  
on the Chicago and Alton  
R. R., about 10 A. M., reaching  
Wilmington, Ill., about  
12:20 P. M. William  
A. Crawford then  
drove me twelve miles  
to his father's home  
where I was very kindly  
received by all. Nothing  
of very special interest  
was noticed on the  
way, except that the  
land is almost per-  
fectly level. A number  
of coal mines were  
passed. On wet

land, saw a great many plants with broad leaves - usually only one or two at a place, I believe - the leaf resembles somewhat a horse radish leaf, especially in size, but it is more pointed, with a deep indentation at the stem end - stem perhaps almost as thick as a person's little finger. The leaf is quite rough on each side. The farmers call them "rosin weeds." Some - called by some names - have their leaves very deeply indented, much

like tomato leaves. I saw along road, and also at Colby, Crawfords, on uncultivated prairie, lilies, purple or blue red flowered plants like Centaury (I think they are Centaury), water lilies, some yellow blossomed plants with somewhat woolly leaves, and other flowers, with grasses. Very beautiful. Wilmington is on the Kawhakee. Some stone quarried at this place. Traveled 11 miles to reach the place. Could see

granite boulders along  
the way, and also all  
around Mr. Crawford's

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June 23rd, 1876.

Walked with Mr.  
Crawford over a part  
of his farm. Talked  
and examined guide  
books a large part  
of the time.

In the evening  
wrote to Prof. Bolton  
and to the Rev. Prof.  
Atwater. Traveled  
very hard.

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June 24th, 1876.

Rode with Mr.  
Crawford and his  
two daughters to  
Peatone and Montano,  
both on the Ill. Central  
R.R., traveling 27 miles  
in the whole trip.  
Had a nice ride.

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June 25th, 1876.

Rode, in the fore-  
noon, to S. School  
and Church and back,  
about  $3\frac{1}{2}$  miles each  
way, with Mr. Crawford  
and his two sisters.

and in the afternoon,  
with the same and  
Mrs. Crawford,  
to Wilton Center  
M. E. Church, to a  
Union S. S. Review.  
The exercises were  
interesting. Mr. Jones  
gave a good "black-  
board" address.  
The Church is in a  
natural grove, the  
first, I believe, I  
have seen in the  
state.

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June 26th, 1876.

Left Mr. Crawford's

about 6:40 A. M., in  
a carriage, and reached  
Joliet - 17 or 20 miles  
distant, in a little  
less than 3 hours.  
From Wilton Center  
to Joliet, there has  
been considerable  
timber, and pretty  
dense groves of  
second growth, yet,  
the land being a  
rolling prairie.  
Near Joliet saw  
a stone bridge -  
it - consisting of  
immense arches  
of solid masonry  
the whole width of



the bridge. Saw in  
foliot - immense  
quantities of stone,  
at the quarries  
of the place which  
are very extensive.  
Saw bridge across  
Des Plaines River.  
It is a very neat  
town. While here,  
Mr. Crawford men-  
tioned a citizen  
of the place, who  
had built two  
very neat frame  
chapels for  
mechanics and  
the poorer classes  
mainly - at his own  
expense; besides

giving at one  
time, \$5000.00,  
for an M. E. Church,  
first securing a  
resolution that no  
debt should be incurred,  
but that the building  
should continue only  
as means were  
secured. He also  
gives \$1000.00 a  
year to Methodist  
preachers. He has  
resolved that he  
will never become  
any rider. On the  
first of January  
he up his horses  
and devotes all  
his gains to

charitable purposes.  
He is very wealthy,  
a lumber dealer,  
I believe, but was  
once very poor.  
When going drunk  
some liquor, but  
awaking one morning  
with head-achd,  
after having spent  
much of the previous  
night in drinking,  
and perhaps carousing,  
he resolved that he  
would never drink  
more. He kept  
his promise.

On street-car  
went out about 2  
miles to the penitentiary.

This covers a little  
more than 14 acres.  
It is enclosed by a  
massive stone wall,  
30 ft. high, as I am  
informed; some parts  
of it are higher. The  
towers I suppose  
are 60 or 70 ft., and  
one or more, perhaps  
nearly a hundred ft.  
There are 1588 prisoners  
- 22 of them women.  
They eat and sleep in  
their cells. In one  
place there are a  
thousand of these  
five stories high.  
When the doors are  
closed upon the

prisoners in their  
cells, a lever to have  
moved a short distance  
more a stout iron  
bar over every door  
of a whole row; after-  
ward, the doors are  
locked. Of course  
the doors are iron.  
The cells are built  
upon a solid rock.  
The whole prison is  
very neat, but the  
apartments for  
women attracted  
special notice as  
being remarkably  
neat. The women  
were dressed in  
checked goods.

The men were dressed  
in striped clothes,  
the stripes going  
around. Some had  
striped caps, but  
those who wore  
hats - straw-hat  
them painted, or they  
were painted rather,  
red on one side.  
In one shop, there  
were 150 cutting stones.  
Some were sawing stone.  
Some very fine work  
in Italian marble and  
other kinds was seen.  
I noticed a remarkably  
fine marble and fire-  
place front of white  
marble, set with

clouded Japanese  
marble - all excellent and  
well polished and  
very beautiful. A  
very large number  
were making shoes  
and boots tho I believe  
leoparding, black-smithing  
and other kind of  
work were done.  
Inside was a hot steam  
well, with a reservoir  
around it - the water  
coming up as from  
a fountain. Fish  
in it. It was  
elevated, and sur-  
rounded by beautiful  
gravel walks, grass  
and flowers. In the

windows and other  
places, are vines and  
flowers. - In chapel,  
over pulpit, "Simply  
to thy cross I cling."  
Many other matters. -  
Library - free. - Store -  
almost every thing needed.  
The prisoners may take  
as much bread as  
they want. The bread  
is good in cooking,  
baking too I believe,  
drying clothes, all done  
by steam. - While  
here Mr. Crawford  
said there were more  
than 300 men Church  
members for  
every man in Rock.

River Conference. -  
at entrance of prison,  
a stone I suppose  
nearly 15 ft. square.  
On street-cars and  
in reception room  
of penitentiary could  
be seen; ~~at~~ "No  
Smoking in this car."  
"Positively no smoking  
here." - 7 of the  
females were in  
for murder. -  
Most of them were  
intemperate. - Only four  
can read and write,  
and these but im-  
perfectly, except  
one who has a  
common school

education - none  
a higher education.  
The lady in charge  
said: "You could  
not get an educated  
woman here." "They  
are very insolent -  
and filthy - vicious  
too." "Shiftless creatures."  
Of all the inmates,  
perhaps about one half  
claim to be temperate -  
some of will not  
tell the truth. -  
Could say more.

Rolling mills  
immense. Rolled  
rails for rail roads.  
Rails 30 ft. long.

One said they had  
made a railroad  
rails in 24 hrs.  
The work done by  
machinery. Chisel  
cuts off and  
very easily.

The stone of quarries  
lies almost perfectly  
level. Saw a round  
block at road side,  
having red spots in  
it. Pretty regularly  
over it - size about  
as large as a bird's  
egg or larger.  
The granite is not  
nearly so hard as  
the sandstone.

quite pretty --

Reached Chicago  
about 4 P. M. Left  
Commercial Hotel.  
Timber, natural forests  
a large part of the  
way from Joliet to  
Chicago.

Took a drive,  
for which I paid  
a dollar, through the  
tunnel under the Chicago  
River, past Moody's  
Church, to water works,  
and a distance out  
a drive in the bay.  
The tunnel is said  
to be 14 ft. thick  
of stone & brick. It

is damp and quite  
cool. Moody's Church  
is unique in structure.  
I went to the top of  
the tower, at water  
works, up a spiral  
stair case inside,  
of 232 iron steps.  
From its top I had  
an excellent view  
of the City and of the  
Lake and its shipping.  
Can see it seems to me  
that the surface  
of the water is  
curved. Saw a boat  
of light-house, 3 mi.  
out, where the water  
enters the tunnel  
for the supply of

the city with water.  
A very beautiful  
fountain between  
the tower and engine  
house. The engines  
are immense. There  
are four of them.  
The driving wheels  
(or one at least is)  
26 ft. in diameter.  
It is thick, too. A  
piston is at each  
end of a beam -  
as one goes up,  
another goes down.  
All the buildings  
connected with  
the water works,  
are stone. A great  
many boats on

the lake, especially  
at the mouth of  
Chicago River. It  
was cool on the  
lake and in the tower.  
Went back across  
a turning bridge -  
I believe it is called  
a draw-bridge.  
There are many of these  
across the river.

In Joliet - there  
is a Canal. Mr.  
said it connects  
Chicago with the  
Mississippi. Not  
far north of Joliet  
is the dividing line  
between the Gulf

of Mexico and  
the Atlantic.  
The canal was lowered  
enough to make  
the Chicago river  
run the other way  
and convey the impure  
stagnant-water  
from Chicago. This  
information was  
obtained from Mr.  
Crawford. - I might  
say here that Mr.  
Crawford paid my  
street car fare, admis-  
sion to Penitentiary,  
and for my dinner,  
and wouldn't let  
me pay any. I feel  
grateful to him.



In a number of book-  
stores, and publishing  
agency houses. The  
number of the build-  
ings here are three,  
four, five, or six  
stories high, besides  
basement, or cellar  
rather, and garret.  
State St. is very  
fine. - No dust  
for cars to run  
beneath the way,  
and food, rubbish, or  
streets.

June 27th, 1875.

About 10 A.M.  
went up to Evanston,  
and returned about  
2 P.M. - Through  
Heck Hall (Theological)  
and the university-  
building. This last  
is stone throughout.  
In Museum saw a  
skeleton of a whale  
nearly 20' steps long -  
"Fin-back Whale" from  
coast of Georgia;  
a skeleton of a very  
large Indian elephant;  
an American bison,  
with numerous other

geological specimens,  
and a large number  
of geological specimens  
too. Went through  
the large library.  
Went to water's edge  
on shore of Lake  
Michigan and picked  
up several specimens.  
Called upon Dr.  
Hemimway a few  
minutes. Saw  
another of the profes-  
sors. A great  
many trees, some of  
them quite large.  
It is a beautiful  
shady place. Church  
of Evanston is a  
place of rare beauty.

Shade trees, vines,  
flowers, walks, &c. &c.  
artesian wells here  
and at Chicago.  
Horses most of the  
way between Evanston  
and Chicago. At  
Chicago, bought a  
hammer & chisel for  
cutting specimens,  
paid 95¢ for them  
bought a leather  
bag - value for \$2.75.  
Commercial Hotel  
at which I have  
been staying, is  
5 stories high, and  
contains about 300  
guest rooms.  
In the Palmer House

a little while. It is  
very fine. It is  
said to contain  
rooms for 800  
guests. I think  
it six stories  
high besides  
basement and  
garret - possibly  
it is higher. I do  
not recollect with  
certainty. - Went  
4 miles up State St.,  
Wabash Avenue, and  
Cottage Grove Avenue  
to University of  
Chicago. State St.  
is wonderful for  
its beautiful, tall,  
and very large houses,

and its immense  
business. Wabash  
Avenue contains, beauti-  
ful private residences  
with shade trees, grass,  
and flowers around.  
Chicago Univ. is a  
noble building of  
stone, on beautiful  
and well laid out  
grounds. Not many  
shade trees yet.  
Was conducted through  
the building. Saw library.  
Saw many fine specimens  
in Museum - a very  
large white grouse,  
a white crane, and  
numerous other kinds  
of birds. Saw a gar

fish - a very long  
spike at head  
end. Saw section  
of ammonite if I  
recollect the name.  
Saw telescope - thought  
to be about 24 ft.  
long and I suppose  
about 20 or 24 inches  
in diameter. Just  
at main building -  
can walk out just  
as in one house.  
Thought the support  
of the telescope is  
not attached to  
the surrounding  
building. Its immed-  
iate support -  
is a very large stone.

The building around  
is round in form.  
There is wheel work,  
with necessary  
attachments for  
running it around.  
There are sliding  
windows, to run  
the instrument out.  
Went to Theological  
Seminary quite near.  
In its library was  
a facsimile of  
of two skew Testament  
manuscripts -  
Sinaitians, and  
the Discender.  
The print is con-  
tinuous without  
any divisions.

whatever, several  
columns are on  
a page. The pages  
are very large  
quarto. Saw  
~~some~~ many very  
old books. A  
Testament - it seems  
to me it is Ignatius's  
with his own notes,  
in imitation of his  
own hand-writing -  
about 300 yrs old,  
I think. Recently  
both sexes admitted.  
A distinction between  
republican & Ciceronian  
Greek. Formerly  
continental Italian -  
now Roman.

Saw a stone turtle,  
I think in Northwestern  
Univ. - In Chicago's  
Univ. saw a piece  
of a bone of a mastodon  
- 8 or 10 inches in  
diameter I suppose  
- it may be a leg  
bone. - The grain  
elevators at Chicago  
are large and tall.  
The buildings are three,  
four, five and six  
stories high. - In the  
"Parlor" is a portrait of  
Stephen A. Douglas, and  
there are also other  
portraits.

June 28th, 1876.

Left Chicago  
about P.M. at 15. M.  
Ran near shore of Lake  
Michigan 12 or 15  
miles or more I suppose.  
On Lake shore again  
at Michigan City.  
Quantities of lumber  
here. Large hills  
of sand, almost  
pure sand, almost  
entirely ~~entirely~~ ~~entirely~~ ~~entirely~~  
entirely destitute  
of vegetation, most  
of them. City almost  
in the Lake. - Shortly  
after leaving Chicago,  
saw a little wheat;

but didn't look  
well, until we  
reached Chicago  
where wheat looks  
well, will be ripe  
about 15th of July.  
Saw a little rye,  
some hills, but  
not large. Saw  
level in the main.  
Corn in Michigan,  
at least first 200  
miles, looks well. -  
15 or 20 miles below  
Chicago saw, in  
ponds, plants with  
leaves I suppose  
about 4 inches, and  
white flowers about  
size of lily - they

are, it may be  
water lilies, -  
east side a stream  
which is a creek  
or small river -  
From there went 47  
miles to Kalamazoo  
without stopping,  
at stream at Battle  
Creek - I suppose it  
is Battle Creek -  
Land considerably  
sandy. Saw no  
limestone, but  
many granite  
boulders. About  
200 miles from  
Chicago, saw  
stone fences full

of granite boulders  
as I regarded  
them, - Reached  
Ann Arbor about  
5 P.M., having traveled  
240 miles in 8  
hours including  
stoppages. Kalamazoo  
river passed  
a number of times,  
just before reaching  
Ann Arbor. - The  
corn so far in  
Michigan is the  
finest I have seen.  
I don't think I ever  
saw so much corn -  
almost without  
exception - so nearly  
perfectly clear of weeds.

at Ann Arbor  
only a few hours  
too late for Com-  
mencement. -  
choolly cloudy, and  
quite cool enough  
to be comfortable.  
Ann Arbor on  
the Huron River -  
let me see at  
the place where  
it is on a map.

Ann Arbor is a  
very nice city, with  
a great many  
beautiful shade  
trees, the most  
of them maples,  
but the larger  
part the red,

or sugar maples.

Went to the  
Observatory, but  
Prof. Watson is  
gone to Philadel-  
phia; and so, I  
could not see  
the telescope. -  
I have obtained  
boarding at Cook's  
Hotel for ~~one~~ \$ one  
day for \$2.00. -

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June 29th, 1876.

I examined  
the Michigan  
University build-  
ings the great



of the time from  
about 8 a.m. till 3 p.m. in the  
buildings and their contents,  
I went through the Chemical  
Laboratory which is said to be  
the largest in the United  
States. I noticed the Library, too,  
consisting of nearly 25,000  
volumes, besides 8,000 or 10,000  
pamphlets, and 3,000 volumes  
in the Law

Library. The grounds and  
walks are grand. A  
granite boulder is on the ground,  
about 7 ft. high and perhaps  
about 5 or 6 ft. in length  
and width. Another large  
rock - much smaller than the other -  
on the campus not very far  
from the central building of the  
University. It is in red and

nearly black stripes,  
curved, and waves  
very beautifully.  
I suppose it is  
granite, or some  
kind of granitic  
or related rock.  
But the grand  
abundant inter-  
ested me more  
than any thing  
else I saw.  
It occupies the  
three upper stories  
of the ~~the~~ north  
wing of the  
University - or  
at least a large  
part of the north  
wing.

The first-story,  
which is the  
second story of  
the building not  
counting the base-  
ment, (by store is any)  
consists of vast  
numbers of specimens  
in Geology. But  
near the middle of  
the central room  
of this story, is an  
exceedingly beautiful  
bust, large size,  
very white, in plaster  
I suppose, of  
- In a room on the  
extreme north, in  
each of the three  
stories, are

a great many  
plaster casts,  
busts, paintings,  
pictures, &c.  
I see pamphlet-  
bought, explain-  
ing all.

The next story  
above contains  
is made up mainly  
of mineralogical  
specimens.

The last story,  
i. e., the top one,  
consists mainly  
of animals of  
numerous  
kinds. There  
are insects in

abundance, but  
the larger parts  
of the specimens  
are of larger an-  
imals. The  
specimens, particu-  
larly in geology  
and mineralogy,  
are very well  
classified and  
labeled. The animals,  
too, are labeled.

In geology, those  
of the various  
ages and periods,  
are arranged in  
separate sections.  
I saw Dr. Winchell  
in the University,  
but did not

Speak to him.  
Mr. Bennett, the  
Steward, and also,  
the Librarian  
treated me very  
kindly. In the  
Library, saw  
another fac simile  
Dischendorf manu-  
script. Saw  
too, a book of  
explanations  
and fac simile  
of the lately  
discovered tablets.  
I examined  
a book contain-  
ing the Lord's  
Prayer ~~in~~ in

100 languages.  
Saw two books,  
a Commentary on  
the Psalms, printed  
about 400 years  
ago. The print is  
quite good.  
There huge folios,  
one of which, I  
think would weigh  
50 lbs. or more.  
Below, I give some  
and broken notes  
of the Museum.

Astragalus of  
Mastodon.

Shell conglomerate  
from Florida -  
very beautiful - about

size of my heart.  
Buffaloe  
Bellemnites -  
Shark's teeth in  
opporinites - a  
hole in the middle  
rings running around  
about half an  
inch in diameter.  
I think they are like  
some I obtained at  
Blooming ton.

Trigonia of  
various kinds.  
Coel plants - many.  
Pecopteris - looks  
like ferns imprinted  
in rocks split  
open - have seen  
some elsewhere.

Sigillaria  
Lepidodendra  
Calamites, perhaps  
thick - 8 inches ~~thick~~  
long - thick as my  
arm from wrist  
up.

Spirifer brimeoi  
Actinocrinus.

Syringopora  
larger than my heart,  
like a great number  
of fishing worms  
nearly parallel, and  
united with material  
in and around.

Travertine many -  
must like becom  
all over.

Branching Trilobites

resembles in size  
and appearance  
a person's hand

Numerous

Favosites I suppose  
my best coral specimens  
from Bloomington  
are some varieties,  
or at least the  
resemblance is  
quite close.

Orthis - one  
larger than my  
thigh - about 2 ft.  
long - various sizes.

Starfish  
of Corals large -  
Same Collection of  
many Starfishes  
Birds, Birds, Birds!

Beautiful corals  
of many kinds and  
shapes; - some I  
suppose Corals #  
12 or 13 - inches long  
1 or 2 in diameter -  
white, like a net-  
work of lace.

Beautiful Tapis  
Tayuli - blue with  
yellow specks  
some places, and  
perhaps some  
other tints.

Beryl of various  
kinds. - Chrysoberyl.  
Numerous others  
of same and similar  
classes.

Many, Dejean,

Tourmalines  
Sarnet, &c., &c., &c.

a beautiful purple  
with some spots  
and streaks -  
2 1/2 x 4 inches -  
Ohio (Saprolite)  
- Orthoclase may  
specimens.

Stilbite - kind  
of rhombohedrons  
united.

On two shelves,  
saw about 400  
specimens of quartz  
of almost all  
imaginable colors  
and shades and  
shapes, - crystallized  
and uncrystallized.

The uncrystallized  
specimens present-  
ing most of the  
colors.

Spatite, Borate  
Boracite, Fluor  
Spar, &c., &c., &c.

about 150  
specimens of marble  
innumerable colors  
and shades; - I do  
not think any  
two are entirely  
alike - mainly  
from Spain and  
Italy.

Heavy Spar, &c.  
Rock salt  
of many colors, -  
red, yellowish,

white, &c.

at great many  
specimens of Copper  
and Silver ores.

Sold in quartz-  
ite - numerous  
"gold ores."

Malachite, &c., &c.  
Native Copper  
Lead ores.

Dendrites on a  
stone about  $7 \times 2\frac{1}{2}$   
sandy whitish stone  
foliated - exceedingly  
very beautiful -  
look like plants  
or little trees - of  
course they are  
small plants, if  
they are the whole

at skeleton  
of a huge turtle  
perhaps  $5 \times 6$  ft.  
Eagle outside  
of cases - gray  
color.

"Brain Coral"  
18 or 20 inches  
in diameter -  
rounded over the  
top.

2 Bald Eagles -  
Bill white, and neck  
so in the main, but  
somewhat darkish.

Owls' owls!

Eggs and nests  
in abundance  
Sand-bill crane's  
egg.



Ostrich egg  
about 6 inches or  
more long - not-  
altogether so thick-  
not thicker, as I  
judge, at one end  
than at the other.

Snakes, snakes!  
Cashmir goat  
with long white wool  
size of a rather  
small, thick short  
sheep - two horns  
looks almost  
exactly as if  
alive.

A real American  
Punster - 5 or 6  
ft. long, beside  
the long tail.

at Buffalo -  
Bos Americanus  
from Kansas -  
I suppose about  
10 ft. long - head  
and lower part  
legs nearly black -  
lighter above,  
resembling a gray  
sheep in color, i. e.,  
above, - very  
woolly - head and  
eyes almost covered  
up - horns, about  
a foot in length,  
I suppose, - curved  
around toward  
head

abackeral Shark,  
Lama pumoteta,

about 11 feet -  
long. 20 or  
24 inches in  
diameter, I suppose  
Shark about  
10 feet.

Beard and Gray  
foxes.

at Wild Cat -  
much larger  
than the Bernastic.

White Hare.

" Weasel.

Horns of Elk -  
about 4 feet  
besides branches.  
Elk large - color  
of deer.

Virginia deer.

alligator about  
10 feet long,  
I suppose.

Rocky about -  
air Sheep.

Pelican - California -  
bill about 15 inches  
long - neck, beside  
bill, near 3 feet -  
white.

What we call  
"Woodcock" is a  
Pileated wood-pecker.

Flamingo, nearly  
red - I may say  
whitish pink - legs  
about 26 inches, very  
slender - neck slender  
- 2 or 3 ft.

Blue Heron.

Bald Eagle.  
Condor an  
immense bird.

Lynx.

Black Bear.

Gray Wolf,  
about 4 or 5 feet.

Grizzly Bear.

Sable - reddish,  
grayish.

Porcupine, a  
rough animal.

Prairie Hen.

"Woodchuck," a  
quadruped, about  
a foot long -  
chubby, gray.

Beaver, dark  
reddish.

Coyote - black.

Wild Goose.

" Turkey.

Wolverine

Swan.

Michigan Uni-  
versity - whole  
length - 347 feet.  
The main Chapel  
between the North  
and South wings,  
127 x 130 feet -  
will seat 3500.

Women admitted -  
some graduated  
this year.

Erasmian  
Greek - Roman  
Latin.

Of course all  
colors and peoples  
are admitted.

Left Ann Arbor  
about 3:50 P.M.,  
and reached Detroit  
on Detroit River,  
I suppose about  
two hours before  
night. It is quite  
a fine city. The  
streets are paved  
with tolerably large  
stones, about  
like the "river"  
stones of the  
South Fork of  
Holston. The  
side-walks are  
made of fine

smooth stones.

Saw the City  
Hall - about 80  
steps one way,  
I think perhaps  
about the same  
the other way.

In the columns  
are lower parts  
of the building  
on the outside,  
alternate stones  
are chiseled and  
an inch or two  
deep, in shape of  
a net-work of  
vines, with bark  
cut so as to seem  
quite natural.

Engaged night

lodging at Michigan  
Exchange Hotel,  
a fine, white stone  
front, for a  
dollar. My room  
furnished with  
oak chairs -  
one a large arm  
chair. Went  
down to river  
bank and looked  
at river and  
boats. At City  
Hall saw a canvas  
with an inscription  
in honor of Perry's  
victory on Lake  
Erie.

June 30th, 1876.

Left Detroit  
about 8 A.M.,  
ran back 3 miles  
and after waiting  
a while at Grand  
Trunk Junction,  
left that place  
on Grand Trunk  
R.R. for Buffalo  
at 9 A.M. by  
my time. Ran  
62 miles to Port  
Huron at the  
lower extremity  
of Lake Huron on  
River.

Our car with its  
inmate was taken  
across the river  
in a steamer  
ferry boat.  
After passing  
entirely through  
Michigan, saw  
no weeds or grassy  
corn. Saw not  
rivers till I reached  
Canada, then soon  
saw some. - I saw  
not any limestone  
in Mich. Neither  
saw any in Canada  
until not far  
from Buffalo -  
it may be 20 or  
30 miles distant.

Some places a  
considerable number  
of rocks, though in  
the main, they are  
very few, - no cliffs.  
Rocks, as well as  
I could judge, are,  
nearly all the distance,  
entirely metamorphic  
boulders, large  
and small though  
in Canada, mostly  
small. - Granite  
and granitic, &c.  
In Buffalo, Ch. N. Y.,  
but do not  
recollect of having  
seen a spring  
since I left Bloomington.

Elders through  
Canada. Bay  
apples too.

Between Strat-  
ford and  
Buffalo, crossed  
Grand River.

Reached Buffalo  
a little while before  
night. A fine city,  
streets well paved  
with large stones.  
Sidewalks broad  
and laid with large  
smooth stones.  
Had a fine view of  
Lake Erie and its  
boats, piers, the  
canal, bridges, &c.  
Stayed at the

Continental Hotel.  
An excursion party  
of I believe 200  
or more took  
supper at this  
house. The City  
Hall is a good  
building. - At  
Buffalo, crossed  
the Niagara River  
on the train running  
over a rail road  
bridge. An intelli-  
gent colored man,  
long acquainted at  
the place, informed  
me that the  
bridge is about  
three quarters of a  
mile long, over

the river; but  
extending out over  
canal I believe,  
it is about a  
mile long. The  
Niagara River is  
very large, -

In Canada,  
almost no corn;  
but wheat, oats,  
and grass. Houses  
not numerous nor  
large, much timber,  
but not very large  
nor tall. Some  
beeches, sycamores,  
many spruces, pines,  
oaks, and other  
trees. I think  
lindens are plentiful.

I saw some fine  
red flowers, on  
stems 2 or 3 ft.  
high. Baggage  
was examined  
on entering Canada,  
and on leaving it  
not examined  
much.

July 1st, 1876.

Left Buffalo  
about 7 a.m. and  
crossed Suspension  
Bridge about 8 a.m.  
Paid \$3.00 for a  
carriage to drive  
me the whole  
trip of 10 or 12 miles.



Crossed both  
the New Suspension  
Bridge and  
the Old. They are  
very steady. While  
on them I had  
fine views of  
the Falls. The  
hotels, residences,  
parks, public and  
private, yards,  
observance, &c., of  
Niagara Falls  
are very beautiful.  
Near the observance  
on the Canadian  
side, saw two  
male black bears,  
which I was informed  
judges say they will

weigh 900 lbs.  
each. They were  
caught when  
cubs, at the  
Rocky Mountains.  
While here, went to  
the top of the  
building, about  
60 ft. and had  
a splendid view  
of the Falls. Then  
crossed in an oil  
robe for the  
purpose, and went  
down a winding  
stair right under  
Table Rock, and  
then under the  
pouring flood.  
The water dashes

my face, and  
the water and  
mist were hard  
to breathe. The  
sight was grand,  
but I did not  
much like to be  
so nearly drowned.  
The pouring flood  
is in this form  
of spray and clouds.  
The Horseshoe  
Falls are here,  
but some specimens  
here, as also at  
Whirlpool Rapids  
and Whirlpool.  
But the first  
place I went, was  
the Whirlpool.

Rapids. In a  
meat room, large  
enough for ten  
to be comfortably  
seated on two  
seats, I descended  
perpendicularly  
172 feet I was  
told. 260 feet  
from top of  
"elevator" to  
water's edge,  
364 feet across  
the water. The  
water whirls and  
tosses amazingly.  
but various  
specimens.  
Then, saw the  
Whirlpool. Went

to edge of mighty  
precipice. At  
first view the  
water seems to  
come a stepping  
place. In fact  
it does run  
back on American  
side, I believe it  
is, but going  
lower down, we  
see it bend, and  
go on. The  
Chusung, &c. have  
been named.  
Return to Red  
Bridge, which is  
a single carriage  
and foot track,  
to American side.

A little below  
the bridge a  
rope was put  
across the river.  
Various extended  
from it each  
way. A man  
was far out,  
making some  
attachment. He  
seemed, at that  
giddy height,  
to be only a small  
boy. It is said  
a woman will  
walk across  
the rope this  
afternoon.  
We then drove  
to Prospect Point,

from which an  
excellent-view  
of the Falls is  
obtained. We  
then drove up to  
the bridge extending  
to Goat Island.  
There are numerous  
islands here, but,  
as it was raining  
hard, I had but  
little time, the  
fee was consider-  
able, I do  
not go on the  
islands. I had  
an excellent-view  
of them, however,  
and I saw enough  
to satisfy me

very well. We  
then went still  
further up the  
river, and saw  
canals, sluices,  
&c. above ground,  
and under ground.  
After a drive of 10  
or 12 miles, and  
having spent several  
hours, I found myself  
at the hotel near  
the depot, ready  
to start for  
Rochester, which  
place I reached  
in due time -  
quick time - about  
5 P. M. Rainy  
almost all the

time, and could not see the country very well, but saw corn, wheat, potatoes, grass, &c., with some boulders and hills, though the hills and boulders are not very large. I might say here, that the above sketch is very incomplete, and should be supplemented by drawing more largely upon my own memory,

and upon books and papers. - Rochester is very pretty city. At 10 P.M. in the evening as illuminated, is grand. Examined the Genesee Falls. Noticed the R. R. Bridge. Went across the foot and ~~iron~~ carriage iron bridge which is very high, and about 375 steps long. Then went right up to the bank just opposite the Falls.

The Falls are  
very beautiful.  
"Ibn Batuta"  
made his last  
trip here. The  
water just  
below the Falls  
is said to be  
very deep, but  
far below, is  
an island. I  
suppose the foot  
and carriage  
bridge is nearly  
half a mile  
below the Falls.  
Streets of Rochester  
paved with stones  
set on edge like  
bricks.

Corn, wheat,  
potatoes, orchards,  
etc., on the way  
from Buffalo  
to Rochester.  
Engaged lodging  
at the Whiteomb  
House, 110 E. Main  
St., for \$2.00 per  
day, till Monday  
morning. ~~at Albany~~  
~~at Albany~~ only  
a few steps from  
hotel. Attended  
morning and  
evening service,  
also class meeting  
just before evening  
service. Attended  
meeting & spoke

July 2nd 1876

briefly. After this  
service, a considerable  
number of ladies,  
young and old  
and some gentlemen  
gave me a hearty  
shake of the hand.  
Though I do not  
know their names,  
yet this cordial  
welcome made  
me feel at home.  
The pastor is Charles  
Caddy. There were  
some hard stones  
of rain.

July 3rd, 1876.  
Left Rochester  
about 7:30 A. M.,  
arrived at Syracuse,  
91 miles distant,  
in about two hours;  
staid there more  
than three hours,  
and then reached  
Cattaraugus about 5:30  
P. M. - While in  
Syracuse, went out  
to Salina on the  
street cars, about  
2 miles, and examined  
the salt-works.  
The water is very  
salt, as ascertained  
by tasting. I saw  
the kettles, and

the wet salt dipped  
up, and put into  
baskets, to drain.  
Much salt is made  
by evaporation. The  
covered, shallow vats  
for this purpose,  
cover a very very  
large space of  
ground. They are  
at and near  
Onondaga Lake,  
six or seven miles  
long, two or three -  
possibly more - long.  
In the middle  
parts of the lake,  
it is said the  
water is very deep.  
After returning, went,

by street-cars to  
Dyrouse Administration  
- but as the distance  
is great, and St.  
cars do not move  
very rapidly, I did  
not have time to  
go into the building.  
It is a beautiful  
stone structure, on  
an elevated place  
on the outskirts  
of the city - I believe  
in N. W. part.  
Quite near is a  
place called Gates's  
Barracks, if I recollect  
the name. From  
this and from  
the Administration



grounds, is obtained  
a most delightful  
view of the city  
and lake. This is  
a fine city, quite  
well shaded, and  
contains some  
beautiful parks and  
walks, &c. - I noticed  
two beautiful  
fountains. The  
Catholic Church  
is a good building.  
- Saw the Rochester  
University - from  
the cars. - At  
Little Falls, west  
of Albany, I noticed  
quarries, very high  
and almost

perpendicular rocks.  
There were some  
very tall columns,  
with fissures -  
some almost a  
foot wide perhaps  
almost perpendicular,  
and also, horizontal  
seams. Some of  
the rocks may be  
limestone, but,  
some of them  
at least, appeared  
like granite, of a  
grayish or reddish  
color. These  
are the first  
large rocks I have  
noticed since leaving  
Joliet. Further

Along I noticed  
some extensive lime-  
stone quarries; but  
almost all the  
way from Buffalo  
to Albany, saw a  
great many granite  
boulders, - some  
may be sandstones.  
Many stone fences  
in New York, espe-  
cially between  
Little Falls and  
Albany. - At Utica,  
Palatine Bridge,  
and other places  
along the way saw  
bridges across  
the Schoharck.  
The land is stony

and hilly down  
the valley of the  
Schoharck. Between  
Buffalo and  
Albany, have  
seen the Erie  
canal, with many  
boats upon it  
almost all the way.  
The railroad crosses  
it a great many  
times. There are  
numerous bridges  
across it. When  
boats on the canal  
meet, it is said  
one lowers its  
rope, and the other  
passes over it.  
The loads drawn

are very large. The  
most of the  
"tow" ropes seem  
to be a hundred  
feet, or even more  
more, long. The  
corn and potatoes  
are quite well  
cultivated in  
New York, though  
I am not quite  
sure, so well as  
in Michigan.  
Many more potatoes  
are raised here  
than in Tennessee,  
so well as I can  
judge. In Albany,  
the parts of the  
city I noticed, the

streets are narrow,  
but very well  
shaded, with  
large elms and  
other trees. The  
New State Hospital  
is of granite and  
very fine. I saw  
blocks of granite  
of an amazing size,  
long, thick and  
broad. The building  
is now three  
stories above the  
basement, and it  
is said it will  
be built a story  
higher, besides  
the roof. It is  
1500 feet around.

450 ft. one way,  
and 300 ~~feet~~ <sup>feet</sup> the other.  
Walked over most  
of one of the bridges  
across the Hudson.  
The scene is very  
fine. A great  
many boats were  
seen. The vast  
basin for boats,  
protected piers  
in the river, attracted  
special notice. - Paid  
\$3.50 supper, lodging,  
and breakfast, at  
the Delavan House,  
and then the bridge  
across the Hudson,  
on the cars, for  
Troy, 6 miles distant,

July 4th 1891  
but having arrived  
at Troy, and learned  
that I could not  
go through the Hoosier  
Tunnel without  
waiting at North  
Adams all night,  
I concluded to go  
a more southern  
route, by way of  
Springfield, which  
I did, and arrived  
in Boston about  
5 P. M. Along the  
Hudson River between  
Albany and Troy  
(east of river) the view  
of Albany, suburbs,  
and surrounding  
country, are grand.

When about 20 miles  
from Albany, I saw  
to the south-west,  
I think it was,  
some mountains in  
the distance. From  
Albany all the way  
to Boston, the larger  
part of the land is  
hilly, especially in  
Massachusetts.  
Though a number  
of places it is  
low and somewhat  
marshy, and partic-  
ularly at Mass., there  
are some small  
lakes. About  
Chatham, Ct. Co., there  
are cliffs of slaty

looking rocks, inclined  
perhaps nearly  $70^{\circ}$   
to the horizon. I  
think it was  
near the state line  
between Ct. Co. and  
Mass., that the  
train passed through  
a short tunnel.  
The rocks near, looked  
whitish and shiny,  
resembling talc, so  
they seemed from  
the cars while in  
motion, though  
they may have been  
granite or some  
of its ingredients.  
Many Irish potatoes  
in Ct. Co. from Albany

onward, some corn  
but not so much  
as in C. Tenn., with  
wheat, grass, &c.

Almost all rocks  
that are visible  
between Blooming  
and Massachusetts  
are horizontal, or  
nearly so. —

Massachusetts  
become more and  
more hilly and  
mountainous till  
we reached Huntington  
near which place  
and back a con-  
siderable distance,  
there are great many  
rocks which I

suppose to be  
granite. I know  
or feel satisfied,  
at least — that  
there are a great  
many granite boulders,  
though possibly  
some of them may  
be metamorphosed  
sandstones. For a  
long distance before  
we reached Boston  
there is unmis-  
takeable evidence that  
the rock is very  
largely, if not  
entirely granite.  
A great many of  
the fences in  
Mass. are built

of these granite  
low lands. In this  
mountainous and  
hilly region of this  
State, the rocks  
are much tilted.  
Passed through  
Springfield, Mass.,  
on the Connecticut,  
a fine and pretty  
wide river at this  
place. We crossed  
on an excellent  
bridge. The bridges  
along the way are  
iron mostly if  
not entirely. Saw  
much of Mass.  
passed through  
there is, I think,

not much farming  
done. The country  
seems watered. I  
think it better  
adapted to grazing  
and manufacturing  
than to farming.  
I think the people  
are quite saving, as  
I saw grass cut  
for hay, right on  
the road side,  
where it was very  
steep and rocky.  
Saw quantities of  
a white, speckled  
somewhat of granite  
that was very beauti-  
ful. Much of  
Mass. passed through.

resembles E. Tenn.  
very much, though in  
the most warm-  
tempered region  
passed through,  
I think it cooler  
than most parts  
of E. Tenn. with  
which I am ac-  
quainted. The soil of  
some of it least,  
is quite poor,  
I think, much  
of it is sandy.  
I have seen but  
very few gullies  
in this little  
land that is washed  
away. I have  
seen some pines

and spruces, but  
much of the timber  
resembles considerably  
that of E. Tenn.,  
though I think  
the timber in  
Tenn. is larger.  
I became very dusty  
on the way, -  
Went to the Obato-  
politon Hotel, 1166  
Washington St., and  
engaged a room  
for a dollar a  
day. Went down  
Washington St. a  
mile or more, I think,  
and went into  
"Old South Church."  
They are receiving



Contributions to try  
to preserve it. In  
large letters on  
clerk's long or various  
letters of are saying  
of two or three dis-  
tinguished men in  
regard to its pres-  
ervation - urging  
the people not to  
destroy it. I paid  
them 5¢ into the  
contribution box.  
I felt as if I  
wished it preserv-  
ed. I saw a great  
many fine buildings  
at various places on  
"Old South" is at  
Washington and Mill  
Street.

July 5<sup>th</sup>, 1876.

Went out to  
the Boston Common  
which contains many  
beautiful elms,  
walks, fountains,  
&c. Below,  
separated by a  
street, is a  
beautiful garden  
with a great many  
flowers, trees,  
grass-plots, &c.  
It also contains a  
lake with a granite  
rim all around.  
& This are swamps,  
and I am inclined

to think of some  
other birds, though  
it is not impossible  
that these are  
young swans.

A great many bird  
houses have been  
placed in the trees  
in the Common  
and Garden, and  
the little birds  
are very numerous  
and quite tame.

I saw a number  
of them at once,  
flutter in the  
little streams  
as they issue from  
from the fountains  
and falls.

Saw a great many  
fine buildings.  
Then went to Faneuil  
Hall, not very far  
from State and  
Washington Streets.  
I spent I suppose  
about half an  
hour in it. In  
it, on the wall  
in rear of the  
platform, there  
is a very large  
painting - I suppose  
about  $16 \times 24$   
feet - of Daniel  
Webster and a  
large audience  
around. It is  
in a gilt-frame

At the bottom or  
just under it -  
are Webster's famous  
words: "Liberty  
and union, now  
and for ever." -  
There is a gilt-  
eagle at the top.  
On the right side  
of this - facing the  
large picture - begin-  
ning at the top,  
are Samuel Adams  
Washington (full length)  
Lincoln (not quite full  
length) - At the  
left, John Hancock,  
Peter B. Kennebec (full  
length) and  
Gov. Andrew (full  
length.)

In the gallery, on  
the right of Samu-  
el Adams and  
a little below is  
Edward Everett.  
On the left - in  
gallery - correspond-  
ing to Everett, is  
John D. Adams.  
Below large picture,  
and just in the  
rear of the platform  
are pieces of statuary  
any in marble I think,  
though they may be  
brass. - On the  
front of the gallery,  
rear end - opposite  
large picture, is

a very large eagle,  
with shield and  
stars, and "6 plumes  
unum," just over  
the large clock.  
On one side of it  
is Room. Probable-  
on the other, Sen.  
Warren. Higher  
and on the back  
of the gallery are  
Rufus Choate and  
Sen. Knox. There  
a few other pictures.  
It is a plain  
building, with six  
rising seats on  
each side. White  
purred columns  
support the gallery,

and just above  
them, are columns  
of about the same  
size and length,  
supporting the  
ceiling, at least  
in part. - Then  
went to Bunker  
Hill Monument,  
paid 20¢ for  
admission, and  
20¢ for explanation  
of views, and went  
up the winding  
stair to the top.  
The steps are all  
granite, as the  
rest of the mon-  
ument. The outer  
walls are very

thick. There is an  
round, hollow,  
column of  
granite inside  
the steps. There  
is gas light in  
it. There are aper-  
tures in the outer  
wall (and in the  
inner, too) I suppose  
about 18 or 20 inches  
wide and 26 or 28  
high. Near the  
bottom, on the  
outside, these  
apertures seem to  
be not very much  
wider than the  
thickness of a man's  
hand. I stand at

I think nearly  
half an hour.  
From its top, there  
is a fine view of  
Boston, suburbs,  
and surrounding  
country, shipping,  
navy, and waters.  
[See guide.] There  
are two small  
cameras at the top.  
The steps up the  
little hill to the  
obelisk - I suppose  
are about 15 feet  
long, and they are  
of granite. I  
registered my  
name in a large  
book for the purpose.

Went down to the  
Navy Yard. Saw  
a great many  
cannon and balls.  
Examined the  
(dry) dock. There  
is a large engine  
near, that pumps  
out the water.  
Saw a great many  
anchors, too. There  
were some "men-of-  
war" and other  
vessels. One of  
these it is said  
draws 21 feet of  
water. One of the  
Coast Survey vessels  
was near - was in  
I think, from

what a young  
negro man said.  
Saw a number of  
soldiers and  
officers. Tipped  
my hat to one  
of the officers near  
whom I passed,  
and he gracefully  
tipped his in  
return. Then went  
home and ate some-  
thing. After dinner  
went out on street  
cars 3 or 4 miles  
to Cambridge  
and visited the  
buildings of Har-  
vard University.  
In doing this, the

street-cars <sup>cross</sup> over  
Charles River on  
bridge. The most  
of the bridge  
looks solid, but  
it is built upon  
timbers driven into  
the ground, and  
then built-up  
and paved, so  
as to appear, to  
the superficial  
observer, as solid  
masonry. Crossed  
Charles River, also,  
in going to Bunker  
Hill Monument.  
After dinner,  
went in street-  
cars to Harvard

University. The  
buildings are 15-  
or more, I believe.  
They are not crowded,  
but scattered at  
suitable distances  
from each other  
to admit beautiful  
lawns, walks,  
shade trees. These  
last are mainly  
elms. As the  
Library was closed,  
I did not get into  
it; but I went  
into the Museum.  
I first examined  
in brief, what is  
called the Peabody  
Museum. It con-  
sists mainly of

geological specimens,  
including those  
from Alaska,  
Mexico, Peru,  
Africa, Denmark,  
&c. It contains  
a very large num-  
ber of various  
kinds of implements  
from the Stone  
Age, too tedious  
to describe here,  
ancient skeletons,  
armory, idols,  
Indians dresses  
of tags of skin,  
manilla bark,  
&c., &c., &c. This  
building is with  
the main group.

Separated from  
it - perhaps almost  
half a mile, is  
Atgag's Museum.  
This is a fine  
building with  
specimens groups,  
with some shade  
trees, shrubs, and  
flowers. While  
here I had time  
to name only a  
very few of the  
specimens, and  
not time to give  
much descriptions,  
if any, of these.  
One of the first  
I saw was a  
walrus - a very large



thing, with two  
tubs standing  
almost directly  
down from below  
its little mouth.  
at Buffalo. -  
Head and Horns  
of a Brazilian  
Ox - of amazing  
thickness and  
length for any  
of any kind.  
Lynx. - Head  
and Horns of an  
Indian Buffalo. -  
Rocky Mountains  
Goat. - Indian  
black bear. - Gray  
wolf. - American  
Otter. - Seal.

Prairie Fox -  
what a tail! -  
Grizzly Bear.  
Rocky Mountains  
Sheep. - Beaver.  
Dolphin - a large,  
thick fish. -  
Zebra. - Skeleton of  
Northern Sea Lion.  
Skeleton of Megal-  
therium Cuvieri. -  
Section of ammonite.  
Corals, corals, corals!  
Ashy coal - offices. -  
"Beaver cutting" - looks  
like a cherry about  
10 inches in diameter.  
Porcupines. - Wild Boar.  
Huge Turtles. -

Skeleton of Irish Elk - very large. -  
Whospink Crane. -  
American Elk. -  
Giraffe, and a  
skeleton of a  
larger Giraffe. -  
Tooth of Mastodon  
giganteus - 8 or  
9 inches thick  
at large end -  
curved and I  
think about 8 or 9  
feet long. - Skeleton  
of the Head of  
Mastodon giganteus. -  
Moose -  
very large. -  
Mule Deer. -  
Cassowary, grey,  
and some other

spotted or speck-  
led. - European  
Bittern. - African  
Ostrich - the most  
of it black, but  
the latter half  
of its wings white,  
or nearly so. -  
Skeleton of Plesio-  
saurus (Crampton)  
"Carte & Bailey, Trias.  
Whitby, Eng." -  
about 10 feet  
long. - Ichthyo-  
saurus intermedius.  
Trias. Eng. "Side  
view on a rock.  
The specimens in  
this Museum  
are very well

marked or named,  
so that there  
need be no trouble  
in knowing  
what one is  
looking at.

Went into Memorial  
Chapel, I think  
it is called.

It covers a very  
large space of  
ground, and  
hence, looks some-  
the general appear-  
ance is low, i. e.,  
by contrast.

There are 16  
Chandeliers in  
the main Chapel.  
In a Hall just

in front of  
this are two  
Chandeliers which  
I believe are the  
finest I ever  
saw. I suppose  
they are worth  
more than a  
thousand dollars  
each. The building  
contains a great  
many inscriptions  
in Latin, and  
many portraits  
too. - While on  
the regular Univers-  
sity ground, I  
took a drink of  
excellent & cool  
water from a well.

When I returned from  
Cambridge to Boston  
the water in Charles  
River, which is of  
course connected  
with the ocean, -  
had fallen some  
feet. I think the  
street-car driver  
said the normal  
tide is 5 or 6 feet -  
he may have said  
7 or 8. I need not  
name other buildings  
and sights of  
Boston. The people  
seem to be polite  
and obliging, and  
were not inquisi-  
tive. The houses

are mostly brick  
and granite -  
not very much  
sandstone and  
marble. The streets  
are exceedingly  
irregular. It is  
surprising to see  
the people, cars,  
omnibuses, &c.,  
on Washington and  
other leading streets.

July 6th, 1876.

Left Boston  
this morning, and  
reached State  
Harbor about  
2 P.M. The ride  
from Boston to  
~~the Harbor~~ Providence  
was the cleanest  
and nicest I have  
had though not  
so fast as  
some. From  
Providence to State  
Harbor, we traveled  
I think about 30  
miles an hour.  
out Boston, 14  
miles out from

Boston, could see  
villages, hills, &c.,  
in the distance -  
appearance beautiful.  
Rocky in the main -  
granite. Steep,  
stony land culti-  
vated. Below  
not far, little  
lakes. Just before  
and at Greenfield  
R. I., water on the  
left, with boats  
on it, about  
Westerly, a great-  
many rocks - stone  
fences - a quarry,  
granite. I am almost  
sure. At Stonington,

and just before  
water and boats  
far out to the  
left. Many  
rocks at Obysia-  
Long Island on  
the left with  
many boats - some  
large ones, and  
numerous islands -  
houses on a num-  
ber of them - a  
beautiful place  
for scenery -  
various. Passing  
over water leaving  
it on right and  
left, but of  
course, most  
of it on the left.

Frances here  
and a long dis-  
tance back, almost  
entirely stone -  
granite, I am  
almost sure -  
green moss on  
some of the stones.  
It may be some  
are naturally green.  
Now we come to  
some land nearly  
level - grass, woods,  
fences. Now more  
stone, shrubby.  
Some stony grass  
fields. Beautiful  
clear water on  
the left. Just

before we reached  
New London, the  
houses across  
the water and  
rather in the left  
front, with  
boats, &c., &c.,  
are very beautiful  
indeed. Now the  
our car is on a  
boat, and away  
we go across  
the Thames river  
I suppose nearly  
a mile across.  
I heard one or  
two pronounce it  
as spelled, "Bromite  
works," just  
before we crossed  
the New London

After we reached  
Long Island Sound,  
it could be seen  
a large part of  
the way to New  
Haven; though a  
distance back  
from from New  
Haven, it could  
not be seen quite  
so much, as from  
Connecticut-River  
onward probably  
were then half  
way to New Haven.  
The appearance on  
the sound was  
grand. I think  
one of the most

picturesque  
sublime, and  
beautiful scenes  
on my whole  
trip so far,  
was ~~about~~ <sup>about</sup> ~~and~~  
forward a number  
of miles; though  
it ~~was~~ <sup>was</sup>  
quite rocky and  
rough in some  
even many places,  
though thrift and  
economy seem  
to be exhibited  
by these New  
Englanders. I  
think E. Tenn.  
might be made  
more desirable

than this. I think  
the part of Conn.  
I have seen, is  
more fertile than  
that of Rhode  
Island. Some of  
the land I have  
seen is much  
washed into gulches.  
The land I think  
is in the main  
sandy - the most  
of it - rather dark  
though in some  
places it is  
white or lightish.  
In New England  
so far, I have  
seen maples,  
especially the



soft maple, though  
some hard, a  
few maple  
beech, pines, oaks,  
and other trees  
and shrubs not  
very much differ-  
ent from those  
and shrubs in  
C. Jersey, though  
perhaps the vari-  
ety in trees is  
not so great  
as in my native  
State. These  
trees are neither  
altogether so  
large. They are  
indeed, quite  
shrubby, to a

great extent.  
New Haven  
is a pretty City.  
I saw some  
rocks in approach-  
ing, or rather  
passing through,  
the first part  
of the city, that  
I think are "East  
Rock" and "West  
Rock." I went  
out to the buildings  
and grounds of  
Yale College. I  
was told by my  
guide, that there  
are nearly 50  
buildings in all.

I went through  
the Library a  
few minutes.  
Saw a Hebrew  
roll, and some  
old manuscripts  
and books.  
Went into the  
new Chapel. It  
has a new-fash-  
ioned organ. The  
pipes - or nearly  
all of them - look  
like they are  
steel or iron.  
It is pumped  
by water power.  
It cost \$10,000.  
I went through  
the new building

observatory - it  
will be a noble  
building when  
finished. I  
went too, into  
the Gallery of  
Fine Arts. It  
contains many  
paintings, casts,  
and statues.  
There a number  
of the distinguished  
men of N.Y.  
On the campus  
is a bronze statue  
of Pierpont, the  
first President.  
I could say much  
more of the paintings,  
statues, &c. of gold

July 24th, 1876.

Left New  
Haven about  
6:30 AM and reached  
New York about  
9 AM. From  
New Haven onward,  
the land seems  
to be well culti-  
vated, and it is  
not altogether  
so rocky and  
rugged as back  
a distance toward

Boston. Have  
seen chestnut-  
trees in Mass.,  
R. I., and Ct., Y.,  
especially in Ct. Y.  
Saw the Sound  
sometimes, but not  
so much as on  
yesterday. Crossed  
the Conn. river,  
and other waters  
along the way,  
most of them, I  
suppose, arms  
of the Sound, or little  
rivers, or <sup>or</sup> creeks  
up which the water  
of the Sound runs  
especially when the  
"tide is in."

Crossed the Harlem  
River before enter-  
ing New York,  
also went a  
pretty long distance  
through a tunnel,  
with light coming  
down, over short  
distances. I suppose  
it extends under  
a part of the city  
and has shafts  
or lattice work at  
various places, letting  
down light. Arrived  
at Grand Central  
Depot. Then went  
in stage, for 10¢,  
to Hoffman House  
and engaged a

furnished room,  
without board,  
for two dollars  
per day. Went in  
street-car (fare  
5-cents) up to Central  
Park, but after  
entering the park,  
it seems that  
I walked nearly  
two miles, to reach  
the Reservoir. On  
the way, and at  
numerous places  
through the park  
are beautiful, stone  
arched ways, with  
water and seats  
usually, and roads  
over them.

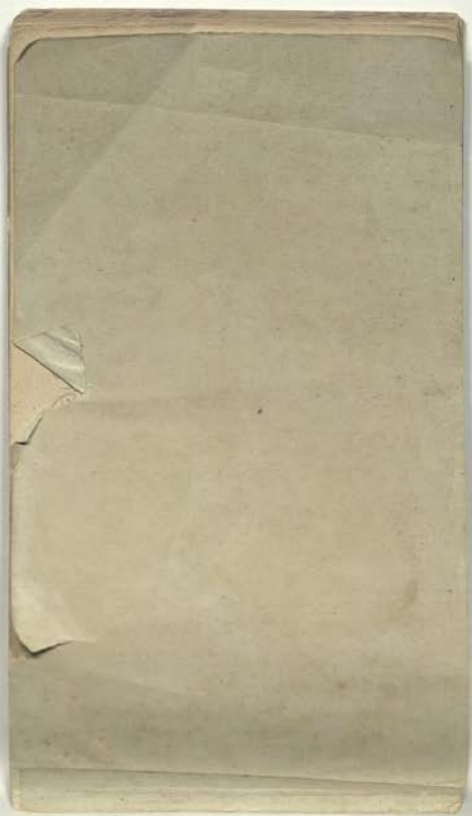
There were some  
sleep watched by  
a ~~the~~ keeper and  
his dog. On the  
way there is lake  
with boats, swans,  
a pelican, and  
other birds. But  
before coming to  
this, there is a  
fountain on each  
side of the way  
with whirling  
jet-pipes, the jest  
of water issuing  
from them, as if  
also from the top,  
in such a manner  
as to cause the  
water to present

a very beautiful  
fountain. Then just  
passing along the  
way between these  
fountains, there  
is a descent of  
beautiful stone  
steps of very great  
width, and having  
some immense  
stone slabs, forming  
through an elegant  
structure, entirely  
of stone arches over  
the top, with tables  
stands of ice cream,  
fruits, &c. on each  
side. Vases of  
flowers or carpets  
(and other things it  
may be) on the top.

beside a road at  
which pass over  
the structure.  
The floor is beau-  
tifully set with  
stones of different  
colors, and divided  
and laid off very  
beautifully. Then  
just in front  
of this and near  
the lake, is a  
very large fountain  
with a huge  
basin, the water  
to a height of an  
number of feet,  
and pouring down  
beautifully. - After  
passing around

a distance and  
crossed the lake  
on a bridge, and  
then wound my way  
to the reservoir,  
which is immense.  
The rocks on the  
near side are  
natural cliffs, there  
is a beautiful  
observatory just  
this side, from  
which a delight-  
ful view of  
the reservoir and  
city is obtained.  
There are seats in  
the park for  
thousands I  
suppose. Persons

were sitting and  
walking almost all  
over the park.  
It is much too  
tedious here to give  
even a brief descrip-  
tion of the shades,  
walks, drives, trees,  
shrubs, flowers,  
&c., &c. - The  
cliffs consist  
of granite, &  
trunk. Many of  
the rocks present  
a clustering  
appearance.  
Obtained a specimen  
or two near the  
Reservoir.





UNIVERSITY OF MICHIGAN.

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THE

**P**RESIDENT'S **R**EPORT

TO THE

BOARD OF REGENTS

FOR THE YEAR

ENDING JUNE 30, 1875.

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ANN ARBOR :  
PUBLISHED BY THE UNIVERSITY  
1875

UNIVERSITY OF MICHIGAN.

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THE

PRESIDENT'S REPORT

TO THE

BOARD OF REGENTS

FOR THE YEAR

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ANN ARBOR:  
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1875

## PRESIDENT'S ANNUAL REPORT.

*To the Honorable Board of Regents :*

I have the honor to present to you my Report for the year ending June 30, 1875.

### THE FACULTIES.

At the October meeting of the Board, Moses Coit Tyler, M. A., was elected Professor of the English Language and Literature, and Charles N. Jones, M. A., Instructor in Mathematics.

At the special meeting of the Board in March, 1875, the resignation of Dr. E. W. Hilgard, Professor of Mineralogy, Geology, Zoölogy and Botany, dated March 8th, was accepted, and John E. Church, M. E., was appointed to complete the instruction for the year in Geology. The resignation of Frederic H. Gerrish, M.D., Professor of Therapeutics, Materia Medica and Physiology, was accepted.

At the special meeting in May, Alfred Hennequin, M. A., Instructor in French, was appointed Instructor in German and French, and was allowed leave of absence for a year.

At the June meeting Samuel A. Jones, M.D., was appointed Professor of Materia Medica and Therapeutics, and John C. Morgan, M.D., Professor of Theory and Practice, in the Homeopathic Medical College. Jonathan Taft, D.D.S., was appointed Professor of The Principles and Practice of Operative Dentistry in the Dental College. The resignation of George B. Merriman, M.A., Adjunct Professor of Physics, was accepted. The resignation of Dr. A. Sager, Dean of the Medical Faculty, was accepted. Prof. C. I. Walker, of the Law Department, was granted leave of absence for another year, and William P. Wells, M.A., was appointed Lecturer again in his stead. Frank J. Blackburn, M.A., and Henry F. Burton, M.A., Instructors in Latin, resigned their posts, and Elisha Jones, M.A., was appointed Acting Assistant Professor of Latin, to serve during the absence of Prof.

Walter. Prof. Frothingham's duties were somewhat modified and his title was changed to that of Professor of Practical Anatomy and Ophthalmic and Aural Surgery. William H. Pettee, M.A., was elected Professor of Mining Engineering, and Dr. Douglas, being transferred from his chair of Chemistry, was appointed Professor of Metallurgy, Chemical Technology and Director of the Chemical Laboratory. Will J. Herdman, M.D., was appointed Demonstrator of Anatomy. Frank Austin Scott, M.A., Instructor in German, resigned his place.

A committee charged with power to act have appointed John A. Watling, D.D.S., Professor of Clinical and Mechanical Dentistry, and Dr. W. H. Jackson, Demonstrator of Dentistry.

The establishment of the Homeopathic Medical College, the Dental School, and the School of Mines adds seven Professional chairs. One of these, the chair of Architecture and Design, was not filled at the June meeting.

#### THE NUMBER OF STUDENTS.

##### *Department of Literature, Science, and the Arts.*

Resident Graduates	10
Seniors	100
Juniors	79
Sophomores	84
Freshmen	110
In Selected Studies	24
In Pharmacy	68
In Analytical Chemistry (not enumerated elsewhere)	3

478

##### *Department of Medicine and Surgery.*

Students—Total in the Department, 370

##### *Department of Law.*

Seniors	141
Juniors	204
Total in the Department	345

Total in the University, 1193

Compared with the previous year, this report shows a decrease of 13 in the Literary Department, an increase of 56 in

the Medical Department, and an increase of 25 in the Law Department, a total increase of 77.

The number of women in the University was 122, distributed as follows: in the Medical Department 47; in the Law School, 3; in the School of Pharmacy 4; in the Department of Literature, Science and the Arts 58. These last were classified thus: Resident Graduates 2; Seniors 9; Juniors 11; Sophomores 16; Freshmen 18; Select Studies, 8.

As usual we draw our students from a wide area. Thirty-three States and Territories and Ontario (Canada), the Hawaiian Islands, Japan, Natal (South Africa), Liberia and Russia have furnished us students this last year. Michigan sends about the same relative proportion every year.

#### DEGREES.

Degrees were conferred as follows:

Pharmaceutical Chemist	18
Civil Engineer	20
Bachelor of Science	18
Bachelor of Philosophy	21
Bachelor of Arts	42
Doctor of Medicine	79
Bachelor of Law	136
Master of Science (in course)	4
Master of Science (on examination)	1
Master of Arts (in course)	27
Master of Arts (on examination)	2
Master of Philosophy (in course)	2
Total	370

The honorary degree of Doctor of Philosophy was conferred on one person, and the honorary degree of Doctor of Laws on another.

The graduating class in the Literary Department numbered 101, and was the largest class which has graduated at the University.

The decision of the Board to confer no Master's degrees after 1877 except on examination is warmly approved by the judicious friends of good learning, and we have many indica-

tions that it will act as a wholesome stimulus to our graduates to pursue post-graduate studies. Candidates are already working for the higher degree of Doctor of Philosophy.

#### THE UNIVERSITY AND THE PUBLIC SCHOOLS.

I take pleasure in recognizing anew the indebtedness of the University to our public schools. This Institution rests upon them as its foundation. While they maintain their excellence, and the interest of our citizens in them continues unabated, nothing but the saddest mismanagement can seriously disturb the prosperity and usefulness of this Institution. The University is constantly repaying its debt to the schools by sending to them thoroughly trained teachers, who carry the inspiration of a generous culture to their work. Thus every year the schools and the University are becoming more closely identified with each other so that no other State in the Union, I think, has an educational system so nearly approaching to organic completeness and unity as Michigan. The poorest child in the humblest cabin of our northern woods may pass from the log school-house through every grade of instruction, to the attainment of a collegiate and a professional education, almost without charge.

The policy of receiving students from approved schools without examination still continues to produce satisfactory results. More than one half of our Freshman class is annually furnished by these schools, and their average preparation is found to be better than that of the rest of the class. Students were received on diploma last year as follows: from Detroit, 8; Jackson, 1; Coldwater, 4; Pontiac, 6; Flint, 4; Adrian, 1; Grand Rapids, 3; Ann Arbor, 42; total, 70. It is proper to say that the size of the class from Ann Arbor is due largely to the attendance of non-resident pupils, who are attracted by the proximity of the school to the University. I think that only two preparatory schools in the United States now send as large classes to college as the High School of Ann Arbor.

The aim of our Faculty is to coöperate with the School Boards and teachers in adapting the courses of the schools and of the University to each other. This has in the main been ac-

complished in such a manner as to lead to the continual elevation of the standard of work in the schools, and so of the standard of admission to the University. It is believed that this has been as profitable to the schools as to the University.\* Criticisms of

\* In order to show how the subject appears from the teacher's point of view, the following extract is given from a paper read to the State Teachers' Association by Mr. J. C. Jones, Superintendent of the Pontiac schools. Speaking of our plan, he says:

"Our own opinion, after an experience of two years in such relation, may be summed up as follows:

"1st. It has intensified, deepened and dignified the work of the high school. This may seem an indefinite statement, for it is a matter better felt than expressed. Pupils take a greater pride in getting good lessons, which they prepare far easier and much better.

"2d. The visits of the University committee are looked forward to and labored forward to with excellent spirit and interest, which leads to much conversation about the University and its requirements, determining many more on a college course than under the old system. This increased amount of talk is one of the greatest benefits to the school, for it brings the University within the pupil's vision and constantly augments his desire to enter its walls.

"Since putting on paper my own experience, I have received a letter from Prof. Charles Chandler, instructor in Latin in Dennison University, Ohio, long time pupil of the Pontiac high school, and teacher of languages in the same, before and since the school has sustained this relation to the University, giving his opinions, from which I quote the following:

"In case of those intending to go to the University, the advantages of the diploma system are marked and undeniable. Such students do better work, and more of it, and in a better spirit, than was formerly the case. It seems easier for preparatory students to get a clear idea that before they get into the University there is just so much work to be done, and that there is no use trying to dodge it, or to do it in any other way, than by steady work. In speaking of the increased talk about the University and its wants, he says: 'I consider this greatly increased amount of talk and thought about college to be almost the most powerful cause operating to produce greater interest in study and better work. By so often thinking of the University course, they are better able to look upon their high school course, in its proper perspective as part of an extended one; so they are more contented to devote themselves to proper high school work, not being led away by wild desires for showy studies and general smattering.'

"3d. Parents manifest more interest and greater pride in the school and its success. They get into closer sympathy with the school, come to understand the character of the work it is doing, and become much more earnest supporters of it.

"4th. It increases the number preparing for college. In 1872, in the Pontiac high school, the number in Latin, having a college course in view, were nine; in 1873, thirteen; while we were not a little surprised, this fall (1874), to find the number had increased to thirty; and this, when the classes entering the high school were about the same in number each year—the largest class being that of 1872.

"5th. Then this method makes it better for the pupil physically as well as mentally. Having labored long and successfully, he becomes possessed of a certificate, which ends the worry and cram of the long vacation just previous to entering college. For all this he has been willing to do good work, not by times, but constantly, through his whole course, which is an immeasurable advantage, begetting in him good habits of study.

"6th. It tends to abolish partial courses and to throw pupils into regular ones, arousing the spirit of emulation among classes for the good of all. This class spirit exerts a wonderful power over its less resolute members, inducing them to continue their labors, which usually results in a genuine love of study possessing them.

"7th. It reduces the possibility of partially prepared pupils of such schools from slipping into college without a pretty thorough examination. And this is as it should be, for it is not only an injury to the school that such pupils be admitted to college, but is an insult to the faithful ones who have fulfilled the requirements by hard study before entering.

"8th. This may be given in Mr. Chandler's words: 'I am convinced that with the present requirements for admission, a boy can be got into the University in most cases creditably, with at most two-thirds of the work he must do to get a diploma and certificate, and that so the average diploma student

this relation of the University to the High Schools have come chiefly from those, who are not familiar with the actual workings of our system.\* We believe that we are just now about to succeed in making more complete than it has been the mutual adjustment of our work and that of schools, which can prepare students only for our scientific courses. It is not practicable for all the schools, which can give English courses, to keep up a classical department. Some schools have in the attempt to teach the classics to one or two pupils unduly increased their expenses. With the present distribution of population in Michigan it is enough that one or at most two High Schools in any one even of the more populous counties undertake the work of classical preparation for the University. Such schools having their income enlarged by fees from non-resident students can better afford to secure competent classical teachers. There is, however, no respectable High School in the State, which cannot do preparatory work, that the University with perhaps some unessential modifi-

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will do half as much again work in passing over the same ground, as he would do under the old system."

"9th. One of its best effects is upon the teacher. This is, perhaps, its very best. Considering, as they do, that their reputation rests upon well prepared pupils, they are induced to acquaint themselves with the best methods of instruction, to post themselves thoroughly, to study clearness of illustration, to present only the necessary facts and points, and to keep these constantly before the minds of their pupils. There comes of this, close, accurate scholarship."

"In conclusion, nothing has awakened a deeper sympathy among the people for the University and its prosperity, than this reciprocal relation of the high schools and the University, and it would be a sad blow to higher education in this State to sever it."

Prof. Jones also quotes from Prof. Strong, Superintendent of Schools at Grand Rapids, as follows:

"The present attitude of the University toward the high schools of this State, has stimulated every department of those schools, and infused new life and vigor into every class. This seems to me the freshest and healthiest stimulus which they have received since the establishment of graded schools in this State."

\* President Eliot of Harvard College seems to have expressed an opinion without being fully acquainted with the facts. In his last Annual Report he says, after briefly describing our system of receiving students on diploma, "that the University should have been willing to try so unpromising an experiment proves that the lack of connection between the secondary and the higher instruction in Michigan must have been painfully felt." It is singular that it should not have occurred to President Eliot that the University could have ventured on the experiment only because fortunately the connection between the secondary and the higher instruction in Michigan is probably closer than in any other State, and so the experiment was thought to give a promise of good results, which has in fact been fulfilled.

cation of its present requirements, can properly accept as suitable for its scientific courses.

#### THE YEAR'S WORK.

The work accomplished by the Faculties and the students during the year has been eminently satisfactory. A spirit of earnestness and order has prevailed among the students of all the Departments. It is one of the conditions of work like ours that the petty mischief of some reckless student or a triumph in some athletic game will be paraded through the newspapers with more noise than the results of twelve months' manly and undemonstrative study of twelve hundred students. But those, who rightly estimate college work will not undervalue the intellectual toil, which conscientiously performed, has proceeded in quietness and peace.

There has been during the past year no important change in our methods or courses. The freedom in the choice of studies, which is given to the Senior class, still yields happy results. It may be hoped that at no distant day it may be extended to the Juniors in regard to certain studies.

In the Medical Department an important step was taken at the beginning of the year. An examination for admission was held. Though the requirements were very slight, it was found necessary to reject some of the applicants, whose ignorance was profound. That ignorance did not prevent them obtaining ready admission to other schools. A more rigorous examination was determined on for the year 1875. I believe that no other Medical School in the Union yet holds an examination for admission.\* I am sure that we have taken a step in the right direction. We must proceed in raising the standard for admission just as rapidly as we can without peril to the School. Happily there seems to be throughout the country and in the medical profession itself a new interest in the subject of medical education. On no educational subject is an awakening of interest more needed. The present state of education in the profession is as disgraceful to

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\* Harvard Medical School will require an examination in 1877 and thereafter. Dartmouth and Bowdoin have also decided to hold preliminary examinations.

the practitioners as it is dangerous to the patients. The Board of Regents have placed on record their purpose to do all they properly can to improve the standard of medical education. It is next to impossible for us to advance as rapidly as we desire, unless the profession will stand by us in our efforts and other medical schools will also show some courage in coöperating with us. We appreciate the fact that schools, whose professors are dependent for their remuneration on the fees from students, can not afford to disregard numbers. Unhappily we have not income enough to enable us to be entirely indifferent to the attendance. But there are cheering signs that a large number of physicians will sustain us in our attempt to secure better preparation of the students for their work here, and more extended and improved courses of instruction. The erection of the new Hospital will materially enlarge our facilities for clinical instruction.

The Law School has enjoyed marked prosperity during the year. When we consider how many Law Schools have been established in recent years in the West, it is very gratifying that the attendance on our School is undiminished. The appropriation made by the Regents for the increase of the Law Library has been judiciously expended, and has brought a very valuable and much needed addition of books to our shelves. But the Library room is altogether too strait for our needs. There seems to be no feasible way of securing proper accommodation for the Law Library, until we can have a new building for the General Library. The Law Library then can and must be removed to the first floor.

The School of Pharmacy is attaining a reputation and a patronage which should not be overlooked. Its growth is regular, steady and healthy. We have been constantly broadening the course of work, until now a very satisfactory significance attaches to the degree of Pharmaceutical Chemist from this University.

It is proper to say here that several of our Professors have during the year published works, which reflect honor on themselves and the University. Dr. Cocker's work on *The Theistic Conception of the World* has recently come from the press.

Prof. Adams's *Democracy and Monarchy in France* has passed to a second edition in this country, and a German edition has appeared at Stuttgart. Prof. Greene has published a work on *Graphical Methods for the Analysis of Bridge Trusses*, extended to *Continuous Girders and Draw Spans*, Prof. Prescott one on *Proximate Organic Analysis* and one on the *Chemical Examination of Alcoholic Liquors*, Prof. D'Ooge an edition of *Demosthenes on the Crown*, Prof. Ten Brook a *History of American State Universities with a Particular Account of the Rise and Development of the University of Michigan*, and Prof. Olney has added some new volumes to his series of mathematical works.

Prof. Watson went to China a year ago in charge of a party sent out by the United States Government to observe the transit of Venus. On his return home through Egypt he was employed for some time by the Khedive in important geodetic work.

#### THE LIBRARY.

It appears by the Librarian's report that the additions to the Library during the past year have been as follows: Volumes: by gift, 126; by purchase, 392; by binding of periodicals, 91; total, 609. Pamphlets: by gift, 124; by purchase, 20; total, 144.

I cannot but express again and with renewed emphasis my opinion of the utter inadequacy of the appropriations which the condition of our Treasury enables you to make for the increase of our Library. No Library of its size is so much used. It is open all day and until 9½ o'clock in the evening. It is not closed even in vacations. Yet frequently the spacious room does not furnish sittings enough for the readers. There is a constant and eager demand for the best works in every department of science and letters. The efficiency of all the oral instruction given by our various Faculties is largely dependent on the aid which can be furnished by the Library to the student. It is not at all extravagant to say that ten thousand dollars annually for several years could be usefully expended for the purchase of books which may be deemed indispensable. We are not at all able to provide ourselves with books, which are absolutely essential to our most urgent needs. Private munificence could not do

us a better service than by placing at our disposal a permanent fund for the increase of the Library.

#### THE MUSEUM.

Our collections are constantly increasing. The additions of botanical specimens during the year have been, 4,402 entries, 11,766 specimens; of zoölogic 1, 1,333 entries, 13,677 specimens; of geological and mineralogical, about 400 specimens; of archæological, 650 specimens.

The most valuable additions have continued to be those sent by Mr. Steere, who has won so wide a reputation as an indefatigable collector. The specimens he has sent from China and Formosa within the last twelve months are very interesting. I cannot but express the hope that we may be so fortunate as to secure his aid in arranging his collections in our Museum.

#### THE WILLIAMS PROFESSORSHIP.

So much progress has been made in the endowment of the Williams Professorship of Physics that we may confidently expect the whole sum required to be raised at an early day. The income of the fund is to be enjoyed by the venerable and beloved Professor, whose name it bears, so long as he lives, and after his death is to be applied to the support of the chair of Physics. Offerings were never prompted by sincerer affection than that which has led the pupils of Dr. Williams to brighten and cheer his declining years by this proof of their devotion to him. May it not only gladden but prolong his serene and beautiful life!

#### AID FROM THE STATE.

The Legislature at its last session treated us generously. They passed six appropriation bills for our aid, as follows:\*

1. An act appropriating \$5,000 to pay the expenses of bringing water to the grounds.
2. An act appropriating \$13,000 to liquidate an indebtedness, which we had incurred.
3. An act appropriating \$3,000 a year for two years for the establishment and support of a Dental School.

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\* See Appendix A. for these Acts.

4. An act appropriating \$8,000 a year for two years for instruction in a School of Mines, and \$2,500 a year for two years for the purchase of apparatus.

5. An act appropriating \$8,000 for a Hospital, on the condition that Ann Arbor should contribute \$4,000.

6. An act appropriating \$6,000 a year for the establishment and support of a Homeopathic Medical College.

An ample supply of water has been obtained from springs on the land of Mr. Emanuel Mann, a little more than a mile southwest of the University. It flows through wooden pipes 3,000 feet, to a cistern on State street, and is pumped from the cistern through iron pipes 2,000 feet, and forced into a tank in the tower adjacent to the Laboratory. The tank holds 40,000 gallons. The water is distributed by pipes to the various University buildings. The need of this additional supply of water had become very pressing. The rainfall on our roofs did not furnish water enough to supply our steam boilers, to say nothing of the wants of the Hospital, the Medical College, and the Laboratory. We had no means of contending with fire. The danger from fire is now so much diminished that we expect to secure a reduction in the cost of insurance equal to 12 per cent. of the cost of introducing the water.

The debt which the Legislature lifted from our shoulders was incurred partly by the purchase of apparatus for the illustration of scientific courses, and partly by the erection of an addition to the Laboratory. The apparatus was indispensable in improved methods of teaching. The enlargement of the Laboratory was rendered absolutely necessary by the fact that a hundred students more than the building could accommodate were waiting for tables. The alternative was to send these students away from our doors or to furnish the needed room and contrive as we best could to meet the expense. We believe that the State would not have wished us to dismiss the waiting students from our halls. We hoped at the time to be able to remove the debt before long, even if we should have no special help from the State. But we are none the less appreciative of the timely aid



which in accordance with the suggestion of the Governor was furnished us by the Legislature.

The members of the Dental Profession in the State have for some time been desirous of securing the establishment of a Dental School here. The Regents and the Medical Faculty have repeatedly expressed to them an earnest wish to coöperate with them in attaining their end. The grant of the Legislature enables us to set a School in operation. There seems good reason to expect for it a successful future. Hardly any similar school in the country furnishes so thorough and extended instruction in those branches of medical science which are a part of the dentist's education, and only one other offers the general advantages of University life to its students. Then there is a large territory near us, which is unprovided with such a School. There is none in Illinois, Indiana, Wisconsin, Minnesota, or Iowa. If the School prospers, as we may reasonably trust it will, ampler means will be required for its support, and doubtless will be provided.

The establishment of the School of Mines was called for in the Legislature by members from the Upper Peninsula. Mining is so important an industry in that region that attention has naturally been turned to the importance of training young men for the profession of mining engineers. We had done what our facilities would permit in imparting such a technical education as a mining engineer should have, but we had long been extremely desirous to do more. A joint committee of the Senate and the House of Representatives visited the University, and reported in substance that we were already giving thorough instruction in many of the branches which were essential to the education of mining engineers, and that a School of Mines could be organized more economically and efficiently here than elsewhere. The act as finally passed provides for the appointment of a Professor of Mining Engineering, a Professor of Metallurgy, and a Professor of Architecture and Design, and assistants to these Professors, and for the purchase of apparatus, models, drawings, etc., of the value of \$5,000. The Professorship of Architecture and Design has not yet been filled, but we hope to

find soon a suitable person for the place. There is great need of such a chair. We do not expect a large number of students at first in this School, but we think it will have a steady and healthy development.

We have long felt the need of ampler Hospital accommodations both for the comfort of patients and for the advantages of clinical instruction in the Medical School. The legislative appropriation of \$8,000 was available only when the city of Ann Arbor had paid \$4,000 into the hands of our Treasurer. It is very gratifying to record the fact that the citizens with hardly a dissenting voice cheerfully and promptly raised the sum asked of them. Steps were taken at once to procure plans for the buildings. Unexpected delays of the architect made it impossible to begin the work as soon as we had intended, but it is hoped that we shall be able to occupy the Hospital at an early day. We are erecting two pavilions 114 feet long and 30 feet wide, containing 48 wards. The structures are built on the principles which according to the best authorities should govern the construction of hospitals.

The establishment of the Homeopathic Medical College, it is hoped, puts an end to a controversy which has been prolonged, unpleasant, and in some respects harmful to the University. It is not necessary to recite the history of the controversy. The Regents in the exercise of authority vested in them by the Constitution of the State have consistently and wisely declined to obey every law, which asked them to appoint Professors to teach the Homeopathic system of medicine in the Department of Medicine and Surgery, since from its establishment that Department had been under the charge of a Faculty, who believe that system to be false. But the law enacted last winter, providing for a Homeopathic College with a distinct and separate organization, and furnishing funds for its support, has met with a prompt recognition from the Board. Professors approved by the Michigan Homeopathic Medical Society and by the American Institute of Homeopathy, a National Association, were appointed to the chairs of Theory and Practice of Medicine and Materia Medica and Therapeutics, a commodious lecture room

was provided, and all other needful arrangements were made for the accommodation of the School.

It may not be inappropriate briefly to indicate the plan of organization of this College, since misapprehensions prevail in some quarters. It is a college or school as independent and distinct in its organization from other schools or colleges in the University as the Law School is distinct from the Department of Literature, Science and the Arts. Its affairs are controlled exclusively by its own Faculty. Persons desiring to obtain a degree in this College are registered and matriculated by themselves. If they graduate, they receive the diploma of the Homeopathic Medical College. It is a general rule of the University that students in one School or Department may attend lectures in any other under such regulations as may be deemed wise. It is entirely in accordance with this usage that matriculants in the Homeopathic Medical College study Theory and Practice and Materia Medica in that College, and attend lectures on Anatomy, Surgery, Physiology and Obstetrics in the Department of Medicine and Surgery. In fact students, who were believers in the Homeopathic system of medicine, have always been found in our medical classes, as in the classes of most medical schools of reputation. The Professors in the old School at the end of their term examine all students who offer themselves for examination, and certify to the Regents the results. The Professors in the Homeopathic College pursue the same course with their students. The Regents award the degrees. Matriculants in the Department of Medicine and Surgery will receive the diploma of that School, if they have passed their examinations with sufficient credit; matriculants in the Homeopathic School will on the same conditions receive the diploma of that School.

It is believed that reasonable men of both schools of medicine will agree that this is a judicious method of carrying the law of the State into effect. So much feeling has been awakened by the discussions and collisions of the two Schools in all parts of the country, and especially in Michigan, that no possible plan for setting up a Homeopathic College here could escape criticism. But leading men of both Schools have expressed their acquies-

cence in the plan adopted. It is hoped that our organization of work will by its actual operation commend itself to the approbation of the public. I feel that praise is justly due to the Professors in the Department of Medicine and Surgery, who under the fire of criticism, sometimes harsh and ungracious, from certain of their professional brethren, have stood steadily at their posts at the risk of being misrepresented and even calumniated.

If no unexpected embarrassments arise from this interesting experiment in medical education—for such we must consider the attempt to have two different systems of medicine taught, even in separate colleges, in the same University—one obstacle to securing needed aid from the Legislature for the Institution is removed. Whenever help was asked, many friends of Homeopathy declined to favor any grants, unless Professors of the Homeopathic system of medicine were appointed. To others, who really cared nothing for Homeopathy, a convenient excuse was offered for opposing appropriations for the University. The argument and the excuse for refusing us assistance are now removed.

The aid which the Legislature gave us last winter must be regarded as of great importance, not only because it secures an immediate enlargement of the scope of our work, but because it seems to promise yet larger help in the future. In view of the recent legislation it does not appear extravagant to assume that the State is now fairly committed to the policy of concentrating here whatever schools for higher education it may hereafter set up, and of giving to the schools already established at this place an adequate support. Any school planted here enjoys collateral advantages which cannot be afforded elsewhere in the State, and every new school brings its quota of strength to the other schools and interests a new circle of friends in the whole Institution. We trust that we are not over-sanguine when we say that we now start upon a new era in the history and work of the University.

But it is prudent to guard against an error, into which those not familiar with our affairs may fall. It would be a mistake to suppose that the generous legislation of last winter increases by a penny our pecuniary resources for the work which we have

heretofore been doing. Not a dollar of all the appropriations goes to enlarge the funds on which we depend for the current expenses of the Academic Department, the Medical Department or the Law Department, the Library or the Museum. On the contrary the increase in incidental expenses, for the present at least, may make some draft on our general fund. We are still in sore need of money for scientific apparatus and for books, and must soon have more buildings. It is only by the most careful vigilance over every dollar, only by refusing to our Professors means of illustration which seem well nigh indispensable, and by reducing our Library fund to a discreditable sum, that we are able to keep out of debt. If an Institution like this is really doing what it ought, its needs, its demands, must constantly increase. It was in wise recognition of this fact that the Legislature in 1873, set apart for the aid of the University a tax of one-twentieth of a mill on the ratable property of the State. It was expected that as the State should grow in wealth, the income of the University would be increased. But it appears that there is grave doubt whether the appraisals which the counties will report to the State Board of Equalization in 1876 will be larger than the revised appraisal which the Board made in 1871. In that case, the design of the legislators that the income of the University from the tax should be enlarged in 1876, will be thwarted, unless the State Board come to our relief by raising the appraisal, as their predecessors did in 1871. It is to be hoped that the Board in determining their action will not overlook this consideration. The Report of the Finance Committee of the Board of Regents, appended to this Report, will show our financial condition at the end of our fiscal year, June 30, 1875. It is certain that unless the one-twentieth of a mill tax yields us a larger sum after 1876 than it does at present, viz., \$31,500, we shall be most seriously embarrassed. We shall be compelled not only to check the expansion of our work, we shall have to curtail our work or do it less efficiently. I do not believe that the State of Michigan wishes us to curtail our work. She feels a just pride in what the University has been able to accomplish. So long as we use wisely and economically the funds she en-

trusts to our care, she will not cease to provide for our most pressing wants. We therefore do not hesitate to set forth those wants with the utmost frankness, and anew to commend the University with all its glorious possibilities to the good State which has done so much for it in the past.

## APPENDIX A.

The following Acts were passed by the Legislature of Michigan at the session of 1875 :

AN ACT to provide for a Supply of Water for the University of Michigan.

SECTION 1. *The People of the State of Michigan enact*, That for the purpose of supplying the University of Michigan with water, there shall be and is hereby appropriated out of any funds in the treasury of the State of Michigan not otherwise appropriated, the sum of five thousand dollars. Said moneys shall be expended under the direction of the Board of Regents of the said University, and shall be drawn from the treasury on the presentation of the proper voucher of the Treasurer of the said Board to the Auditor General, and on his warrant to the State Treasurer; and no money shall be drawn by virtue of this act by such Regents, unless they shall have first filed with the Auditor General an estimate and statement showing the purpose for which such money is required, and none shall be drawn further than is required to pay for labor done, and materials furnished.

Approved April 8, 1875.

AN ACT to provide for paying the outstanding interest-bearing Warrants of the University of Michigan.

SECTION 1. *The People of the State of Michigan enact*, That there shall be and is hereby appropriated out of any funds in the treasury of the State of Michigan not otherwise appropriated, the sum of thirteen thousand dollars, or so much thereof as may be necessary, for the purpose of paying the outstanding interest-bearing warrants on the treasury of the University of Michigan. Said money shall be drawn from the treasury on the presentation of said warrants accompanied by the proper voucher of the Treasurer of the Board of Regents of the University of Michigan to the Auditor General, and on his warrant to the State Treasurer.

SEC. 2. This act shall take immediate effect.

Approved April 23, 1875.

AN ACT to provide for an Appropriation to enable the Board of Regents to establish and maintain a Dental School in connection with the Medical Department of the State University.

SECTION 1. *The People of the State of Michigan enact*, That there shall be and is hereby appropriated out of any funds in the treasury of the State of Michigan, not otherwise appropriated, the sum of three thousand dollars for each of the years eighteen hundred and seventy-five and eighteen hundred and seventy-six, for the purpose of enabling the Board of Regents to establish and maintain a Dental School in connection with the Medical Department of the State University. The above mentioned sum

shall be drawn from the treasury, on the presentation of the proper voucher of the Treasurer of said Board to the Auditor General, and on his warrant to the State Treasurer.

Approved May 1, 1875.

AN ACT to organize a School of Mines in the University of Michigan, the establishment of additional professorships, and making appropriations for maintenance of the same.

SECTION 1. *The People of the State of Michigan enact*, That the Board of Regents of the University of Michigan are hereby authorized to establish a School of Mines in connection with the polytechnic department of that institution, to be called the School of Mines of the University of Michigan.

SEC. 2. The Board of Regents are hereby authorized to establish and maintain in the University of Michigan at least three professorships: one of Mining Engineering, one of Metallurgy, and one of Architecture and Design, with the necessary assistant instructors.

SEC. 3. That for the professorships and assistant instructors mentioned in section two, and also for the general expenses of said School of Mines, and of the professorship of architecture and design, there shall be assessed upon the taxable property of the State for the year eighteen hundred and seventy-five, and also for the year eighteen hundred and seventy-six, the sum of eight thousand dollars for each of said years, which sum shall be paid to the treasurer of the Board of Regents of the University of Michigan, in two equal sums, on the first days of May and November of the year eighteen hundred and seventy-six, and of the year eighteen hundred and seventy-seven, upon a requisition of the treasurer of said Board of Regents, the requisition being accompanied by a certificate of the president and secretary of said board, stating that the amount so drawn, is to be applied to the purpose specified in this section:

SEC. 4. The Board of Regents shall commence the equipment of said school with the necessary engines, boilers, and machinery, serviceable models or furnaces, pumps, hoisting apparatus, and other mechanical mining appliances; serviceable models of shaft-work, mining structures, bridges, transportation cars, roads, appliances for crushing, stamping, washing, and reduction of rock and ores, the display of tools, implements, apparatus, drawings, maps, photographs, and specimens of minerals and metals and all else needful and necessary for imparting to students the highest theoretical and best practical instruction, according to the constant improvement from time to time made in the methods of mining and quarrying, and in architecture and design.

SEC. 5. That there be appropriated hereby from any money in the treasury of the State of Michigan not otherwise appropriated, the sum of two thousand five hundred dollars for the year eighteen hundred and seventy-five (1875), and two thousand five hundred dollars for the year eighteen hundred and seventy-six (1876), to be expended under the direction of the Board of Regents of the University of Michigan, for the purposes mentioned in section four of this act; and this sum so appropriated shall be placed by the Auditor General to the credit of the University of Michigan, designated as "special fund for the estab-

lishment of the School of Mines," and shall not be diverted to any other purpose.

SEC. 6. There is hereby appropriated for the specified purpose of carrying out the provisions of section four of this act, the sum of five thousand dollars; and the same shall be incorporated in the State tax as follows, to wit: for the year eighteen hundred and seventy-five (1875), two thousand five hundred dollars; for the year eighteen hundred and seventy-six (1876), two thousand five hundred dollars; which taxes, when and as collected, shall be credited up to the general fund of the State to reimburse the same for the amount drawn from it as provided for in section five.

SEC. 7. That the sum appropriated, as provided for in section five of this act, shall be paid to the treasurer of the Board of Regents of the University in any sum or sums he may require, upon his filing with the treasurer of the State of Michigan his voucher, accompanied by the certificate of the president and secretary of the Board of Regents of the University of Michigan, certifying that the sum so asked for is needed to liquidate obligations of the University then already incurred and due for the purposes specified in section five of this act.

SEC. 8. The Board of Regents shall yearly hereafter, in the annual report of the University, include a detailed statement of the expenditures out of the above appropriations for their respective objects.

SEC. 9. The president of the University shall be provided at all reasonable times, upon application, for the purposes of the School of Mines, with abstracts of all statistical tables and other information resulting from mining and quarrying, that shall come into the possession of the various State offices.

Approved May 3, 1875.

AN ACT making appropriations for the building of a hospital in connection with the University of Michigan, and for the equipment of the same with hospital stores and furniture.

SECTION 1. *The People of the State of Michigan enact*, That there shall be and is hereby appropriated out of any moneys in the treasury of the State of Michigan not otherwise appropriated, the sum of five thousand five hundred dollars, for the purpose of building a hospital in connection with the University of Michigan, which said money shall be expended under the direction of the Board of Regents of [the] said University, and shall be drawn from the treasury on the presentation of the proper voucher of the treasurer of said board to the Auditor General, and on his warrant to the State treasurer; and no money shall be drawn by virtue of this act by such Regents unless they shall have first filed with the Auditor General an estimate and statement showing the purpose for which said money is required; and none shall be drawn further than is required to build such hospital in payment for labor and material furnished.

SEC. 2. There shall be and is hereby appropriated out of any moneys in the treasury of Michigan not otherwise appropriated, the further sum of two thousand five hundred dollars, to be expended under the direction of the Board of Regents of said University for equipments, supplies, and such hospital stores as they

shall deem necessary for the maintenance of such hospital, which said moneys shall be drawn from the treasury on the presentation of the proper voucher of the treasurer of the said board to the Auditor General and on his warrant to the State treasurer; *Provided*, That no money shall be drawn from the State treasury under this act until the citizens of Ann Arbor shall have first contributed and deposited the sum of four thousand dollars with the treasurer of the said Board of Regents, which said moneys shall be disposed of as the other moneys appropriated in this act.

SRC. 3. This act shall take immediate effect.

Approved May 3, 1875.

AN ACT for the establishment of a Homeopathic Medical Department of the University of Michigan.

SECTION 1. *The People of the State of Michigan enact*, The Board of Regents of the University of Michigan are hereby authorized to establish a Homeopathic Medical College, as a branch or department of said University, which shall be located at the city of Ann Arbor.

SEC. 2. The treasurer of the State of Michigan shall, on the first day of January, eighteen hundred and seventy-six, pay out of the general fund, to the order of the treasurer of the Board of Regents, the sum of six thousand dollars, and the same amount on the first day of January of each year thereafter, which moneys shall be used by said Regents exclusively for the benefit of said department.

Approved April 27, 1875.

## APPENDIX B.

### REPORT OF THE FINANCE COMMITTEE.

*To the Board of Regents of the University of Michigan:*

The Finance Committee submit the following report of the receipts and disbursements of the University, for the fiscal year ending June 30, 1875:

RECEIPTS.	
Bal. in treasury July 1, 1874.....	\$ 4,410 65
Rec'd of State Treasurer on account of University Int. Fund.....	38,650 00
Rec'd of State Treasurer, 1-20th mill tax.....	31,500 00
“ of State Treasurer (act of 1875) for payment of outstanding University warrants.....	13,000 00
Rec'd of Steward for students' fees.....	29,255 00
“ for interest on Treasurer's account.....	98 14
“ for principal and interest on bonds in reserve funds sold.....	10,657 27
Rec'd for temporary loans.....	29,868 11
	\$157,439 17
DISBURSEMENTS.	
Paid salaries and janitors' wages, as per schedule herewith submitted.....	78,117 00
Redemption of outstanding warrants.....	13,000 00
Accrued interest on same.....	693 11
Steward's disbursements, as per schedule and vouchers herewith submitted.....	28,438 35
Liquidation of loans and interest.....	34,896 60
Balance to new account.....	2,294 11
	\$157,439 17

The estimated receipts for the year ending June 30, 1876, are as follows:

Balance in treasury July 1, 1875.....	\$ 2,294 11
For University interest.....	38,500 00
Annual State aid, act of 1873.....	31,500 00
“ “ “ “ 1875.....	11,500 00
Students' fees and diplomas.....	27,000 00
Appropriation for School of Mines, due May 1, 1876....	4,000 00
	\$114,794 11

The disbursements for the same time are estimated as follows:

For salaries, including the professors in the new department, and janitors' wages.....	\$ 88,970 00
Annual Calendar.....	1,500 00
Insurance.....	2,200 00
Repairs and alterations.....	1,500 00
Fuel and lights.....	5,000 00
Libraries.....	2,500 00
Improvement of grounds.....	4,000 00
Postage.....	400 00
Hospital.....	500 00
Steward's contingent expense account.....	4,000 00
New boiler at Laboratory.....	2,000 00
Required for water supply, above appropriation.....	1,500 00
Regents expenses.....	630 00
	\$111,100 00

Estimated surplus.....\$ 3,694 11

There are yet outstanding warrants amounting to \$3,500.

The annual report of the Treasurer, with a full list of all warrants paid, is herewith submitted. This list of warrants has been compared with the books of the Secretary of the Board of Regents and found correct.

Your committee submits herewith a list of all the officers, professors and employes of the University, with the amount of salary paid to each.

It now seems as though there would not be a repetition of the extraordinary expenses that during the past three years have pressed so heavily upon the scanty resources of the University. The new buildings are complete and paid for, or will be before the close of another financial year. The water-works, for which

an insufficient appropriation was made by the legislature, are in successful operation, and a supply of pure water will soon be distributed to all the buildings on the campus. Hydrants will be placed near the principal buildings, affording a fair protection against fire; and your committee think that a very material reduction in the cost of insurance will be effected by reason of the abundant supply of water and the appliances for making it available. The thorough manner in which the work has been and is being done, has increased the cost \$1,500 above the amount originally estimated, and which the legislature was asked to appropriate.

It will be observed that the estimated disbursements for the current year are uncomfortably close to the receipts, but your committee thinks the estimate of expenses ought not to be exceeded, and need not be if the estimates are closely followed.

If the legislature at its next session shall, as is confidently expected, increase the annual aid to the University from \$31,500 to \$50,000, it will afford some means much needed to increase the libraries, and the facilities for instruction in many of the departments. The friends of the University (and they are very numerous in the State) will doubtless see to it that sufficient means are placed at the disposal of the Regents to maintain a steady growth in all the departments of the University, and to enable it to afford to the young men and women of the State every desirable facility for obtaining a thorough education.

THOMAS D. GILBERT,  
C. B. GRANT,  
ANDREW CLIMIE,  
Finance Committee.