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# REPORT

OF THE

# UNIVERSITY OF MINNESOTA.

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stories still unprovided with proper furniture, but are supplied with such chairs, desks and tables as have been gathered up. There is therefore every reason why these interests of the school should receive immediate attention. These are accordingly earnestly commended to the attention of the legislature of the state.

Respectfully submitted,

D. L. KIEHLE,  
Principal.

THE UNIVERSITY OF MINNESOTA, }  
MINNEAPOLIS, MINN., }  
November 1st, 1878. }

*To the Honorable David Burt, Superintendent of Public Instruction  
for the State of Minnesota:*

SIR:

I have the honor to transmit, according to law, a report  
of the University of Minnesota, for the year ending June 6th, 1878,  
being the twelfth annual report.

I am, Sir, very respectfully,  
Your obedient servant,

WILLIAM W. FOLWELL,  
President.

## THE BOARD OF REGENTS,

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<b>The Hon. HENRY H. SIBLEY, St. Paul.....</b>	<b>1879.</b>
<b>The Hon. THOS. S. BUCKHAM, M. A., Faribault.....</b>	<b>1879.</b>
<b>The Hon. PARIS GIBSON, M. A., Minneapolis.....</b>	<b>1880.</b>
<b>The Hon. MORRIS LAMPREY, M. A., St. Paul.....</b>	<b>1880.</b>
<b>The Hon. RICHARD CHUTE, Minneapolis.....</b>	<b>1880.</b>
<b>The Hon. WILLIAM R. MARSHALL, St. Paul.....</b>	<b>1881.</b>

*and ex officio,*

**The Governor of the State,**

**The Hon. JOHN S. PILLSBURY, Minneapolis.**

**The Superintendent of Public Instruction,**

**The Hon. D. BURT, M. A., St. Paul.**

**The President of the University,**

**WILLIAM W. FOLWELL, M. A., Minneapolis.**

### OFFICERS OF THE BOARD.

**Hon. HENRY H. SIBLEY, President.**

**Hon. PARIS GIBSON, Recording Secretary and Treasurer.**

**WILLIAM W. FOLWELL, Corresponding Secretary.**

## OFFICERS OF INSTRUCTION.

---

WILLIAM W. FOLWELL, PRESIDENT,  
*Social Science and Logic.*

G. CAMPBELL, M. A., B. D., VICE PRESIDENT AND PROVOST,  
*Mental and Moral Philosophy.*

JABEZ BROOKS, M. A., D. D., PROFESSOR,  
*Greek Language and Literature.*

EDWIN J. THOMPSON, M. A., PROFESSOR,  
*Mathematics and Astronomy.*

NEWTON H. WINCHELL, M. A., PROFESSOR,  
*Geology and Mineralogy.*

CHARLES N. HEWITT, M. D., PROFESSOR, (non-ten.)  
*Public Health and Hygiene.*

MITCHELL D. RHAME, B. A., PROFESSOR,  
*Civil and Mechanical Engineering.*

STEPHEN F. PECKHAM, M. A., PROFESSOR,  
*Chemistry and Physics.*

JOHN G. MOORE, B. A., PROFESSOR,  
*North European Languages.*

MOSES MARSTON, M. A., PROFESSOR,  
*English Language and Literature.*

RICHARD W. LAING, LL. D., PROFESSOR,  
*History and French.*

JOHN A. LUNDEEN, U. S. A.,  
*Military Science and Tactics.*

CHARLES Y. LACY, B. Agr., ASST. PROFESSOR,  
*Theory and Practice of Agriculture.*

LOUIS W. PECK, INSTRUCTOR,  
*Physics and Drawing.*

MRS. AUGUSTA N. SMITH, PRECEPTRESS,  
*English and History.*

JOHN C. HUTCHINSON, B. A., INSTRUCTOR,  
*Greek.*

JOHN S. CLARKE, B. A., INSTRUCTOR,  
*Latin.*

MATILDA J. CAMPBELL, B. L., INSTRUCTOR,  
*English and German.*

DR. HENRY C. LEONARD was employed during the spring term to give the instruction in Botany and Physiology.

W. C. W. Hall took the class in Historical Geology after the third week of the third term—relieving Prof. Winchell for the field work of the Geological Survey.

#### EMPLOYES.

- JOHN B. EUSTIS, Farmer, until April, 1st.
- SAMUEL S. EUSTIS, JR., Farmer, after April, 1st.
- WILLIAM C. CAMPBELL, B. A. Assistant Librarian.
- CLARENCE C. HERRICK, Assistant in Museum.
- JAMES C. BOWMAN, Assistant in Chemical Laboratory.
- CLARENCE BRYANT, Janitor of Main Building.
- W. A. WOOD, Janitor of Agricultural College, and Assistant in the Plant House.
- W. H. SAVIDGE, Carpenter.
- FRANK R. PRITCHARD, Chorister.
- W. H. CHAMBERS, Fireman, Main Building.

Most of the above are or have been students.

#### OFFICIAL CHANGES.

During the session of the legislature of 1878, Regent Marshall was appointed by the Governor with the consent of the senate, for the term of three years.

At the spring meeting of the board of regents the following new elections were made to have effect from and after the beginning of the then next ensuing year:

Assistant Professor Chas. Y. Lacy was promoted to the rank of professor;

Instructor Louis W. Peck was elected assistant professor and the department of physics placed in his charge;

Mr. R. H. Tripp of Kalamazoo, Michigan, was elected assistant professor, and placed in charge of the department of Latin. This action has had the effect to relieve Professor Brooks of the added burden of conducting a large and popular department, the duties of which he has discharged cheerfully and efficiently since the lamented death of Professor V. J. Walker in 1875.

At the meeting of the board held June 6, 1878, (Commencement day), it was decided to relieve Professor Winchell of all duties of instruction, in order to devote his whole time and energies to the geological survey and the duties incident thereto.

By authority of the board the executive committee a few days later employed Mr. C. W. Hall, a graduate of Williams College, and for some years a student of the University of Leipsic, to take charge of the instruction in Geology, Minerology, Botany and Zoology, and also to assist in the work of the Geological Survey and the general museum.

#### THE WORK OF THE YEAR.

The customary exhibit of the actual employment of faculty and students is here submitted. From this statement any person concerned may at once ascertain what subjects have been taught, what means, to what classes, the number of exercises had, and the number of students under instruction in each case.

Subject.	Text Book.	Instructor.	No. of Exercises	Class.	1	2	3	4	5	6
<b>MATHEMATICS.</b>										
Plane Geometry.....	Olney.	Thompson.	50	Second.	45					
" " " " " " " " " " " "	"	Lundeen.	50	"	20					
Algebra .....	Ficklin.	Thompson.	30	Fourth.	41					
Astronomy.....	Kiddle.	"	52	"	26					
Algebra.....	Olney.	"	54	Thrd.	26					
" " " " " " " " " " " "	"	Lundeen.	51	Thrd.	22					
" " " " " " " " " " " "	"	"	51	"	20					
Solid and Sp. Geometry.....	"	Thompson.	12	Second.	16					
Plane Trigonometry.....	"	"	23	"	26					
" " " " " " " " " " " "	"	Lundeen.	23	"	20					
" " " " " " " " " " " "	"	H. J. Smith.	20	"	21					
Sp. Trigonometry.....	"	Thompson.	17	"	22					
" " " " " " " " " " " "	"	Lundeen.	17	"	18					
" " " " " " " " " " " "	"	H. J. Smith.	17	"	18					
Algebra.....	Ficklin.	Thompson.	30	Fourth.	27					
" " " " " " " " " " " "	Olney.	"	54	Thrd.	26					
" " " " " " " " " " " "	"	Lundeen.	64	"	20					

\* Double hours.

Subject.	Text Books.	Instructor.	Exercis's	Class.	Students	Term.
<b>MATHEMATICS (Continued)</b>						
Elemental Geometry.....	"	Thompson.	30	Second.	58	II.
Advanced Geometry.....	Peck.	"	20	First.	11	II.
Trigonometry.....	"	"	30	"	25	III.
Elementary Astronomy.....	Snell.	"	50	Junior.	18	I.
Advanced Astronomy.....	Olney.	"	40	Senior.	8	I.
Elementary Calculus.....	Loomis.	"	50	Junior.	6	II.
Advanced Calculus.....	Olney.	"	40	"	7	III.
Theory of Equations.....	Todhunter.	"	40	"	7	III.
.....	Ficklin.	"	30	Fourth.	26	III.
<b>CHEMISTRY.</b>						
General Chemistry.....	Barker.	Peckham.	40	Second.	63	I.
Lectures.....	Lectures.	"	14	"	63	I.
General Chemistry.....	"	"	50	Senior.	2	I.
.....	"	"	50	Jun & Sen	6	I.
.....	"	"	50	Junior.	2	I.
.....	"	"	50	Junior.	3	I.
.....	"	"	35	First.	14	II.
.....	"	"	54	Senior.	1	II.
.....	"	"	54	Junior.	1	II.
.....	"	"	54	Junior.	2	II.
.....	"	"	54	Junior.	5	II.
.....	"	"	22	First.	12	III.
.....	"	"	63	Special.	1	III.
.....	"	"	63	Junior.	1	III.
.....	"	"	53	Junior.	2	III.
.....	"	"	53	Junior.	1	III.
.....	"	"	63	Junior.	1	III.
.....	"	"	38	Second.	15	III.
.....	"	"	16	"	15	III.
.....	"	"	11	Senior.	14	II.
<b>PHYSICS.</b>						
General Philosophy.....	Peck's Ganot	Peck.	54	Fourth.	69	I.
.....	{ Snell's	"	"	"	"	"
.....	{ Olmstead.	"	54	First.	11	I.
.....	Ganot.	"	51	Third.	37	II.
.....	(Laboratory.)	"	57 d. h.	Senior.	1	II.
.....	Ganot.	"	57	Second.	29	III.
.....	"	"	57	Second.	25	III.
<b>MINERALOGY.</b>						
General Mineralogy (2 sec.)	Dana.	Winchell.	108	Third.	63	II.
Lectures.....	Lectures.	Winchell.	20	Junior.	11	III.
.....	"	Hall.	32	Junior.	11	III.
<b>AGRICULTURE.</b>						
General Hand Analysis	Gray.	Leonard.	112	Third.	57	III.
<b>ZOOLOGY.</b>						
General Zoology.	Dalton.	Lacy.	8	Fourth.	60	III.
.....	"	Leonard.	46	"	60	III.
<b>DOMESTIC ECONOMY.</b>						
General Domestic Economy.....	Goodrich.	Marston.	55	Senior.	6	I.
Lectures.....	Lectures.	"	55	Senior.	13	III.
.....	{ Brooke &	"	55	Junior.	24	II.
.....	Carpenter.	"	55	First.	5	I.
.....	Morris & Sk't.	"	55	"	2	II.
.....	Carpenter.	"	57	"	30	III.
.....	Hepburn.	"	55	"	28	II.
.....	Jevons.	Folwell.	55	"	28	I.
.....	Gilmore.	Mrs. Smith.	162	Fourth.	116	I.
.....	Swinton.	"	108	"	71	II.
.....	Freeman.	Miss M. J. C.	110	"	59	I.



Subject.	Text Books.	Instructor.	Exercises	Class.	Students	Term
<b>ENGLISH (Continued.)</b>						
Historical Grammar. ....	Morris.	"	55	2d & 3d.	22	I.
Readings, Burns. ....	Hudson	"				
Critical Readings	{ Bacon and Shakespeare. }	Hudson's	"	"	1	II.
Analysis	{ Goldsmith. Greene.	"	55	"	1	III.
Readings.	{ Addison. Hudson. }	"				
Rhetorical Exercises. ....	Orations	Marston.	42	Senior.	10	I.
" " (public)	"	"	77	Junior.	20	II.
" " " "	Essays	"	28	Junior.	10	I.
" " (class)	"	"	77	Junior.	20	II.
" " " "	"	"	58	First.	20	I.
" " " "	Declamat'ns	"	50	"	21	II.
Elocution	{ Russell & Murdock. }	"	11	Third.	22	I.
Rhetorical Exercises. ....	Essays w. Logic.	Folwell.	116	First.	20	I.
" " " "	Essays w. Geology.	Winchell.	372	Third.	20	II.
" " " "	Essays w. Chemistry.	Peckham.	120	Second.	20	I.
" " " "	Essays w. History.	Laing.	152	Fourth.	20	I.
" " " "	Declamat'ns	"	192	Second.	20	II.
" " " "	Essays.	Mrs. Smith.	696	Fourth.	116	I.
" " " "	Cathart.	"	24	"	122	I.
" " " "	Essays w. History.	"	288	"	17	II.
<b>GERMAN.</b>						
Goethe's Faust. ....	{ Whitney's Text. }	Moore.	54	Jun & Sen	12	I.
German Grammar. ....	Whitney.	"	54	Junior.	12	II.
Lessing's Minna von Barnhelm. ....	Buchhelm.	"	54	Second.	7	I.
German Course. ....	Ahn-Henn.	"	54	Third.	20	II.
" " " "	"	Miss M. J. C. Moore.	54	"	20	I.
Goethe's Prosa. ....	Hart.	"	55	Jun & Sen	12	II.
Goethe's Egmont. ....	Buchhelm.	"	40	Second.	10	I.
German History. ....	Lewis.	"	15	"	20	II.
German Reader. ....	Whitney.	Miss M. J. C. Moore.	55	Third.	20	I.
" " " "	"	"	55	"	20	II.
Prose Selections. ....	Whitney.	Moore.	55	Junior.	12	I.
Deutsche Lyrik and German Literature. ....	Buchhelm.	Moore.	54	Jun & Sen	12	II.
Schiller's Maid of Orleans.	Adler.	Miss M. J. C. Moore.	54	Junior.	12	I.
German Reader. ....	Whitney.	Moore.	108	Third.	20	II.
Schiller's Wilhelm Tell. ....	Buchhelm.	"	40	Second.	20	I.
German History. ....	Lewis.	"	15	"	20	II.
Swedish Grammar. ....	May.	Lundeen.	55	Senior.	20	I.
Frithiof's Saga. ....	"	"	54	Senior.	20	II.
<b>FRENCH.</b>						
Grammar and Reader. ....	Principia.	Laing.	55	First.	20	I.
French Pronunciation. ....	Souvestre.	"	54	"	20	II.
{ Conscription 1813. }	{ Holt's Ed. }	"				
Grammar in French. ....	Noel &	"	55	"	14	II.
Theatre Classique & Hist.	Regnier.	"				
French Literature. ....	Demogeot.	"	54	Senior.	20	I.
French Literature. ....	"	"				
Bossuet-Fenelon. ....	Pr. Eds.	"	55	Senior.	20	II.
French Literature. ....	Lectures.	"	14	Senior.	20	I.

Subject.	Text Book.	Instructor.	Exercises	Class.	Students	Term.
<b>LATIN.</b>						
.....	{ Chase & Stuart.	Clarke.	51	First.	9	I.
.....	Essays.	"	27	"	9	"
.....	{ Allen & Greenough	"	408	Thrd.	53	"
.....	Essays.	"	53	"	53	"
.....	{ Allen & Greenough	Hutchinson.	54	Fourth.	29	"
.....	.....	Clarke.	55	"	44	"
.....	Tyler.	Brooks.	54	Junior.	11	II.
.....	Lincoln.	Clarke.	52	Second.	16	"
.....	Essays.	"	16	"	16	"
.....	Lincoln.	"	52	"	19	"
.....	Essays.	"	19	"	19	"
.....	Frieze.	"	52	Thrd.	23	"
.....	Essays.	"	23	"	23	"
.....	Frieze.	"	52	"	28	"
.....	Essays.	"	28	"	28	"
.....	{ Allen & Greenough	Hutchinson.	52	Fourth.	26	"
.....	.....	"	50	"	46	"
.....	{ Chase & Stuart.	Brooks.	20	Senior.	8	III.
.....	Harrington.	"	48	Junior.	12	"
.....	Essays.	"	24	"	12	"
.....	Tyler.	Clarke.	52	First.	9	"
.....	Essays.	"	9	"	9	"
.....	Lincoln.	"	52	Second.	13	"
.....	Essays.	"	26	"	13	"
.....	Lincoln.	"	52	"	23	"
.....	Essays.	"	46	"	23	"
.....	Frieze.	"	55	Thrd.	21	"
.....	Essays.	"	42	"	21	"
.....	Frieze.	Miss M. J. C.	55	"	21	"
.....	{ Allen & Greenough	Hutchinson.	110	Fourth.	49	"
.....	Essays.	"	49	"	49	"
<b>GREEK.</b>						
.....	Lectures.	Brooks.	24	Senior.	5	I.
.....	{ Exam'n & Reviews.	"	24	"	5	"
.....	Tyler.	"	53	Junior.	8	"
.....	Essays.	"	24	"	8	"
.....	Boise.	Hutchinson.	52	Second.	20	"
.....	Essays.	"	60	"	20	"
.....	Boise.	"	54	Thrd.	8	"
.....	Essays.	"	8	"	8	"
.....	{ Hadley & Boise.	"	54	Fourth.	18	"
.....	Ox. Class.	Brooks.	51	Senior.	5	II.
.....	Heslop.	"	40	First.	6	"
.....	Boise.	Hutchinson.	52	Second.	16	"
.....	.....	"	52	Thrd.	8	"
.....	{ Hadley & Boise.	"	52	Fourth.	18	"
.....	Woolsey.	Brooks.	51	First.	7	III.
.....	Essays.	"	18	"	7	"
.....	Mather.	Hutchinson.	52	Second.	19	"
.....	Essays.	"	57	"	19	"
.....	{ Hadley & Boise.	"	55	Fourth.	17	"

Subject.	Text Books.	Instructor.	Exercis's	Class.	Students	Term.
<b>MENTAL PHILOSOPHY.</b>						
Psychology.....	{ Hickok 1/2 } Lectures "	Campbell.	55	Junior.	27	1888
History of Philosophy.....	Lectures.	"	40	Senior.	12	1888
Ontology.....	"	"	15	"	13	1888
<b>MORAL PHILOSOPHY.</b>						
Practical Ethics.....	Lectures.	Campbell.	10	Second.	47	1888
History of Ethics.....	"	"	20	Senior.	15	1888
Philosophy of Ethics.....	Hickok.	"	15	"	15	1888
Evidences of Christianity.....	Lectures.	"	20	"	15	1888
Natural Theology.....	"	"	20	"	10	1888
<b>COMPAR. PHILOLOGY.</b>						
Philology (theoretical)....	Lectures.	Campbell.	22	Junior.	28	1888
<b>FINE ARTS.</b>						
Fine Arts.....	Lectures.	Campbell.	10	Senior.	10	1888
<b>MINERALOGY.</b>						
Lithology and Blow-Pipe Analysis.	Brush.	Winchell.	63 d. h.	Junior.	10	1888
<b>ZOOLOGY.</b>						
Comparative Zoology.	Tenney.	Winchell. Lacy.	10 47	First.	18 18	1888 1888
<b>PHYSICAL GEOGRAPHY.</b>						
.....	Lectures.	Lacy.	54	Fourth.	61	1888
<b>INDUSTRIAL DRAWING.</b>						
Drawing—Geom. and Proj. Descriptive Geometry....	(oral.) Church.	Rhame. "	54 d. h. 54	Third. Second.	27 12	1888 1888
Free Hand Drawing.....	Smith.	"	57	Fourth.	25	1888
<b>CIVIL ENGINEERING.</b>						
Field Work.....	(oral)	Rhame.	54	Jun & Sen	2	1888
Applied Mechanics.....	Welsbach.	"	54	Senior.	2	1888
Machinery, with Drawing..	Rankin.	Peck.	54	Jun & Sen	2	1888
Mechanics.....	Welsbach.	"	54	Junior.	2	1888
Mechanical Constructions.	Laboratory.	Peck.	54	Senior.	1	1888
Strength of Materials.....	Welsbach.	"	53	Junior.	1	1888
Bridge Building.....	Wood.	"	30	Senior.	1	1888
Building Materials.....	Mahan.	"	20	Senior.	1	1888
Surveying.....	Lectures. Field Work.	Peck. "	4 d. h. 18	Second. "	21 21	1888 1888
<b>SOCIAL SCIENCE.</b>						
Civil Government.	DeTocquevill.	Folwell.	30	Senior.	12	1888
"	Const. U.S.	"	9	"	12	1888
"	Const. Minu. Papers.	"	3 30	"	12 12	1888 1888
Political Economy.	Lectures.	"	47	Senior.	12	1888
<b>SANITARY SCIENCE.</b>						
.....	Lectures.	Hewitt.	8	Senior.	12	1888
<b>HISTORY.</b>						
History of Civilization.....	Gutzot.	Lang.	34	Junior.	12	1888
Medieval History (2 sec.)...	Gibbon.	"	46	Second.	12	1888
Modern History.....	Thalheimer.	"	22	First.	12	1888
General History.....	Swinton.	"	68	Fourth.	12	1888
" (2 sec.)....	"	Mrs. Smith.	116	"	12	1888

Subject.	Text Book.	Instructor.	No. of Exercises	Class.	No. of Students	Term.
<b>MILITARY SCIENCE.</b>						
Duties of Officers and Guides)	Upton.	Lundeen.	16	First.	12	I.
	"	"	10	Second.	40	I.
	"	"	16	Third.	43	I.
Drill and Manual of	"	"	20	Fourth.	46	I.
	Lectures.	"	2	1st & 2nd.	50	I.
Organization	Upton.	"	38	First.	6	III.
			38	2d, 3d, 4th	109	III.
Battalion Drill—	"	"	5	1st, 2nd,	101	II.
			4	3d, 4th.	64	III.
Company Drill	"	"				
Map Practice	"	"				

ATTENDANCE.

The following tables show the enrollment and classification of the students for the year, (1877-78.)

SUMMARY—1877-8.

COLLEGE OR DEPARTMENT.	CLASS.	Gentlemen.	Ladies.	Totals.
Science, Literature and the Arts	Senior	11	3	14
	Junior	19	8	27
	Special	1		1-30
Mechanics Arts	Senior	1		1
	Junior	2		2-3
Engineering	Special	1		1-1
	First	16	12	27
Collegiate Department	Second	35	11	46-73
	Third	48	29	77
	Fourth	63	47	110-187
	Special	42	26	68-68
<b>Total</b>		235	136	371

OR BY CLASSES ONLY.

Students of all Departments	15
Students of all Departments	20
Students - First Class, Collegiate Department	27
Students - Second Class, Collegiate Department	46-114
Students - Third Class, Collegiate Department	77
Students - Fourth Class, Collegiate Department	110-187
Students	70-70
<b>Total</b>	371

COLLEGE OF SCIENCE, LITERATURE AND THE ARTS.

CLASS.	COURSE.	Gentlemen.	Ladies.	Total.
SENIOR.....	Classical.....	5	.....	6
	Scientific.....	5	2	
	Modern.....	1	1	
JUNIOR.....	Classical.....	7	1	8
	Scientific.....	6	4	
	Modern.....	2	3	
	Special.....	2	.....	
Totals.....		28	11	

COLLEGE OF MECHANIC ARTS.

CLASS.	COURSE.	Gentlemen.	Ladies.	Total.
SENIOR.....	Mech. Engineering.....	1	.....	1
JUNIOR.....	Civil Engineering.....	1	.....	2
	Mech. Engineering.....	1	.....	
Totals.....		3	.....	3

COLLEGE OF AGRICULTURE.

SPECIAL STUDENTS—Gentlemen..... 1.

## COLLEGIATE DEPARTMENT.

CLASS.	COURSE.	Gentlemen.	Ladies.	Total.
.....	(Classical.....	5	2	7
	Scientific.....	9	4	13
	Modern.....	1	6	7
		15	12	27
.....	(Classical.....	18	1	19
	Scientific.....	12	3	15
	Modern.....	5	7	12
		35	11	46
.....	(Classical.....	13	1	14
	Scientific.....	24	3	27
	Modern.....	11	25	36
		48	29	77
.....	(Classical.....	13	4	17
	Scientific.....	49	12	61
	Modern.....	1	31	32
		63	47	110
.....	STUDENTS.....	42	26	68
.....		203	125	328

Three hundred and forty-seven (348) students were registered as students of Minnesota, the following counties being represented:

Becker, 4; Becker, 2; Blue Earth, 17; Brown, 4; Carver, 3; Chisago, 2; Cook, 1; Dodge, 13; Douglass, 1; Fillmore, 22; Freeborn, 6; Goodhue, 12; Hennepin East, 38; Hennepin West, 72; Houston, 2; Le Sueur, 5; McLeod, 3; Mower, 2; Nicollet, 8; Ohnsted, 6; Ramsey, 11; Rice, 2; St. Louis, 4; Sibley, 2; Stearns, 10; Steele, 10; Wabasha, 18; Waseca, 7; Winona, 2; Wright, 8. Thirty-two counties.

Twenty-three were registered from other states and countries, as follows:

Illinois, 1; Iowa, 4; Maine, 1; Maryland, 1; Michigan, 3; New York, 5; Ohio, 1; Ohio, 2; Spain, 1; Wisconsin, 3; Wyoming, 1.

One hundred and forty-six were engaged in some remunerative employment and forty-five at least earned their whole support. Four had been teachers.

ADMISSION.

In the summer of 1877 the experiment of holding examinations for admission in various parts of the state which had long before been proposed and which had received the sanction of the Board of Regents was first put in practice.

The result was the enrollment and examination of an unprecedentedly large number of candidates. This was partly due to the circumstance that no declaration of intention to enter the University was required, but any persons, without restriction, were allowed to participate. 126 persons were enrolled in Dodge Center, St. Cloud, Mankato, Garden City, New Ulm, Owatonna, Champlin, Rochester, Hutchinson, LeSueur and Redwood; 81 were enrolled at Minneapolis in June and 123 at and after the opening of the scholastic year. Total of examinees, 330. Of this total, 12 on learning the nature of the examinations, withdrew, and 95 submitted to partial examination only. Accordingly 223 persons were fully examined. From this number, subtract 43 who failed and there remain 180, successful candidates. 130 of these joined the classes in September or later. In the course of the year 32 persons, the number of candidates whose examinations were at first incomplete or unsuccessful were admitted, and three were admitted without examination, by vote of the general faculty.

The whole number of new students admitted to instruction in the year 1877-8 was, as above, one hundred and sixty-seven. They selected their courses of study as follows:

Classical Course—Gentlemen.....	16
Ladies.....	4
Scientific Course—Gentlemen.....	5
Ladies.....	17
Modern Course—Gentlemen.....	4
Ladies.....	7
Selected Studies—Gentlemen.....	7
Ladies.....	16
Total.....	87

The average per cents of merits for the *elementary branches*, in which all applicants are by rule examined, were as follows.

Reading, 76; Writing, 72; Spelling, 73; English Grammar, 59; Arithmetic, 73; Elementary Algebra, 72; Geography, 77; United States History, 67; Age, 72.

Before dismissing this topic, it may be useful to introduce a statement of the arrangements which were made before the close of the year covered by this report for the local examinations, to be held (which were held) in the vacation following, mostly in June, 1878. Should the Board of Regents decide to continue these examinations, and it is believed that they are likely to do so—the information will be useful to students looking towards the University and to the teachers.

Early in the month of May, the following notice was distributed by postal cards widely through the state, and short advertisements like tenor, were inserted in the newspapers of the state generally.

Examinations for admission, for 1878-79, will be held as follows :

I. SOUTHEASTERN DISTRICT—PROF. E. J. THOMPSON in charge.

RED WING.....	June 10	RUSHFORD.....	June 21
LAKE CITY.....	" 12	SPRING VALLEY.....	" 24
MINNOTA.....	" 14	AUSTIN.....	" 26
DESTER.....	" 17	OWATONNA.....	" 28
WINONA.....	" 19	FARIBAULT.....	July 1

II. SOUTHWESTERN DISTRICT—PROF. JOHN G. MOORE in charge.

GRANDE.....	June 10	WELLS.....	June 21
GRAND RAPIDS.....	" 12	MANKATO.....	" 24
ST. CLOUD.....	" 14	NEW ULM.....	" 26
WABASH.....	" 17	MARSHALL.....	" 28
LAKE LEA.....	" 19		

III. NORTHERN DISTRICT—PROF. R. W. LAING in charge.

ST. CLOUD.....	June 10	MOREHEAD.....	June 21
LAKE CENTRE.....	" 12	WILLMAR.....	" 25
ANDOVER.....	" 14	LITCHFIELD.....	" 27
WATKINS.....	" 18		

At MINNEAPOLIS, AT THE UNIVERSITY, JUNE 25TH, AND AT THE BEGINNING OF THE NEW YEAR, SEPTEMBER 11TH.

These examinations will be open to all persons who may certify their intention to enter the University, if found competent, and all applicants who pass the examinations and thereby become entitled to admission, must avail themselves of the privilege within two years.

The examinees will be required to conform to a carefully drawn set of rules on the part of those of the Regents of the University of the state of New York.

The examinations begin at 9 A. M., unless otherwise announced.

Writing materials will be furnished."

The following statement, embracing the REQUIREMENTS FOR ADMISSION, was prepared and circulated for the information of intending candidates :

EXAMINATIONS FOR ADMISSION.

*Programme.*

Preliminary:

- (1) Reading of declaration.
- (2) Assignment of seats and numbers.
- (3) Distribution of writing materials.



## I. ELEMENTARY BRANCHES.

Reading, 30 min.; Writing and Spelling, 30 min.; English Grammar, 1 hour; Arithmetic, 1 hour; Geography, 30 min.; United States History, 1 hour; Elementary Algebra, 45 min.; Latin Grammar and Reader, (*optional*) 1 hour. [Signing of certificate in regard to assistance.]

The examiners will give recesses between subjects according to their discretion.

As soon as convenient after the close of each subject, the examiners will securely wrap up the papers received, and mark on the wrappers the place, date, subject and the extreme numbers given out.

The subjects named in the above programme, except Latin, are required of all candidates, and are requisite for admission to the lowest ("Fourth") Class.

## II. ADVANCED STANDING.

Candidates for advanced standing are further examined in the additional branches named below, according to the course of study selected and the standing aimed at.

## I. For the Third Class and

CLASSICAL COURSE—Greek Grammar and Reader, Caesar's Commentaries (3 Books), one Oration of Cicero; English Composition, Plane Geometry, and General History.

SCIENTIFIC COURSE—Natural Philosophy, Physical Geography, Physiology, English Composition, Plane Geometry, General History, Free Hand Drawing, English History, Study of Words, Elementary Astronomy; OR, in the place of the last three, the same Latin as in the Classical Course.

MODERN COURSE—English History, Study of Words, Physiology; English Composition, Plane Geometry, General History; Caesar (3 Books), and Cicero (1 Oration); OR, in the place of this Latin, the scientific studies required as above in the Scientific Course.

## II. For the Second or Freshman Class, in addition to the foregoing—for the

CLASSICAL COURSE—Xenophon's Anabasis (3 Books), Cicero (3 Orations), Virgil (4 Books); Algebra, complete except General Theory of Equations, Elements of Geology and Botany.

SCIENTIFIC COURSE—Geometrical Drawing, Physics (Sound and Heat), Botany; Algebra (complete except General Theory of Equations), Elements of Geology, and further, either (1) the Latin of the Classical Course as above, or the German of the Modern Course as below, or (3) equivalent studies in English.

MODERN COURSE—German Grammar and Reader; Algebra (complete except the General Theory of Equations), Elements of Geology; Cicero (3 Orations), and Virgil (4 Books). [Botany may be offered in place of 2 Books of Virgil.]

Examiners will arrange the programme according to the circumstances.

ATTENTION is called to the following resolution of the Board of Regents adopted May 10, 1876, and still in force. It affects residents of high and graded school districts only:

"Resolved, That, in order to encourage preparatory work in the high schools and academies of the State, and co-operation by them with the University, all applicants shall be admitted to the Collegiate Department, to pursue the studies of any regular class or course, who is entitled to receive and can actually receive

to same instruction in substance, in the public schools of the school district in which he legally resides."

The RULES TO BE OBSERVED BY EXAMINEES were also printed, as follows:

1. Candidates will occupy separate seats.
2. Each candidate must sign a declaration of intention to enter the University of Minnesota as soon as circumstances will allow.
3. Each candidate will fill up the numbered card furnished him, with name, number, according to the directions thereon. The number thus assigned, together with the subject, must be written at the top of each page of every piece of paper containing answers. *No candidate's name* must be written on the papers.
4. No visitor will be allowed in the room except as invited by the examiners, and no communication can be had by them with candidates, except during recesses.
5. Candidates cannot leave the room except during recesses, unless imperatively necessary, and when therefore allowed to pass out, they will leave their papers with the examiners.
6. Questions must be answered in the order given, and the answers numbered accordingly.
7. No explanations will be given as to the meaning of questions, but candidates will use their own judgment.
8. In mathematics, the several steps of solutions must be given in full; mere results will not be sufficient.
9. The neatness and legibility of papers will be taken into account in estimating their value.
10. No candidate can be allowed a second trial at the same examination.
11. At the expiration of the time allotted to any subject, notice will be given and all work thereon must cease.
12. At the close of each subject the roll of numbers will be called, and the candidates as called will deliver their papers, each having fastened together all the pieces of paper used by him.

The declaration referred to in rule 2 above, is in the following form:

I, \_\_\_\_\_, do hereby declare it to be my present intention to enter the University of Minnesota as soon as circumstances will allow, and ask to be admitted for admission accordingly.

[Signature] \_\_\_\_\_

A certificate of independent and unassisted performance was prepared for the signature of candidates after examination, as follows:

[Certificate to be made after Examination.]

I hereby certify that in none of the examinations now concluded have I given any special assistance.

[Signature] \_\_\_\_\_

The examinations contemplated in the foregoing formulas, are conducted wholly in writing, except the oral part of reading—and this is held by the examiner on the spot. In all the other subjects, the papers containing the answers are securely sealed up and transmitted to the proper head of department at the university. The professors concerned examine them, and report their marks to the

Registrar: When the reports have all been received and duly posted, the numbered envelopes containing the names of the examiners are broken, and the names inserted opposite the proper numbers. By this method, the examining professors are in entire ignorance of the authorship of all the answers examined and marked by them.

Finally each candidate receives by mail a notice of his standing in the following form:

THE UNIVERSITY OF MINNESOTA.

MINNEAPOLIS, .....187 .

To Examinee No.....

Upon your examination for admission to the FOURTH CLASS of the College Department, you obtained the following percentages:

Reading, - - .....	Arithmetic, - .....
Writing, - - .....	El'm. Algebra, .....
Spelling, - - .....	Geography, - .....
English Grammar, .....	U. S. History, .....
Latin Grammar and Reader,.....	Average, - .....

You are therefore.....passed for Admission, to said Class at the beginning of the year, with.....conditions on:

Upon examination for advanced rank you obtained the following: Eng. Composition,.....; Algebra,.....; Gen. History,.....; Geometry,.....; Geology,.....&c., &c.

\*Applicants who obtain an average of 85 per cent. are "passed," but if any fall below 80 per cent. in any studies they must be re-examined therein.

Judging from the manner in which the examiners sent out by the Faculty have been welcomed and from the expressions which have reached us, it is safe to conclude that these local examinations are regarded favorably by the people and that the opportunity afforded young persons desiring to pursue the higher education of testing their proficiency without an expensive journey and under unexciting circumstances is most gladly accepted.

GRADUATIONS.

At the sixth annual commencement, held June 6th, 1878 the following persons were graduated:

COLLEGE OF SCIENCE, LITERATURE AND THE ARTS.

*Bachelors of Arts.*

Julian Clarence Bryant.....	St. Peter.
John Hamilton Lewis.....	Monticello.
Thos. Rogers Newton.....	Maple Grove.
Evan Roland Pritchard.....	Judson.
Daniel Williams.....	Lime Springs, Minn.

*Bachelors of Science.*

Leslie Couillard.....	Richfield.
Gitchell.....	Minneapolis.
Torrey Howell.....	Chatfield.
Warwick Robinson.....	Minneapolis.
Jay Smith.....	Red Wing.
DeVere Taylor.....	Melrose.
John Warren.....	Medford.
Clay Leonard, (B. C. E., 1875.).....	Washington.

*Bachelors of Literature.*

Ann Maes.....	Owatonna.
Albert Wood.....	Elliot.

COLLEGE OF MECHANIC ARTS.

*Bachelor of Mechanical Engineering.*

Spencer Bushnell.....	Minneapolis.
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The following table shows the number and kinds of degrees which have been conferred by the university.

	1873.	1874.	1875.	1876.	1877.	1878.	Total.
Bachelor of Arts.....	2	1	3		9	5	24
Bachelor of Science.....		1	2	5	3	8	19
Bachelor of Literature.....			1		3	2	
Bachelor of Civil Eng.....			3	3			6
Bachelor of Mech. Eng.....						1	
Bachelor of Architecture.....							1
Bachelor of Agriculture.....							
Total.....	2	2	9	12	16	16	57

MASTERS' DEGREES.

In the previous report, page 189, mention was made of the action of the Board of Regents respecting the conditions upon which these degrees should be conferred. During the past year the Faculty concerned have had the subject under consideration, and as authorized by the Board of Regents were established the detailed regulations for putting the by-law of the Board into effect. The following statement shows the regulations which have been made for the College of Science, Literature and the Arts.

## BY-LAW AND REGULATIONS RELATING TO MASTERS' DEGREES.

*By-Law of the Board of Regents.*

"Article V. The degrees of Master of Arts, Master of Science, and Master of Literature, shall be conferred, respectively, upon Bachelors of Arts, Bachelors of Science, and Bachelors of Literature, of this University, or of any reputable university or college, who shall, upon examination, not sooner than two years after attaining a first degree, show special proficiency in some appropriate classical, scientific, or literary studies prescribed by the faculty, and shall present a satisfactory thesis to the faculty: the faculty of this College shall have power to establish the regulations needful and proper to give effect to this article.

*Regulations of the Faculty.*

Candidates are required to present their applications on the proper blank, stating the particular degree desired and the several subjects selected by them, on which to be examined. After the approval of the applications by the faculty, no changes or departures can be permitted. Graduates of other colleges or universities will exhibit their diplomas on filing their applications.

## REQUISITES FOR THE MASTERS' DEGREE.

*Master of Arts.*

1. A satisfactory examination, (a) upon two classical authors, [Latin and Greek]; (b) upon any three distinct subjects selected from the following branches: 1. Mathematics, pure or applied; 2. Science, natural or physical; 3. Philosophy; 4. Social Science; 5. History; 6. A modern Language, (English included); 7. Philology.
2. A thesis on a classical subject.

*Master of Science.*

1. A satisfactory examination, (a) upon two distinct branches of natural or physical Science, (b) upon any three distinct subjects selected from the following branches: 1. Mathematics, pure or applied; 2. Science, (theoretical); 3. Philosophy; 4. Social Science; 5. History; 6. A Language, ancient or modern; 7. Philology.
2. A thesis on a scientific subject.

*Master of Literature.*

1. A satisfactory examination (a) upon two modern authors, [North or South European Languages]; (b) upon any three distinct subjects selected from the following branches: 1. Mathematics, pure or applied; 2. Science, natural or physical; 3. Philosophy; 4. Social Science; 5. History; 6. A Language, ancient or modern; 7. Philology.
2. A thesis on a literary subject.

FORM OF APPLICATION.

To the Faculty of the College of Science, Literature and the Arts,  
of the University of Minnesota.

The undersigned, a Bachelor of \_\_\_\_\_ of \_\_\_\_\_ College [18\_\_] respectfully requests to be enrolled as a candidate for the degree of Master of \_\_\_\_\_ having selected from the authorized list the following subjects upon which to be examined:

- I. Required Subjects, 1 .....
- 2 .....
- II. Optional Subjects, 1 .....
- 2 .....
- 3 .....
- III.....

(Signature,)

Approved by vote of the Faculty.....18  
..... President.

..... Secretary.

The regulations for the departments of Engineering and Architecture in the College of Mechanic Arts are similar in form and may therefore be here omitted.

COURSES OF STUDY.

No changes in these were made during the year 1887-8. They may be found in detail in the calendar for the year. After successful modifications the courses of study are at length in a condition generally satisfactory. Further improvements depend mainly and almost entirely upon an increase of the teaching force.

PREPARATORY SCHOOLING.

The chief consideration under this head is the important act of the legislature of 1878, entitled an "act for the encouragement of higher education." This subject will no doubt have received so full notice and discussion in your own report that little need be said here.

It is important that the people clearly understand the purpose of the law, which so much concerns the university, regarded as a member of the state system of public instruction. It may therefore be allowed to say:

Before the passage of this law the children of people residing within the limits of the high school districts were already offered the primary and secondary instruction at home, and the "superior" course in the university free of cost for tuition; in short these children could receive a complete education at the public expense. The sons and daughters of the whole rural and village population, however, having no access to free high schools, were virtually cut off from all free public instruction above the common school grade. But by the liberal policy of the board of regents in opening preparatory courses in the university, free public instruction would have

been virtually denied to nine-tenths or more of the youth of the state. The problem was: How to place the secondary instruction preparatory to college within the reach of the boys and girls born and residing outside of a few city high school districts?

The wise law in question solves this problem in the simplest manner by saying in substance to the high schools of cities and villages, "Admit country students, teach them in the usual preparatory studies, and the state will pay you." The state of Minnesota has therefore, to-day, a completed system of free public instruction. The road is open to the poorest boy or girl in the state from A B C, to the highest academic degrees of the university. It will, of course, take a few years to fully inaugurate this noble plan. The law will no doubt require amendment, as experience is had in its workings and the amount the appropriations will change with the increase of population and wealth in the state. So soon as the law is in full operation the university may safely curtail the preparatory classes, and finally may dispense with them altogether; and the considerable sum of money now expended upon them may be devoted to other and more appropriate purposes.

The high school law, while it refers to the university, exercises no compulsion upon its beneficiaries to resort to the university upon completion of their preparatory studies. The title, "an act to encourage higher education," indicates its liberal character. Reference is made to the university, as known to and embraced in the state system of public instruction, for the convenience of fixing a single standard of acquirement, and the general nature of the studies in the preparatory course contemplated. Superintendents and Boards of Education desiring—as many already have desired—know what studies are actually required for admission to the lowest preparatory class, and further, what studies are actually pursued at the two preparatory classes of the university, are respectfully referred to the calendar of the university, and to your report for 1877, on page 191.

#### CONCLUSION.

The year covered by this report, 1877-8, was one of unexampled serenity and progress. The enrollment and attendance were greater than in any previous year. The actual daily attendance for a considerable part of the year exceeded 340. In several cases the class-rooms were over-crowded, and the sections were too large to be instructed in the most successful manner. Any material increase in the attendance hereafter, will necessitate first, increase of the teaching force, and next, an extension of the buildings.

The library, increased by the purchase of some 600 volumes, continues to be the largest and best in the state.

Very considerable additions have been made to the general museum in the way of mineralogical specimens now handsomely displayed in suitable cases in the south room. The collections in agriculture and technology have been naturally increased, but cannot be displayed for lack of cases. The chemical laboratory, the plant house and the experimental farm, continue to serve as instru-

possible and highly-prized adjuncts of scientific instruction. The physical and mineralogical laboratories, although operating on a small scale and without suitable rooms and apartments, have demonstrated the necessity of more spacious and appropriate accommodations.

The operations of the geological survey, carried on by Professor Washell and his associates, were extended during the year into the general region north of Lake Superior. The reports are likely to contain matters of great interest and value to the state.

It may be worthy of mention that on October 7th, 1877, the university reached the tenth anniversary of its practical existence, the first scholastic work having been begun on the corresponding day in 1867. I believe that when the representatives of the people in the course of their duty, review this brief decade of the university's life, they will conclude that a reasonable degree of success has been attained, and that the people will be encouraged to make those liberal outlays of wealth, which alone under the Divine blessing can insure permanent growth and the highest usefulness.

All of which is respectfully submitte