

## PROCEEDINGS OF THE BOARD OF TRUSTEES—MARCH, 1886.

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The Board met at the University Parlor, on Tuesday, March 9th, 1886, at 3 P. M.

No quorum being present the Board adjourned to meet on Tuesday, March 23d, 1886, at 3 P. M.

E. SNYDER, Secretary.

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The Board met at the University Parlor on Tuesday, March 23d, 1886, at 3 P. M.

No quorum being present the Board adjourned to Wednesday, March 24th, 1886, at 2 P. M.

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The Board assembled at the University Parlor at 2 P. M. on Wednesday, March 24th, 1886.

Present—Trustees Bennett, Eisenmayer, Follansbee, McLean and Pearman.

Absent—Governor Oglesby, Hon. John Landrigan, Trustees Cobb, Earle, Millard and Paden.

Trustee Follansbee was elected Chairman pro tempore.

The records of last meeting were read and approved.

The Board then proceeded to the election of officers for the ensuing year.

The Recording Secretary was directed to cast the unanimous vote of the Board for Trustee Millard as President of the Board.

The vote was so cast and Trustee Millard declared elected.

The Chairman was directed to cast the unanimous vote of the Board for Prof. T. J. Burrill as Corresponding Secretary, and Prof. E. Snyder as Recording Secretary.

The vote being so cast the Secretaries were declared elected.

Treasurer J. W. Bunn read the following report, which was received and referred to the Auditing Committee:

## UNIVERSITY OF ILLINOIS.

*To John W. Bunn, Treasurer, Cr.*

1885.							
Dec.	8	By balance.....				\$16,155 11	
	24	State Laboratory of Nat. Hist. from Ill. Board of Education.....				2,035 65	
1886.							
Jan.	2	By interest on Chicago water bonds.....				875 00	
	2					1,760 00	
	8	By amount received from State for State Lab. of Nat. Hist.....				1,375 00	
	28	By interest on Champaign school bonds.....				360 00	
Feb.	27	By interest on Nebraska land contracts.....				4,171 39	
		To amount paid on account buildings and grounds.....			\$37 00		
		fuel and lights.....			117 00		
		mechanical department.....			325 88		
		architectural department.....		1,115 47			
		agricultural department.....		579 21			
		horticultural department.....		79 12			
		laboratories.....		431 47			
		incidentals.....		33 00			
		music fees.....		83 00			
		preparatory year.....		460 00			
		University students' fees.....		2,228 75			
		Illinois Central freight.....		1,232 60			
						6,722 50	
						\$33,454 68	

## UNIVERSITY OF ILLINOIS,

*To John W. Bunn, Treasurer, Dr.*

1885.							
Feb.	27	To amount paid on account Board expense.....			\$107 17		
		salaries.....			4,027 00		
		buildings and grounds.....			86 22		
		fuel and lights.....		1,477 07			
		stationery and printing.....		188 74			
		preparatory year.....		340 00			
		mechanical department.....		380 37			
		architectural department.....		502 85			
		agricultural department.....		473 29			
		horticultural department.....		306 71			
		military department.....		46 13			
		laboratories.....		204 98			
		library and apparatus.....		33 39			
		incidental expense.....		112 67			
		drawings for architectural dept.....		44 12			
		drawing desks, etc., for do.....		33 00			
		furnishing Zoological Lab.....		255 49			
		blackboard repairs.....		71 45			
		furniture repairs.....		33 45			
		drawing-room shutters.....		86 65			
		publication of bulletins.....		49 75			
		gymnasium.....		1 30			
		Griggs farm.....		78 66			
		music fees.....		83 00			
		purchase of lot east of University.....		830 00			
		purchase of lot on horse railroad.....		150 00			
						\$10,003 46	
Feb.	27	To amount paid on account buildings and grounds.....			\$445 19		
		laboratories.....			1,013 92		
		mechanical and arch. shops.....			345 00		
		books and publications.....			648 01		
		cabinets.....			620 68		
		current expenses of instruction.....		5,635 20			
		machines and tools.....		676 73			
		fire walls and ventilation.....		218 68			
		State Laboratory of Nat. Hist.....		1,471 32			
		To balance.....				11,074 73	
						12,376 46	
						\$33,454 65	

The following report from the Business Agent was read and referred to the Auditing Committee:

MARCH 9, 1886.

*S. M. Millard, President Board of Trustees, University of Illinois:*

SIR: I have the honor to present herewith the usual statements, as Business Agent, at this time.

Paper A is that of the current appropriations and expenditures for the six months from September 1st, 1885, to February 28th, 1886.

Paper B is that of the State appropriations, February 28th, 1886.

Paper C is a list of vouchers presented for auditing.

Paper D gives a list of the appropriations required for the next six months.

Respectfully submitted,

S. W. SHATTUCK, Business Agent.

### *Current Appropriations.*

SEPTEMBER 9th, 1885—FEBRUARY 28th, 1886.	Appropriated.	Receipts also appropriated.	Expended.	Balance.
Board expense.....	\$600 00		\$206 00	\$394 00
Salaries for instruction.....	18,524 00	Cur. State.	4,893 60	1,630 40
Salaries for services.....	1,580 00		12,000 00	29 72
Buildings and grounds.....	56 30	\$82 50	1,550 28	2 52
Fuel and light.....	2,000 00	117 00	136 28	6 22
Stationery and printing.....	1,000 00	100 00	2,110 78	81 66
Nebraska lands.....	50 00		1,018 34	42 25
Mechanical department.....	500 00	385 88	7 75	145 98
Architectural .....	500 00	1,346 87	741 91	590 61
Agricultural .....	500 00	2,762 79	1,256 26	1,589 82
Horticultural .....	500 00	189 47	1,672 97	6 21
Military .....	70 00		633 26	10 49
Laboratories .....	500 00	741 47	59 51	230 55
Library and apparatus.....	100 00		1,010 92	49 16
Incidental expense.....	356 86	50 75	50 84	59 39
SUNDRIES.				
Gymnasium.....	75 00	14 20	1 30	87 90
The Le Baron collection.....	25 00		2 10	22 90
Premium on bonds.....	235 00		235 00	65 00
Engraving for report.....	65 00			74 50
Drawings Architectural department.....	130 50		56 00	21 00
Seal and diploma plate.....	200 00		179 00	
Desks and diploma boards.....	35 00		35 00	
Furnishing Zoological laboratory.....	400 00		255 49	144 51
Blackboard repairs.....	71 45		71 45	
Furniture.....	35 00		33 45	1 55
Griggs farm.....	78 86		78 86	
Purchase of lot of U. & C. S. R. Co.....	150 00		150 00	
Purchase of lots east of Chemical laboratory.....	830 00		830 00	
Shutters free-hand drawing-room.....	150 00		86 65	63 35
Publications of bulletins, etc.....	200 00		49 75	150 25
Music fees.....		153 00	153 00	
Preparatory year fees.....		880 00	760 00	120 00
Students' fees.....		5,020 00		
Illinois Central R. R. freight.....		1,232 60		

## State Appropriations.

Of July 1st, 1883.	Approp'td.	Received.	Expended.	Balance.
Cabinets.....	\$2,000 00	\$2,000 00	\$1,833 91	\$166 09
Of July 1st, 1885.				
Taxes on lands ( $\frac{1}{2}$ per annum).....	4,000 00	1,766 28	1,766 28	-----
Buildings and grounds ( $\frac{1}{2}$ per annum) ..	6,000 00	3,000 00	2,884 20	115 80
Laboratories ..	3,000 00	1,500 00	399 57	1,100 43
Mech. and Arch. shops ..	3,000 00	1,500 00	858 15	641 85
Books and publications ..	3,000 00	1,500 00	1,034 10	465 90
Cabinets ..	2,000 00	1,000 00	-----	1,000 00
Current expenses of Inst. ..	24,000 00	12,000 00	12,000 00	-----
Machines and tools ..	4,000 00	2,000 00	1,992 30	7 70
Fire-walls and ventilation.....	4,500 00	4,500 00	2,179 70	2,370 30
Laboratory of Natural History.....	18,000 00	6,160 65	3,657 56	2,503 09
Totals.....	\$73,500 00	\$36,926 93	\$28,555 77	\$8,371 16

The special committee on secret societies submitted the following report, which was received, and its recommendations adopted:

*To the Board of Trustees of the University of Illinois:*

GENTLEMEN: Your committee, to whom was referred the matter of secret societies, beg leave to report that they have given audience to the representative of the society asking for admission, and have carefully considered the arguments in favor of admitting them into the University.

Originally the object of prohibiting these societies was in the interest of good order and discipline. To prevent cliques, jealousies, strife between rival societies, disturbances because of such strife: to keep the every day life of the student free from the temptation to extravagance, and to make student life as nearly democratic as possible, were the chief reasons for the action of the Board. Since the resolution excluding all secret societies was passed the University has made a record of good order and excellent work among its students of which it may well be proud.

Formerly the government of the students was not free from jealousies and friction, but your committee feel warranted in saying that the discipline has grown better and constantly more earnest until we feel there can scarcely be found a body of students who deserve more credit for good deportment, than those in attendance here,

It is a grave consideration whether this Board or the Faculty of the University should change the policy of the government now existing. One of the proposed benefits to be derived from secret societies is the good order they promote among students. If we are not suffering with disorder, we do not deem it necessary to look for a remedy for a disease we are not afflicted with. The fact that the society seeking admission claims to have centralized its power into a board with a tribune or secretary, which takes cognizance of all matters of dispute between its members and college authorities, must lend outside support to the rebellious students in a college, whenever a society board and tribune shall differ with the Faculty. This society profess through its central organization to arbitrate differences between members of its chapters and the government of the college. What then must be the consequences when the two sets of authorities differ? A State University is supported by the taxpayers. The law imposes upon the Board of Trustees the duty of passing by-laws for the management or government in all its various departments and relations of the University.

Now comes an aggregation of young men, most of whom are inexperienced, who have formed a government for themselves, professedly secret, and ask to place in our midst a "Chapter." In due time the members of that "Chapter" in their eagerness to exercise authority beg leave to differ with the Faculty and Board in matters of college government. In this difference the "Chapter" calls upon the Central Board, and perchance if the matter is of importance, upon their sister chapters, to exert their combined influence in support of the dissenting students. The very fact that this society board proposes to arbitrate, implies a possibility of conflict between it and the College Board. When that is reached the wisdom of the Legislature is at once called in question by the wisdom of a body of young men whose whole organization professes to be secret and whose whole idea is to promote the interests of their society, rather than the institution of learning. It is a well known fact that secret college societies in the Eastern colleges nurse jealousies between each other. "Friendly rivalry" between societies means competition often accompanied with all the strategy, work, expenditure of money and time and political machinery which commonly enters into a sharp political campaign.

In the opinion of this committee there are many other objections to admitting secret societies which are unnecessary to present here. We cannot, however, refrain from referring to the intimation in the circular presented to the Board in this matter, in which it is said that a former secret society of this University has continued "desultory existence until the present time." This expression derives greater significance when backed up by an implied insinuation that the *Sigma Chi* authorities encourage the violation of our rules by covertly and secretly aiding students who have signed the pledge required by our Board, thus secretly using the power of their organization to induce our best students, as they claim, to

violate their pledges and their honor. This insinuation goes farther as an argument why we should repeal the obnoxious rule, in this, that we might as well repeal it, because if we do not, this very society will secretly and in direct violation of the rules which now exist, aid and abet those students who will violate their honor, and keep in existence a society in our midst.

We are further confronted with a threat that if we do not repeal the rule the secret societies will use their influence with the Legislature to defeat our appropriations and endanger the existence of the University.

It is the opinion of your committee that the people of this State, through their representatives, will not do an injustice to the University, because an outside organization can not assume authority in its government. If the people and tax-payers express a desire to have secret societies installed in this institution, your committee do not hesitate to say that the Board would promptly and obediently heed such a public wish; and it would not be necessary to attack the life of the University to convey to the Board such a desire.

Your committee therefore recommend that the petition in behalf of the Grand Council of the *Sigma Chi* fraternity be not granted.

CHAS. BENNETT,  
S. M. MILLARD,  
G. A. FOLLANSBEE,  
ALEX. MCLEAN,

*Committee.*

The Regent then read his report, which was received and ordered on file.

*To the Trustees of the University of Illinois:*

GENTLEMEN: Agreeably to your request I shall endeavor to set before you a statement of the present condition of the University in its educational and financial aspects, with more completeness than usual, and with the aid of special reports from the various full Professors.

The organization of the University has not changed from its original plan. The four colleges of Agriculture, Engineering, Natural Science and Literature and Science remain as the chief elements of classification, followed by the subordinate classification into schools. The various instructors teach the subjects assigned to them independently of any division into either schools or colleges, so that most, if not all, work with the students of every department. It is, however, the variety of the work done, rather than the numbers of students taught, which makes the largest call for the variety and the number of professors and assistants necessary for the proper performance of the work here undertaken.

In the College of Agriculture the technical instruction is given by the professors of agriculture, of botany and horticulture, and of veterinary science; collateral work is done by the professors of zoölogy and entomology, of chemistry, of geology, of mathematics, of English language and literature, of modern languages, and of industrial art.

Laboratory work is done on the farm, in the work-shops, and in the work-rooms of the department of chemistry, botany, zoölogy, veterinary science and drawing; the time given to actual work or experiment, as distinguished from recitation in the class-room or book-work in the student's private study, being usually from two to four hours daily.

The nature of the work done under Professor George E. Morrow will be learned from his report, as follows: (Paper A.)\*

The work done under Professor T. J. Burrill. (Paper B.)

The chair of Veterinary Science was vacated at the end of the last college year by the resignation of Professor Prentice, and at the opening of the fall term no provision had been made for the appointment of a successor. The subject of animal anatomy was undertaken by Assistant Professor Rolfe, and its demands were well satisfied. The facilities for the prosecution of this study are the model of a horse, by Auzoux, and a number of elegantly mounted skeletons of the domesticated animals. While much more might be obtained by a proper course of actual dissections, it is doubtless true that for the time allotted to this subject the facilities furnish as much material for study as the students can thoroughly digest and assimilate.

At the first of January Dr. D. McIntosh, D. V. S., from Kingston, Ontario, was appointed Lecturer in Veterinary Science for the remainder of the current year. He has given himself diligently to the work, and has carried it forward in a very satisfactory manner. He has a daily lesson in veterinary science, in which the conditions of domesticated animals, in health and in disease, are discussed; and a daily lesson in veterinary materia medica, in which the nature and uses of remedies are explained. A weekly clinic is held, and the supply of animals for examination, diagnosis, and prescription has been constantly improving. It will be necessary soon to arrange for more frequent clinics, as the interest in them increases in the farming community. The department is important. Its early development is needed, and should be fostered by the University. Plans looking to this end are already under discussion, and will be laid before you in another form.

The work of other professors, who render indispensable services to the College of Agriculture, will be described under other heads.

\*The papers referred to in this report by the letters A, B, C, &c., to M, are found in connection with the general report of the Regent, pages

## THE COLLEGE OF ENGINEERS

Contains now four schools—the Schools of Mechanical Engineering, of Civil Engineering, of Mining Engineering, and of Architecture.

*The School of Mechanical Engineering* is under the direct charge of the Regent, as professor of that chair, aided by Assistant Professor Woods, engineer in the navy; by Mr. Kimball, foreman in the machine shop, and, in common with other schools, by Assistant Professor Talbot.

The technical work of this school begins with the freshman class as it enters in the fall term. It finds work for two hours per day in the drawing-room, where instruction is given first in the use of mathematical drawing instruments, and in drawing of right and curved line problems, and in the elements of projection and the conventional perspectives. The pupil is at once put in the way to make and to read simple elementary drawings for shop purposes.

The student has also two hours per day of practice in the machine shop. He is first taken to the wood-working room, to learn the elementary steps of sawing, planing, morticing and turning. He next goes to the blacksmith shop, and is practiced in drawing out, upsetting, bending in squares and rings, welding, etc. In the second term his work in the shop is at the vise, chipping and filing, and at the speed lathe, hand turning, etc. His drawing continues, in descriptive geometry and in lettering.

In the spring term he has free-hand sketching; in the shop elementary work with machine tools, as planing, stabbing, drilling, turning iron in various forms, and screw cutting.

In the sophomore year the students work three hours per day for three days per week, alternating on the other two days with drawing and designing of the elements of machinery.

During the freshman year his work has been entirely instructional. The product of his work is not expected to have value beyond that acquired in the facility of using tools, and the training of the hand and eye. In the second year his work, now having acquired some degree of excellence, is expended upon some form of machine construction. To this end it has for a long time been deemed advantageous to have some piece of machinery under construction in the shops, usually a tool which is needed and which supplies a place which otherwise would have to be filled by purchase. In this way we have obtained the machinery now in use—the steam engine, the large power drill press, the milling machine, the large wood lathe, four small wood lathes, and various other pieces of smaller moment. Each student has a course of tool forging, tempering and grinding, so that he is competent to keep his power machinery supplied with cutting tools.

In the junior year the student's attention is given to the study of the principles of mechanism and the study of applied mechanics. For drawing he has advanced descriptive Geometry.

Two terms are given to Physics, with laboratory practice, and a term is devoted to the discussion of the materials used in engineering structures. Hereafter the term's work in the resistance of materials will be taken in this year.

In the senior year the technical work is upon the principles of mechanism as applied to prime movers, including steam, wind and water engines, boilers and their setting, the link motion, etc. Two terms are given to construction drawing. Each graduate must design, draw and execute in metal some model of a mechanical movement, to be left at the University as an addition to the museum of such motions, useful in illustration and instruction.

In this connection I desire to express the entire satisfaction I have felt in the service rendered to the University by Assistant Engineer Arthur T. Woods, U. S. N., as assistant professor in this department. Mr. Woods came here nearly three years ago, by order of the Secretary of the Navy, being detailed under authority of law to teach here the principles of steam engineering. His work has been done with energy, skill, and good judgment. Unless his services here can be permanently secured, which would be very desirable, he will be ordered to sea at the expiration of his detail, that is at the end of the current year, and his place must be filled by another instructor, obtained like himself from the navy, or from some other source. The course you will take in this matter must be decided at this meeting.

An account of the work done in the School of Civil Engineering is given by Professor Ira O. Baker in paper C.

The work in the School of Mining Engineering is given by Professor Theo. B. Comstock, who also gives instruction in physics. (Paper D.)

The School of Architecture is described by Professor N. Clifford Ricker in paper E.

Assistant Professor A. N. Talbot has aided in the work of the College of Engineers wherever his services have been most needed. He taught classes in projection drawing, descriptive geometry and lettering, trigonometry to engineers, analytical geometry, and will take the important subjects of topographical surveying and sanitary engineering during the spring term. He has shown himself well qualified to carry forward the work so thoroughly done by Assistant Professor Jerome Sondericker up to the end of the last collegiate year.

## THE COLLEGE OF NATURAL SCIENCE

has as yet only the two schools of Chemistry and Natural History. This college has received an important impetus lately by the transfer to this University of the State Laboratory of Natural History, and the office of State Entomologist, both under the direction of Professor Stephen A. Forbes, aided by a corps of competent assistants in each depart-

ment. Much pains have been taken to provide these offices with a suite of convenient, well-arranged, and spacious rooms, and the original outfit is now nearly completed, it is believed to the great satisfaction of those in charge of the work.

Other movements are now in progress, which it would be premature to discuss here, but which if successfully accomplished will add much more to the value and importance of this department of the University, and must add also to the larger recognition which it will deserve at the hands of the public. Already special students are seeking to avail themselves of the improved opportunities to forward biological studies, such as can be found nowhere else in our State.

The work in Geology and Physiology has been performed by Assistant Professor Charles W. Rolfe, whose success in carrying part of the veterinary work has already been mentioned. Professor Rolfe is an earnest student of natural science, and I can cheerfully attest his success as a growing and efficient teacher. Several minor additions have been made during the past season to the geological collection, including the borings made by a diamond prospecting drill in the city of Urbana, being a complete section of the geological strata for a depth of about 530 feet. These are to be properly mounted and placed in the Museum. A collection of fossils, prepared with superior skill, and containing about four thousand specimens, has been purchased in Cleveland and is now daily expected at the University. This collection contains very few Illinois fossils, which we hope to obtain from another source.

A report of the work of Professor Forbes is presented in Paper F.

A report of the School of Chemistry is given by Professor Wm. McMurtrie in Paper G.

#### THE COLLEGE OF LITERATURE AND SCIENCE.

The right of this University to exist under the original endowment act of Congress of 1862 as a school of technical and practical science has been abundantly demonstrated in the foregoing statements and reports concerning the three colleges described. The reports have touched only the leading and prominent features, the particular technical subjects which give specific character to the several schools. But the proper scope and balance of an education which should be formative as well as technical, which should build schools as well as scientists, and develop character as well as mechanical skill, has made it necessary to provide another series of instructors, who should care for a different series of subjects. In every school the English, French and German languages, history, the elements of industrial art and the more philosophic subjects, psychology, logic and political economy, demand and have received suitable attention. No man can pretend to fair scholarship in agriculture, in engineering, or in the sciences of nature, who has not some acquaintance with the other topics named, both for personal culture and practical use. This provision has been necessary to carry into effect that injunction of the organic law not to neglect "other scientific and classical studies." This provision, necessary for the technical schools, has made it possible, and a most natural corollary, to arrange a course specially leading to the work of teachers in the public schools of the State, which we have called the course in English and modern languages, and, with a small addition to the force of instruction, to furnish for such as wish a course in ancient languages equal in extent to that furnished in the leading classical colleges. It is, however, true that in the years that have passed most of attention and effect has been given to the development of the technical side of the University, and the literary schools have in a measure languished. This condition of things, so far as these literary schools are concerned, ought not to continue. The University cannot exist in its proper sense without them. They are essential to its complete and well-balanced character. There should be no department of the institution which does not receive enough fostering care to make it the best of its kind. The literary schools should not be allowed to take the lead, and under present conditions there is little danger of their doing so; but by an equal rule of propriety they should not be permitted to lag behind the other schools of the University. That there is at present a tendency towards weakness in these schools is too apparent, and immediate steps should be taken to obviate this tendency. This comes most notably from the present conditions of admission, which permit students to enter who have not the kind of preparation which will best enable them to take up the special work of these schools.

I earnestly recommend that, after proper notice to the public, no students be matriculated to the college of Literature and Science who shall not have the ability to pass a fair examination in the rudiments of the Latin language, as evinced by the ability to read at least reasonable selections from Cæsar, Cicero and Virgil, or their equivalents. It ought no longer to be said in our catalogue that students are permitted to "make up" these subjects after matriculation. Suitable remissions of other subjects, not mathematical, should be made, so that the amount of preparation required for admission to literary or to technical schools should be as nearly equal as possible; but it is not practicable to build the two courses upon precisely the same bases. I am aware that many of the so-called high schools in the State, including some, which are on our own accredited list, are but poorly prepared to give the best training in the respect desired; but the best aid we can give them toward doing the work they ought to do, and can do if they will, is to decline longer to accept their insufficient work, and to demand, with moderation and firmness, that they shall do the work that belongs to them. I therefore advise that the forthcoming catalogue shall distinctly require that candidates for matriculation in the College of Literature and Science shall have passed satisfactory examinations in the Latin named, and that the clause permitting these subjects to be afterwards made up be withdrawn—both these changes to take effect in September, 1887, after one year's notice.

Professor S. W. Shattuck's instruction in mathematics enters into the courses of all colleges, technical and literary. His report is as follows: (Paper H.)

Professor Edward Snyder's work in French and German, enters also into long courses. (Paper L.)

He is assisted by Miss Helen Gregory, in French.

Professor Joseph C. Pickard's work in English languages and literature is as follows: (Paper K.)

Professor James D. Crawford gives the following account of the work in History and Ancient Languages. Miss Josephine A. Cass, assists in English and Ancient Languages, and acts as preceptress. (Paper L.)

The recommendations concerning a course of general instruction in the writing and speaking of English, under the general terms Rhetoric and Oratory—made in June last, and very cordially approved by you, have been quite successfully put into practical operation. After an extended search for the right man, who should undertake this laborious and delicate task, selection was made of Professor James H. Brownlee, of the Southern Normal University, and he entered upon the discharge of his duties at the opening of the winter term. As might be expected the term has been employed to considerable extent in exploring the field. It has not been intended to interfere with the specific work of the course in English language in the School of Literature and Science. But a course has been arranged for all students of all courses, extending through the entire University curriculum. Each class is divided into manageable sections, and each section meets the professor once each week. The work of composition is explained and illustrated; items are assigned; the written productions are carefully criticised, partly in public, partly in private, in such a way as to effect the sensibilities least, and to teach results and methods best; the papers are re-written, and the whole result carefully noted and recorded. The new departure has been very well received by the students, and even those who were at first naturally repelled by the nature and required character of the work have been led to acquiesce and approve by the judicious methods and management of the instructor. The work of theme writing is to be carried through the freshman and sophomore years. In the junior and senior years the art of expression will receive attention. It is not expected it is not desired to teach elocution as that subject is now popularly understood and taught. We want no stage rant, and no tickling of the funny bone; none of the cheap and common tricks that bring down the house. We hope to train the students of the University, with success varying with individual capacity, in two things; first, to write what they know in plain, clear and intelligible English; second, to say what they have to say in a style at once unassuming and lucid, in an upright and manly way. These exercises have been successfully begun. It might be an aid and may perhaps prevent any question from arising if you should in some way formally voice the wish which so many of you have privately expressed that all students should take part in the work.

#### THE ADDITIONAL SCHOOLS OF INDUSTRIAL ART AND OF MILITARY SCIENCE.

In the absence of a report from the Professor of Industrial Art, I shall be obliged to make such a report as comes from my own knowledge of that work.

It has come to be recognized that all education, and especially all technical education, requires the development in each individual of some degree of the art of representing, by drawing, things which exist in fact for the sense of sight. I need not remind you of the essential service rendered by drawing, in its various methods, to all branches of technical and applied science. When for a season, some years ago, the Trustees of this University saw fit to close the Department of Art, the need of the technical schools were soon seen to be such as required the re-opening of this form of instruction without delay. I have now to speak, as I have always spoken, with unqualified praise of the abilities of Professor Roos, as an instructor in Elementary Drawing and of Industrial Art. This work, which he can so well perform, is that which the University now needs. Drawing with the pencil, pen, chalk, or crayon—from the flat, the round, from objects animate and inanimate, is an art indispensable to the student in agriculture, in chemistry, in engineering, in natural history, with and without the microscope—indeed every child who learns to write should also learn to draw. To some extent modeling in clay, and sketching in color is also valuable. All these forms of free drawing are wanted here as co-laborers with the work of other departments, and all these forms have been and are successfully treated and taught here. It has been my opinion, as I have understood it to be your wish, that the extent of art instruction here should, for the present at least, have this scope, and practically this limitation. It does not seem feasible, nor even desirable, at the present stage of this University that an art school, in the higher and specific use of the word, should be inaugurated here. The oil painting that is practised, is only permitted, and should not be allowed to usurp the time and strength of the instructor which is needed upon other lines of art work which while they may be less artistic have yet a more practical and industrial value. I regret to say that the interests and ambitions of the instructor, natural enough and laudable enough in themselves, have tended to lead him away from the elementary lines of instruction which are more important because more needed by the students of the University. The communication from Professor Roos, laid before you at your last meeting and by you referred to the Faculty for consideration and report, has received careful attention. It was first referred to a committee, consisting of the Regent and the Deans of the several colleges; this committee after extended deliberations reported unanimously to the Faculty, and its report, adopted by the Faculty with but a single dissenting voice, will be presented to you in its proper place.

The Regent desires to add that in his opinion Professor Roos' real merits are fully appreciated; and that in his appropriate and legitimate sphere, he will continue to receive, as he has always had, the cordial and earnest support of the Regent and the Professors in all the schools of the University.

The report of Lieut. Charles McClure, 18th Infantry, U. S. A., detailed by the Secretary of War as Military Instructor at this University, gives a brief account of the work of that department. Professor McClure's detail will expire with the close of the current year. Suitable recognition of his valuable services will be made at the proper time. (Paper M.)



## THE PREPARATORY CLASS.

Instruction in this class has been given during the year with good results, as follows:

In Algebra, Geometry, and Natural Philosophy, by Mr. Samuel W. Stratton; in Physiology and in Botany by Assistant Professor Rolfe; in English Composition, Cicero, Virgil and Anabasis, by Miss Cass; in the spring of 1885 these subjects were taught by Miss Emma M. Hall. Miss Helen Gregory has taught elementary classes in Cæsar, to volunteer students desiring such instruction.

Of the general order and the studious character of the students of the University, nothing not commendatory can be said. The spirit of captious criticism, of disaffection, and of insubordination, seems to have given place to good-will, purposes of earnest study, and willing recognition of authority. The *Illini* has been handled with good judgment, and reflects the kindly feelings of the students which it has labored to promote. No student has been cited before the Faculty for an offense, during the present year.

Nor should this account close without noting the excellent music which Miss Kittie<sup>e</sup> Baker and choir of well trained singers has given us daily in the Chapel, and at the Sunday lectures. These are revived for the last half of the year, though the generosity of Mr. T. W. Harvey and Mr. E. W. Blatchford, of Chicago.

The report of the Librarian, Professor Crawford, is as follows: (Paper N.)

Professor Morrow's quarterly report of the Farm is herewith presented. (Paper O.)

Professor Burrill's reports.

I present the balance sheets of the Business Department of the University; the Agricultural Department covering the year ending December 1st, and the Departments of Horticulture, Chemistry and the Mechanical Shops, to the year ending March 1st. The details of these departments other than these figures are so like those presented one and two years since, that their repetition seems unnecessary. (Paper P.)

I also present my report of the expenditures of the State appropriations for mechanics and tools, entrusted to me at your meeting in July last. (Paper Q.)

## THE NEW ORLEANS EXPOSITION

Will close finally on the 31st of the current month. There will be about two car-loads of material to come back to the University. The Commissioners will return our goods free of charge to the railway station in Champaign, together with any goods that remain uncalled for which we may want. This will include all series of articles which were gathered at the expense of the Commissioners, as woods, grains, soils, coals, technological products, etc.

The Commission will pay the expenses of a man to go to New Orleans and pack the goods and put them on the cars. He prefers that we select the person who shall go, and I recommend that Mr. Parker be sent for that purpose. The packing here was mostly done by him, and I shall feel most safe in committing this duty to his hands. His absence will not need to extend over two or three weeks.

The sixteen glass cases and the several hundred bottles used in the display are the only items from which the Commissioners expect to realize any return. They will be at once needed here, to put the articles in proper display in the Museum on the upper floor. Some expense will also be incurred in moving the goods from the station to the University. I recommend that the Regent be authorized to expend not to exceed \$250 for purchase of cases and bottles, and for the expense of replacing the exhibit in the University.

## FARMERS' INSTITUTES.

Under authority given at your last meeting the State Board of Agriculture was informed that the Professors of this University would aid in the conduct of a limited number of Farmers' Institutes. Institutes were held as a result of this proposition in Princeton, Mattoon and Nashville. Professor Morrow attended all, and papers were also presented by Professors Burrill and McMurtrie, and the Regent. Reports indicate that the University has profited by these meetings. As yet no provision has been made for payment of expenses of those Professors who attended, which expenses are in some cases matters of consequence.

At a meeting of the presidents and delegates of agricultural colleges held at the office of the Commissioner of Agriculture in Washington, in July last, resolutions were adopted urging Congress to make appropriations for establishing agricultural stations at the several colleges, in accordance with the terms of the so-called Cullom bill, which passed the senate of the last Congress, but was left on the calendar of the house at the expiration of the session. A committee was appointed to wait upon Congress and press this subject, the committee consisting of Presidents Atherton, of Pennsylvania; Willets, of Michigan, and Lee, of Mississippi. It was agreed that the necessary expenses of this committee would be borne by the several colleges. A request from President Atherton for leave to draw upon this University was referred to the members of the executive committee, and with their sanction I informed him that his drafts would be honored to the amount of not more than \$100. None of this money has yet been called for, but if you approve of this action some provision should be made to meet such a call when made.

I present the following communications:

From Prof. Ricker, concerning use of text-books.

From Prof. Comstock, concerning the use of his cabinet of minerals.

From the principal of Bunker Hill Academy, desiring to have his school placed on the accredited list.

The report of the Faculty on the communication of Professor Roos to President Millard, was referred to the Faculty at your last meeting.

Authority is asked to publish 6,000 copies of the annual catalogue at an expense not to exceed \$300.

S. H. PEABODY, *Regent*.

## PAPER N.

CHAMPAIGN, ILL., March 2, 1886.

*Dr. S. H. Peabody, Regent:*

SIR: I herewith present my report as Librarian of the University of Illinois, from March 1, 1885, to March 1, 1886.

The income of the library is fifteen hundred dollars from State appropriation. Of this, three hundred dollars were expended for periodicals, two hundred for binding, and one thousand for books. I wish that the State appropriation for the library might be doubled.

The additions to the library for the past year have been nine hundred and seventy-nine volumes, making the total fifteen thousand nine hundred and ninety. The numbers in some of the principal departments are nearly as follows:

Agriculture.....	2,000 volumes.
Natural History and Chemistry.....	1,900 "
Engineering, Architecture and Mathematics.....	2,600 "
English and American Literature.....	1,900 "
History.....	2,400 "
Bound Periodicals of all sorts.....	2,500 "
Philology and Concurrent Literature.....	1,000 "
Philosophy, Social and Political Science.....	1,000 "

Respectfully submitted,

J. D. CRAWFORD, *Librarian*.

## PAPER O.

UNIVERSITY, CHAMPAIGN, ILL., March 8, 1886.

*Dr. S. H. Peabody, Regent:*

The receipts from sales on the farms for three months, ending March 1, amounted to \$579.21. The expenditures for same time were \$473.29. The winter has been a favorable one for stock, with the exception of a few days, and all classes of the farm animals have done well, almost without exception. Excepting the care of the stock, removal of manure, etc., it has not been practicable to do much work on the farms.

In accordance with the directions of the farm committee of the trustees, I have announced a public sale of Short-horn cattle. The announcement was made for June 4, but various circumstances have made it seem best to change this to Friday, June 11.

In accordance with the authorization of the same committee, I have been in correspondence with several breeders of Hereford and Holstien cattle, and have visited some herds of each breed with reference to purchase of a foundation for a herd of each of these breeds. I have found a kindly interest manifested aside from any question of direct profit from selling one or two animals, and hope to be soon able to make desirable purchases.

The State Board of Agriculture has accepted the offer of the use of land on the University farms for the trial of machines for digging ditches for tile, and it is expected the trial will be had June 10 and 11, 1886. The Prairie Farmer Company, Chicago, has forwarded to the University the large collection of Indian corn made in competition for prizes offered by it. The collection includes specimens forwarded by 136 persons in various States. While much of it is not in the best condition, it is a valuable collection.

During the past three months I have, by request, attended and addressed the Farmers' Institute, at Paris, Princeton, Nashville, Mattoon, and Farmers' Club at Kankakee, in our own State; an institute at De Soto, Mo., under the auspices of the Missouri State Board of Agriculture; the annual convention of the Wisconsin State Agricultural Society; the annual meeting of the Wisconsin Short-horn Breeders' Association; and have forwarded an address to be read at the Inter-State Agricultural Convention at Jackson, Tenn.

My class-room work has been as usual. The members in each class—"Animal Husbandry" and "Rural Economy"—has been small, but good progress has been made.

Respectfully submitted,

G. E. MORROW,

*Professor of Agriculture*

## PAPER P.

*Balance Sheet of Agricultural Department, Dec. 1, 1885.*

<i>Credits.</i>			
Inventory Dec. 1, 1885:			
Live stock.....		\$10,055 00	
Farm products.....		2,936 25	
Teams.....		1,250 00	
Machinery and tools.....		1,800 00	
			\$16,041 25
Sales—Live stock.....	\$3,437 42		
Butter and milk.....	473 05		
		\$3,910 47	
Grain and hay.....		733 25	
Miscellaneous.....		197 10	
			4,840 82
			\$20,882 07
<i>Debits.</i>			
Inventory Dec. 1, 1884:			
Live stock.....		\$10,080 00	
Farm products.....		1,980 00	
Teams.....		1,350 00	
Machinery and tools.....		1,850 00	
			\$15,260 00
Paid—For labor.....		\$2,487 33	
Stock and service.....		733 56	
Food and seeds.....		616 46	
Machinery.....		106 00	
Threshing.....		103 56	
Miscellaneous.....		467 13	
Permanent repairs.....		400 00	
			4,914 04
			\$20,174 04
Balance in favor of department.....			708 03
			\$20,882 07

*Balance Sheet of the Horticultural Department, March 1, 1886.*

<i>Credits.</i>			
Work and materials for University.....		\$234 76	
Sales.....		1,107 42	
			\$1,342 18
<i>Debits.</i>			
Foreman.....		\$683 00	
Labor.....		743 53	
Materials.....		452 54	
			1,879 07
Balance against department.....			\$536 89
Appropriation for department.....			500 00
Net balance against department.....			\$36 89

*Balance Sheet Chemical Department, March 1, 1886.*

<i>Credits.</i>			
State appropriations.....		\$632 09	
From students.....		869 69	
Miscellaneous.....		57 11	\$1,558 89
<i>Debits.</i>			
For chemicals and apparatus, permanent.....	\$232 09		
Table for organic combustions.....	150 00		
Renovation of Assay Laboratory.....	250 00		
		\$632 09	
Chemicals and apparatus, stock.....		920 74	
Gas.....		122 00	
Repairs, freight, etc.....		93 22	1,768 05
Balance against department.....			\$209 16
Inventory March 1, 1886.....		\$15,009 83	
Inventory March 1, 1885.....		14,453 20	
Increase during year.....			556 63
Net balance for department.....			\$247 47

*Balance Sheet Machine and Carpenter Shops, March 1, 1886.*

	Carpenter Shop.	Machine Shop.	
<i>Credits.</i>			
Work for University.....	\$2,784 57	\$587 29	
Work for other parties.....	481 15	162 20	
State appropriations.....	530 64	896 49	\$1,645 98
	\$3,796 36		
<i>Debits.</i>			
Materials and tools.....	\$1,819 89	\$764 61	
Labor.....	1,345 47	448 12	
Power.....	144 56	144 56	
Instructor.....	960 00	1,500 00	
	4,269 92		2,857 29
Balance against general fund.....	\$473 56		\$1,211 31
Inventory of stock on hand.....	\$624 48	\$491 40	
Special appropriation for machines and tools, 1885-6:			
Amount appropriated, for both shops.....			\$2,000 00
Expended for carpenter shop.....		\$407 36	
Expended for machine shop.....		1,584 00	
			1,991 36
Balance.....			\$8 64

*General Balance Sheet.*

Department.	Loss.	Gain.
Agricultural Department.....		\$708 03
Horticultural Department.....	\$36 89	
Chemical Department.....		247 47
Mechanical shops.....	1,684 87	
Total balance against general fund.....		766 26
	\$1,721 76	\$1,721 76

## PAPER Q.

To the Trustees of the University of Illinois:

GENTLEMEN—The State appropriation of \$2,000 for purchase of machines and tools for the mechanical shops has been expended as follows:

For carpenter shop:			
Bench tools.....	\$144 11		
Planer.....	153 00		
Boring machine and counter shaft.....	76 50		
Dado cutter.....	18 00		
			\$391 61
For machine shop:			
Shaper.....	\$285 00		
Engine lathes, Fitchburg, 15 inches by 6 feet.....	290 00		
"    Flather, 15 inches by 6 feet.....	310 00		
"    Gould & Eberhardt, 16 inches by 6 feet.....	330 00		
			1,215 00
Freight.....	\$97 56		
Shaffing and belting.....	139 74		
Mandel.....	20 00		
Exhaust wheel for blacksmith shop.....	40 00		
Hoods for forges for blacksmith shop.....	63 39		
Labor setting up, etc., all machines.....	25 00		
			385 69
			<b>\$1,992 30</b>

Respectfully submitted,

S. H. PEABODY.

## PAPER R.

UNIVERSITY OF ILLINOIS, March 22, 1886.

Dr. S. H. Peabody, Regent:

Reference to the accounts furnished by the Business Agent will show the financial condition of the Horticultural Department for the year just closed. Counting the total expenses, including salary of foreman, the expenditures are considerably more than the income. The latter was almost wholly from sales from the green-house and from the strawberry beds. Something was secured from the nursery, but nothing from the orchard and vineyard, and very little from the plantations of blackberries and raspberries. The severe effects of the winter caused most of this loss. The experimental orchard has always been an expense to the department, as indeed might be assumed, for out of the thousand kinds planted it could hardly have been anticipated that more than a score would prove profitable. The destruction all over our part of the country during the winters of 1883-4 and 1884-5 of apple trees supposed to be hardy, shows what an ordeal befell this orchard. It could not be otherwise than in poor condition; but, after all, this test is a beneficial one for the experiment. We may now know whether or not there is anything of promise in the way of extremely hardy trees. During the summer of 1886 we hope to make up the record of these trees and present the results for publication.

The forest plantation also yearly receives more than it returns. Nothing, whatever, has been derived from these trees in the way of income except for trees to plant. Some of the thinning has been done by ourselves, without use or sale for the part cut away; some has been taken for the wood. Theoretically this young stuff has been counted of great value for hoops, stakes, poles for beans, grapes, fence, etc.; but we have not found the theory to hold good here. Much more use could be made of the material on a home farm. When the trees are large enough for posts and ties ready sale can be had for those suitable for these purposes, and larger timber will always be valuable.

The green-house cannot be considered from a purely financial standpoint. A large portion of the main room is occupied by plants expressly for exhibition, to be made use of by students in general as illustration of the vegetation of foreign countries, and by the classes in botany, agriculture and horticulture, especially as aids to their studies. Attention to visitors consumes no small part of the time of the attendant. Experiments in vegetable physiology, not otherwise possible, are in progress most of the time in these apartments. If, therefore, we do not receive from sales enough to meet the expenses of labor and coal, together with the expenditures for repairs and for stock, the balance is not necessarily against the green-house. Counting the plants furnished the grounds at the average wholesale rates, together with the amount of sales, the proceeds are equal to the expenses. It is not possible, however, to strictly divide the salary of the foreman, who really does most of the work in the houses, between this and the other subdivisions of the department, so that the exact expenses can be stated.

Should an income permit it nothing ought to be said against charging the full salary of the foreman and total expense of green-house against the Horticultural Department, but as the case now stands it does not seem to me unjust that one or the other—at least in part—should be met from the general fund.

In this connection I recommend that the salary of Mr. McClure be increased by furnishing him the house in which he now lives free of rent. He is in every way worthy of this additional pay.

A part of the house—four rooms—southwest of the University building has been offered to a man (with a small family) who is to work on the horticultural grounds. The other four rooms are now occupied by students.

With the funds at command it has not been possible for the Horticultural Department to do much in the way of experimental work. There is no difficulty whatever in naming unsolved problems such a horticultural experiment station ought to undertake, and with the means at hand I am sure we could advance knowledge in several of these lines. Just now there is abundant call for tests of new kinds of apples, especially of those from Russia. By top grafting many of these could be fruited within three years, and during this time small trees could be grown. It seems to me wise in this matter to let the Iowa Agricultural College lead, the work being there so well in hand already; but they cannot make tests for our latitude. Clions and trees can now be had from Iowa and we might enter this season upon the tests. There is also an opportunity of making cross-fertilizations of fruit tree blossoms in the hope of getting from seed new varieties of promise. At least work in this line would be in accord with popular demand. As a matter of great scientific and practical interest experiments in cross-fertilization with a large number of kinds of plants would be highly desirable, but to find results several years would often be required. The work requires skill and much painstaking labor, but except for the expense we can have it creditably done. I cannot regard the mere testing of varieties as the most desirable experimental work, yet this is what is most asked of us. The testing of seeds found in the markets, the growth obtained from those of different qualities, the influence of gathering in different states of maturity, that is, whether fully ripe or not; the effects of fertilizers, of modes of training and treatment, etc., etc.—these, and such as these barely indicate work that may be undertaken.

For this year I should be glad to have an appropriation of two hundred dollars for purely experimental work, provided there is a prospect that the undertaking can be carried forward from year to year. We will do the best we can with or without this appropriation, but certainly can do more with some aid of this kind. If the expenses can be provided for, much reater undertakings can be suggested.

With the prospects we now have the income from horticultural sales will be about the same as for last year. The expense for labor will be somewhat less,

Respectfully submitted,

T. J. BURRILL.

The following report from the Faculty in the matter of the School of Art, referred to them at last meeting, was read, received, and its recommendation adopted:

URBANA, ILL., March 8, 1886.

*To the Trustees of the University of Illinois:*

GENTLEMEN: The Faculty, to whom was referred a communication made by Professor Roos to the President of the Board of Trustees, and by the Trustees referred to yourselves, has considered the same, and begs leave to report as follows:

The essential point in Professor Roos' communication appears to lie in the concluding statement, which is: "I respectfully recommend that the students in the course of art and design be granted the privilege of graduating in that course under conditions equivalent to that in other departments in the University."

Graduation in this University may now occur in either of two ways:

1. The candidate for graduation may have a degree of B. A., B. L., or B. S., respectively, according as he has completed some one of the courses of study authorized by the Trustees and Faculty, as leading to such a degree.

2. The candidate for graduation may have completed thirty-six University studies of his own selection, and may have a so-called full certificate "which shall set forth the precise attainments of the party applying for the same in the various branches of learning he may have studied during his attendance in the University."

As to graduation with a degree. The theory upon which, in the main, the courses of instruction in the several schools and colleges have been constructed, appears to be this: That at least one-third of the subjects in each course shall be of such a nature as to bear specifically upon the general objects of the course, the remaining subjects being either of allied character, or for general culture. Your committee, therefore, finds itself confronted with these questions: Will a course of study in which at least one-third of the subjects are technical in the school of art and design, with such other subjects as would naturally be connected therewith, possess such solid qualities, and have such value for education, discipline, and culture, as shall entitle it to be counted equal with the other degree courses of the University? Should the students who have taken such a course thereupon be entitled to either of the Bachelor's degrees now given, or to one of equal significance? Your committee conceives that these questions present the vital issues of this subject, and it feels constrained unanimously to answer both in the negative.

As to graduation with a full certificate. It was evidently intended that this certificate should be the evidence of attainments and culture not inferior to those for which degrees were usually given in colleges of highest rank. It is also evident that this intent is not now attained, and that its attainment can hardly be expected. The options permitted not unfrequently lead the student to choose studies which are easy instead of those which are severe. This fact, which in the early days of the University prevented the certificates from passing current in the community with the significance of diplomas for degrees, led to the demand for, and the conferring of degrees as the evidence of the completion of severe and required courses of study in the several schools.

The number of art studies which may be included among the thirty-six credits that led to a certificate has never been formally determined, and your committee is of the opinion that this number should be fixed. It appears that hitherto no more than nine art studies have been credited in any full certificate. Your committee believes that no more than twelve art studies should be included among the thirty-six for which a full certificate is given; or, in other words, that no less than twenty-four other University studies should be required for graduation in this form.

Your committee recognizes, however, the provision of the law by which a certificate must be given to any person who has studied at least one year in the University; and that this paper shall set forth the attainments of the student in all branches of whatever nature which he may have studied in the University. This credential any student may demand and receive. Whether its possession shall entitle the holder to be an alumnus of the University is a matter subject to other regulation.

Your committee feels impelled to say farther, that the school of art and design was intended originally to furnish such instruction in art studies as should be found necessary to supplement and complete the courses of study in other schools, particularly those of a technical nature. When in 1879 this school was temporarily suspended, Dr. Gregory, in urging to the Trustees the propriety of reopening it, said: "The school of design would not have been recommended, great as is its practical value and importance, but for the fact that the necessary instructors and apparatus are required also by other schools. The teacher of free-hand drawing, required by the school of architecture and engineering, as also by the several schools of natural science and agriculture, has always been able to give the special instruction required in the school of design." Your committee believes that the giving of degrees in the school of art and design would serve to increase the tendency to withdraw the school from its primary and most important duties towards the other colleges and schools.

All of which is respectfully submitted.

By order of the Faculty

J. D. CRAWFORD, *Secretary*.

## The Committee on Water Supply made the following report:

*To the Trustees of the University of Illinois:*

GENTLEMEN: Agreeably to your instructions your committee reports as follows upon the supply of water at the University building:

At the main building the total roof area is about 18,000 square feet, upon which the fall of rain at three feet per annum, would aggregate about 400,000 gallons. Of this about five-ninths are divided into the tanks and cistern, or about 245,000 gallons.

The receiving capacity consists of two cisterns in yards ..... 16,918 gallons  
And two tanks on fourth floor ..... 3,388 gallons

Total storage for rainwater ..... 20,306 gallons

To fill this storage under present arrangements requires  $3\frac{3}{4}$  inches of rain fall.

A well in the yard 24 feet deep, 38 inches diameter, has now about 74 inches depth of water. Its storage is from 350 to 800 gallons and it has at ordinary times an influx of about 10 gallons per minute.

The total amount of water possibly in control of the pump in the engine house is about 21,000 gallons, or about 700 barrels, with a flow of about 1,000 gallons per hour, under best conditions.

The amount of water used is about 1,250 gallons per day in term time.

This for 180 days is ..... 225,000 gallons  
Add one-fourth for other days ..... 56,000 gallons

Total ..... 281,000 gallons  
or say 300,000 gallons per annum.

Counting the well, tanks, and cisterns, it is evident that the present supply is ample for purposes of daily consumption, and it has been so found since the building was erected. It is equally evident that it would be utterly inadequate to control a fire which should acquire any serious headway.

The boiler-house is furnished with a Duplex Worthington pump, new one year ago, with water cylinder 6x4, capable together of throwing about sixth-tenths of a gallon at a stroke or at ordinary speed 50 gallons per minute. This could easily be increased to 80 or 90 gallons per minute if desired. At 80 gallons per minute the total maximum supply would last 4½ hours. If the cisterns and tanks should happen to be empty the well would be exhausted in about ten minutes.

The water now used is raised to the tanks in the fourth story, a distance of about 65 feet above the pump. It has been found to take about 200 pounds of coal for a day's pumping. This, with allowance for oil and repairs, but not for firemen's wages, will make the cost of raising 300,000 gallons of water per annum about \$80. It should be remembered that in these estimates the water used at the green-house is included.

At the Chemical building the area of roof is about 8,700 square feet. Of this about half drains into a tank and two cisterns whose united capacity is about 18,500 gallons. To fill this storage will require 6.8 inches of rainfall.

The well contains from 350 to 800 gallons, with influx of about 10 gallons per minute. The pump has a capacity of about 20 gallons per minute, and lifts the water about 50 feet to the

tank in the roof. The consumption of water is about 1,200 gallons per day in term time or about 200,000 gallons per year. No lack of water for ordinary purposes has ever been experienced here.

The cost of elevating the water here is about the same per barrel as at the other building or say \$60 per year.

The Mechanical building has about 10,000 square feet of roof, but has no cistern, and the rainwater is suffered to flow away. It has two wells, one being four feet in diameter and now holding 29 feet of water. The other is three feet in diameter and has 9 feet of water.

The daily use of water is about 150 gallons, or about 30,000 gallons per year. The supply is ample, but the wells are in the yard and might be inaccessible in case of fire.

All of which is respectfully submitted.

S. H. PEABODY,  
N. CLIFFORD RICKER,  
*Committee.*

The report was received, ordered on file, and committee were discharged.

The following report from the Farm Committee was presented and read:

CHAMPAIGN, ILL., Jan. 26, 1886.

At a meeting of the Farm Committee of the University of Illinois, held at the University building on the above date, Professor Morrow was authorized by said committee to purchase for the use of the University two or three animals of each of the breeds of Hereford and Holstein cattle, at an expense not to exceed \$1,200. He was further authorized to make necessary arrangements for a public sale of about thirty head of the Short-horn cattle now belonging to the University, such sale to take place at such time in the early spring and summer as may seem most desirable.

The Regent was also authorized to tender to the State Board of Agriculture proper facilities on the University farm for a competitive trial of tile ditching machines.

It was agreed by said committee that in their report to the Board of Trustees at its next regular meeting the committee would recommend the employment by the University of an assistant in agriculture, such assistant to be selected with reference to his fitness to give instruction to students and classes, and his ability, under the general supervision of the Professor of Agriculture, to superintend the affairs of the farm, and especially to conduct agricultural experiments.

CHARLES BENNETT,  
J. T. PEARMAN,  
*Farm Committee.*

The report was received and approved, and the Regent was authorized to employ a competent assistant in agriculture at a salary of \$80 per month.

The following report from Professor S. A. Forbes, Director of the State Laboratory of Natural History, was read:

CHAMPAIGN, ILL., March 24, 1886.

DR. S. H. PEABODY, *Regent*:

SIR—The State Board of Education, formerly in charge of the State Laboratory of Natural History, held last December its first meeting at Normal since the law was passed authorizing and requiring the transfer of the property of the State Laboratory of Natural History to the Trustees of this University, and at that meeting they passed a resolution authorizing one of the standing committees of that Board to effect the transfer according to the terms of the law. An informal understanding was had that whatever arrangement might be mutually satisfactory to the Curator of the Museum at the Normal University and myself would have the approval of that committee, but owing to the unexpected absence from the State of the former gentleman some part of the business remains still unsettled.

It has been my intention to prepare for this meeting of the Board of Trustees a formal report of the condition of the property and work of the State Laboratory of Natural History, but thinking that this report may best be rendered after the belongings of the Laboratory are all in hand, I now beg to defer it until the June meeting of the Board.

I have consequently at this time only to request the passage of the usual formal resolution making the quarterly installment of our appropriations available, and to ask authority to increase to \$45 per month the salaries of Thomas F. Hunt and Clarence M. Weed, assistants in the Laboratory; this increase in the salary of Mr. Hunt to date from the 1st of February, that of Mr. Weed from the 1st of April.

Respectfully submitted,

S. A. FORBES, *Director of Laboratory.*

The report was received, and the recommendation of increase of salary for Assistants T. F. Hunt, (from February 1) and C. M. Weed (from April 1), from \$40 to \$45 per month, was approved.



The Regent's recommendation in regard to admission to the course of Literature and Science was approved.

It was moved and carried that schools accredited by this University be confined, as heretofore, to public high schools of this State.

The salary of Mr. G. W. McClure, foreman of Horticultural Department, was increased to \$60 per month.

The resolution in regard to clothes closet for Trustees, passed at last meeting, was rescinded.

The Regent and Prof. Burrill were authorized to furnish a certain number of trees, not otherwise needed, for the improvement of Green street, on which the University is located.

The Regent was authorized to publish 6,000 copies of catalogue for 1886-7, at an expense not to exceed \$300.

The traveling expenses of the Regent, amounting to \$44.25, were audited and allowed.

The following appropriations from current funds, for the six months ending August 31, 1886, were approved:

Board expense.....	\$300 00
Salaries for instructors.....	17,385 00
Salaries for services.....	1,215 00
Buildings and grounds.....	300 00
Fuel and lights.....	1,000 00
Stationery and printing.....	600 00
Nebraska lands.....	50 00
Library and apparatus.....	50 00
Incidental expenses.....	200 00
Mechanical department.....	300 00
Architectural department.....	300 00
Agricultural department.....	600 00
Horticultural department.....	300 00
Military department.....	50 00
Laboratories.....	300 00
<i>Sundries—</i>	
Drawings for Architectural department.....	74 50
Publication of bulletins, etc.....	150 25
Furnishing Zoological Laboratory.....	144 51
Gymnasium.....	15 00
Furniture and fixtures.....	50 00
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	\$23,384 26

The following resolution, offered by Trustee McLean, was passed:

*Resolved.* That the President and Secretary be directed to draw their requisition upon the State Auditor for the several sums of money appropriated by the General Assembly for the use of the State Laboratory of Natural History, and the State Entomologist's office, of the quarter ending June 30, 1886.

For field work, incidental expense of the Laboratory, the sum of \$150.

For traveling, office, incidental expenses of the Entomologist, the sum of \$100.

For improvement of the Library, the sum of \$250.

For the pay of the Entomological Assistant, the sum of \$250.

For the pay of the Botanical Assistant, the sum of \$250.

For miscellaneous assistance, the sum of \$250.

For the publication of bulletins, the sum of \$75.

The following appropriations were made:

For purchase of chemical supplies.....	\$650 00
For Physical Laboratory.....	100 00
For current expense of Zoological Laboratory.....	100 00
For cases for Zoological Laboratory.....	135 00
For painting casts of fishes.....	106 75
For purchase of geological specimens.....	500 00
For buildings and grounds.....	370 00
For New Orleans Exposition.....	250 00
For taxes on purchased lots, for last year.....	25 00
For lecturing expenses at farmers' institutes.....	50 00
For replacing U. S. rifle, accidentally burned.....	18 00
For Nebraska land sales, expenses.....	265 33

The Auditing Committee submitted the following report, which was approved:

*To the Board of Trustees:*

Your Auditing Committee, to whom was referred the report of the Business Agent and Treasurer, report that they have examined vouchers 201 to 500, inclusive, present series, and find them correct and properly receipted, and would recommend that the same be approved.

CHARLES BENNETT,  
GEO. C. EISENMAYER,

*Committee.*

The following resolution, presented by Trustee McLean, was passed:

*Resolved*, That this Board has heard with pleasure the account of the work lately begun by the Professor of Rhetoric and Oratory, and that it desires the responsive efforts of all undergraduate students. The Faculty is thereupon hereby requested to provide such regulations as shall insure the performance of the duties of this department of instruction by all matriculated undergraduates of the University.

The Executive Committee submitted the following report in regard to the Griggs farm:

*To the Trustees of the University of Illinois:*

GENTLEMEN: At your last June meeting your Executive Committee, to whom was referred the matter of leasing the Griggs farm for the year 1885-6, reported the terms on which said lease was made. We now beg leave to submit the following as the proceeds of said lease and our further actions in said matter. We received for oats grown on said farm \$107.25; for hay, \$125; which sums were turned over to the Business Agent. The corn, about 1,700 bushels, remains unsold in cribs on said farm. We also caused to be built on said farm a crib 10 feet wide by 11 feet high and 48 feet long, at a cost of \$78.66.

Respectfully submitted,

J. T. PEARMAN,

*Committee.*

The report was received and approved, and Trustee Pearman was authorized to rent the farm.

The Regent was authorized to expend not to exceed \$100 for the purpose of securing an experimental station.

In the matter of land contracts the Board instructed the Committee on Nebraska Lands that they should close contracts for deeds only in accordance with the terms of original contracts.

The Board then adjourned to meet again Tuesday, April 6, 1886, at 10 o'clock A. M., at Chicago, at the office of Trustee Follansbee, 14 and 18 Bryan Block, unless otherwise directed by the President.

GEORGE A. FOLLANSBEE,

*President pro tem.*

E. SNYDER,

*Recording Secretary.*