

REPORT.

University of the State of Missouri.

Year ending June 28th, 1871.

University of the State of Missouri.

REPORT

BY THE

CURATORS TO THE GOVERNOR

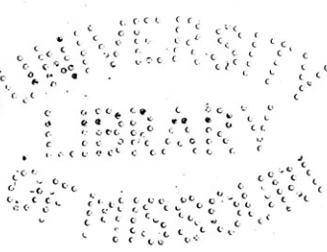
CONTAINING

CATALOGUE, ANNOUNCEMENTS,

AND

OTHER MATTER PERTAINING TO THE UNIVERSITY.

Year ending June 28th, 1871.



SAINT LOUIS:
R. P. STUDLEY & Co., PRINTERS AND STATIONERS, 221 N. MAIN STREET.
1871.

From "An Act donating public lands to the several States and Territories," etc.

"SEC. 5. An annual report shall be made regarding the progress of each college, recording any improvements and experiments made, with their cost and results, and such other matters, including State, industrial and economical statistics, as may be supposed useful; one copy of which shall be transmitted by mail, free, by each, to all other colleges which may be endowed under the provisions of this Act, and also one copy to the Secretary of the Interior."—*Law of the United States* (1862), CHAP. CXXX.

From "An Act to locate and dispose of the Congressional grant," etc.

"SEC. 14. At the close of each University year, the Board of Curators shall make a report, in detail, to the Governor, exhibiting the progress, condition and wants of the several colleges or departments of instruction in the University, the course of study in each, and the number and names of the officers and students, the amount of receipts and disbursements, together with the nature, cost and results of all important experiments and investigations, and such other matters, including State, industrial and economical statistics as may be thought useful. The Governor shall cause the same to be printed for the use of the General Assembly and people of the State, and shall cause one copy of the same to be transmitted by mail, free of expense, to all the colleges which may be endowed under the provisions of the Act of Congress, approved July 2, 1862, hereinbefore referred to, and also one copy to the Secretary of the Interior, and one copy to the Commissioner of Agriculture, at Washington City."

378.7M71

H

Cap. 3

1870/71

STATE UNIVERSITY, June 3, 1871.

HIS EXCELLENCY, GOVERNOR BROWN.

Sir:

In accordance with the requirement of law, I have the honor herewith to submit the Report of the Board of Curators for the University year ending June 28, 1871.

It is proper to remark, that the results of improvements and experiments, and industrial and economical statistics of the State, as required by the Act of Congress, cannot be given for the reason that the industrial department of the University has for so short a time been in existence.

It is intended hereafter to make such careful digest of State statistics, and also of the results of experiments made, as shall faithfully subserve the requirements of Congress. It is hoped, however, that valuable matter is herein presented for the use of our own people and all others feeling an interest in the progress of our institutions of learning.

The report of Prof. Swallow, late State Geologist, on the agricultural and other resources of the State, published in the Appendix, and in part meeting the requirement of the grant Act, is commended to attention.

I have the honor to be, with great respect,

Your obedient servant,

JAMES S. ROLLINS,

President of the Board of Curators.

435448 50

REPORT.

FOUNDING AND PROGRESS.

Upon the admission of Missouri as a State in 1820, the grant of two townships of land for the support of a seminary of learning, was made by Congress in accordance with the settled policy of the General Government, and the State Legislature became the trustee for the management of the land and the proper application of the funds arising therefrom.

The lands of the grant, known as "Seminary Lands," were mainly situated in the county of Jackson, and were among the best in the State.

By an act passed in the year 1832, the Legislature made provision to offer them for sale at a minimum price of \$2 per acre. The result of this extremely improvident legislation was that barely \$70,000, after expenses paid, was realized from these magnificent lands, worth, at the time of sale, a half million of dollars.

The sum thus originating was invested in the stock of the old Bank of the State of Missouri. When it had grown, by accumulation, to the sum of \$100,000, the question of instituting and locating the University began to be agitated.

In the year 1839, an act was passed "to provide for the institution and support of the State University, and for the government of colleges and academies." This act, drafted by Henry S. Geyer, a distinguished lawyer and afterwards United States Senator, was very elaborate, consisting of five articles, and provided for colleges and academies in different parts of the State, to be connected with the State University, and to be under the visitorial power of its Curators.

This idea of a State University, with branches and subordinate institutions scattered over the State, was a favorite one with

many distinguished men in the earlier history of the country, and was placed upon the statute book of several of the States; but the plan was found cumbrous, and too unwieldy to be carried out into practice, and was abandoned wherever projected.

At the same session a bill was passed making provision for the location of the University.

A bonus of \$117,500 having been offered by the citizens of Boone County for its location at Columbia, the county seat, the offer was accepted, and the University was located accordingly.

This was certainly a most remarkable subscription for that period. Perhaps no county or town in the United States, up to that time, had made so large a subscription for such an object.

This was long before those wonders of munificence in behalf of institutions of learning, which distinguish the past few years, had occurred, and at a time when there was comparatively little money in the country, and before the effect of the great financial crisis of 1837 had passed away.

The subscription of a peck of parched corn to Harvard College, in the beginnings and poverty of New England, has become historic. The fact that one man who could neither read nor write subscribed and paid \$3,000 to the State University of Missouri, is as great a marvel, and as much deserves commemoration.

Another remarkable fact was, that there were men who actually subscribed and afterwards paid more than they were worth at the time the subscription was made.

Five young men belonging to a class in the Academy of Bonne Femme, a school a few miles from Columbia, subscribed each \$100, and afterwards, by their own exertions, earned the money, and paid the subscription.

The subscription of Boone County was largely due to the energy and zeal of the Hon. James S. Rollins, then a young man just entering public life, and an ardent friend of education.

On the 24th day of July, 1840, the corner-stone of the present principal University edifice was laid, in the midst of great pomp and ceremony. The address of the occasion, said to have been most impressive and eloquent, was delivered by the Hon. James L. Minor, of Jefferson City.

It is pertinent here to state that, prior to the location of the University at Columbia, there had been established, for a few years, the Columbia College. This institution had a substantial brick building, two stories in height, and in dimension 26×60 feet. This school with its property became merged into the University, and its building afforded accommodation to the University until its main edifice was completed.

In the year 1840, the late John H. Lathrop, LL.D., then a Professor of Hamilton College, New York, was elected the first President of the University.

The first class, consisting of two members, graduated in 1843. Although the institution was reasonably flourishing, few students reached the attainments required for graduation. This is, in fact, a usual condition in our Western institutions of higher education; nor is the amount of good which they accomplish to be measured by the number of those who complete the full course and attain graduation.

In the year 1850, Dr. Lathrop resigned his position as President of the University, and the Rev. James Shannon, LL.D., became his successor, and continued President six years.

Professor W. W. Hudson succeeded Dr. Shannon, and upon his death, B. B. Minor, Esq., then of Richmond, Virginia, was elected President, and continued in office about two years, when, in the troubles of the civil war, the institution was suspended, and its buildings occupied by United States troops. A portion of the Professors remained on the ground, and soon resumed their instructions, so far as they had students and circumstances permitted. In 1863, there was one graduate, and the next year two, and in 1865, five. In this year, Dr. Lathrop was again elected President, having, in 1860, returned to the University, being elected Professor of English Literature.

Soon after the death of Dr. Lathrop, which occurred in the summer of 1866, the present incumbent, Daniel Read, LL.D., was unanimously elected the President.

With Dr. Lathrop's last official term ends the history of the University under its organization as required by the Constitution of 1820, and the legislation growing out of that requirement. The University had existed for a period of twenty-five years—had encountered various vicissitudes—the bank stock constituting its

endowment sometimes yielding very small dividends, and even, at times, none at all. Yet, during this period, there was substantial progress—an educational atmosphere was created—valuable *materiel* for scientific and literary studies was collected—many useful lessons as to the administration of such an institution had been learned. While there is much to regret connected with the history of portions of this period, involving personal and political feuds, uncongenial with literary pursuits or studious life; these are too often incident to new institutions, starting in a new country, and which, when they pass away, like certain diseases of the human body, do not make a second attack. The number of students who had graduated reached nearly two hundred, while a much larger number acquired that education which fitted them for important positions in society.

During all the period of which we speak, the State did nothing whatever for the institution, beyond appointing its Curators, yet paying them from the University fund. However needy the institution, the State did not make good even the deficit which occurred through State management. Far less did the State make up for the waste of a great and beneficent grant, designed for the good of her own people, which, with the ordinary care and forecast of a reasonably prudent trustee, would have afforded an ample endowment for the University.

This is a simple statement of facts, due to the veracity of history.

When Dr. Read came on to the ground, with a view of determining his course of action as to accepting the position to which he had been elected, he found the University largely involved in debt, its officers paid in University warrants, unconvertible, and at a large discount for cash; the payment of the income of the endowment fund suspended during the process of the conversion of the bank stock into United States bonds, as required by the new State Constitution; the University building greatly defaced and injured in consequence of its occupation by the United States troops, and some of the rooms unfit for use; the roof leaky and the plastering fallen from the ceilings of many of the rooms. The fences around the University campus were in a dilapidated condition. The chimneys of the President's house and portions of the walls stood mournful memem-

toes of the conflagration which had destroyed the house. Upon the first week of the opening of the session, not a single student appeared to matriculate, there being a county fair in the neighborhood; and on the second, less than forty came forward for that purpose.

There was still another difficulty, yet more formidable. It was apparent that in the fierce contest and bitterness of feeling which followed upon civil war, the successful party was in special political antagonism to the majority of the people where the University was located, and, though having full control, directly or indirectly, of every position in the institution, seemed disposed to involve it in the common lot of its locality. Doubtless, this feeling was, to a greater or less extent, reciprocated. In this condition, it was evident that great prudence as well as firmness would be required.

With all these difficulties, Dr. Read declined to make his acceptance final. There was one circumstance, however, which precisely met his views, and that was the article on education in the new Constitution, adopted but a few months before.

The provision as to the State University was such as accorded with his own long cherished views of what a State University ought to be, and to which, if accepted by State action, he was willing to give his aid in carrying into operation.

The provision is in these words: "The General Assembly shall establish and maintain a State University, in which there shall be departments in teaching, in agriculture and natural science, as soon as the public school fund will permit." The University here required is a University with practical and special departments, precisely as he had elsewhere advocated and presented as the true idea of a State University.

After making known his views to the Board of Curators in a report, and before the Legislature in an address, stating, in very strong terms, the utter inadequacy of the existing funds for the support of such an institution, and presenting facts and statistics on the subject, Dr. Read returned to his former field of labor to await the action of the Legislature, and with the understanding and pledge that if there should be favorable action toward the support of the University and its proper recognition, he would, in that case, make his acceptance final, and take charge of the institution.

The action of the Legislature was favorable. An act was passed giving ten thousand dollars for rebuilding the President's house, which had been consumed by fire, and making also an annual grant of one and three-quarter per cent. of the State revenue, after deducting therefrom twenty-five per cent. already appropriated for the support of common schools; and his acceptance thereupon was made final before the Board of Curators, April, 1867.

From this time commences the history of the University under new, and, it is to be hoped, better conditions; from this period dates the first State aid ever rendered the institution. It is henceforth to be the University of the State of Missouri, established and maintained according to the requirements of the Constitution, with the departments as therein specified.

If it shall be thus maintained, the history which it will make for itself in the coming years, will be one of greatly increased honor and usefulness. The institution, in entering upon a new phase of its life, succeeds to all the benefits of its past existence. As in the case of the individual, the life is the same, but under new conditions.

GENERAL PLAN.

President Read, in his first report, presented the following *working* plan, which has been steadily before the Board as the end to be attained:

1. To retain substantially the usual college course for those who desire that course.
2. To enlarge and perfect the scientific course.
3. To establish and maintain the College of Agriculture and Mechanic Arts, which, in addition to instruction in agriculture, horticulture, etc., with the appropriate exhibitions and experiments (including military tactics), shall embrace: *first*, a School of Engineering; *second*, a School of Analytical Chemistry; and *third*, a School of Mining and Metallurgy.
4. A Normal School.
5. A Law College.
6. A School of Preparation for other departments. This will be necessary in the present condition of education in the State, and may form a part of the Normal School.

7. The University to be expanded by instituting colleges of applied science or professional departments, as its means will permit, or the wants of the State demand.

8. The constant annual accumulation of the materials of education, as books, apparatus, cabinets, models, etc.

9. The different departments of instruction to be so adjusted to each other, and *dovetailed*, as to economize labor and material, and thus render the instruction most effective to the largest number, and save means for the enlargement of the University and the increase of its facilities.

10. A judicious economy in all departments, that there may be improvement in all, and the accumulation, year by year, of those educational means and appointments which belong alike to all departments and increase the general prosperity.

It will be observed that this plan, so far as relates to the course of study, exactly meets the requirements of the State Constitution, and also of the Congressional land grant of 1862 for the benefit of a college of agriculture and the mechanic arts.

If this plan shall be steadily adhered to and carried out, and the means afforded of doing so in an effective manner, there is no reason why Missouri may not have a University equal to the Michigan, the Cornell, the Illinois Industrial, the Kentucky, or any other institution in the land. But there is no possibility of building up such an institution without the means, in ample measure, for the support of first-class professors, for the erection of buildings, for libraries, for apparatus, cabinets of minerals, models in the arts, both fine and useful, and all other means for investigation and illustration.

The way is now open for a State institution of the highest order, by the concentration of the land grant fund for a college of agriculture and the mechanic arts with the University fund, thus aiding and perfecting all departments, and especially the required college.

The University is rapidly growing in public favor, and it is not to be doubted that private benefactions will be bestowed in aid of the public grants. Men of wealth, in this State and elsewhere, will come forward to carry out and perfect special departments in the University of this great Central State of the Union, so admirably located for an influence which shall extend far beyond its borders.

By the act of the last Legislature locating the Agricultural and Mechanical College provided for by the Congressional grant, 1862, in connection with the University, the institution is placed upon a firm basis, and its prospect for usefulness much enlarged.

In accordance with the conditions of the locating act, Boone County has appropriated \$30,000 in cash, and given six hundred and forty acres of land for the use of the University.

As soon as the Commissioners appointed by the act of the Legislature had accepted these appropriations as fulfilling the required conditions, a meeting of the Curators was held, and all possible steps were at once taken for inaugurating the new department required by the incorporation of the Agricultural and Mechanical College with the University.

A committee of reorganization was appointed to visit other scientific and practical schools and universities, and to report at the next December meeting. The committee consisted of the following members, viz. : Hon. Edward Wyman, Pres. Read, R. L. Todd, Esq., Colonel F. T. Russell, and Prof. J. W. Matthias.

A report was accordingly presented by the committee, embracing the whole field of University organization and administration; its recommendations were adopted by the Board, and it was ordered to be printed.

THE GREAT EVENT OF THE YEAR.

The great event in the history of the University during the past year is the final action in locating, in connection with it, the Agricultural College and the School of Mines.

This ended a struggle more bitter and longer continued than that had in any other State as to the disposition of the Congressional grant. It is to be hoped that the discussions before the Legislature, in the newspapers, in lectures, and before the people, which this protracted contest gave rise to, has greatly tended to educate the people of the State in the true idea of a University. Could all these discussions be collected in a volume, it would constitute one of the most valuable documents which has yet appeared on the method and scope of University education.

FINAL ACTION IN LOCATING THE AGRICULTURAL AND MECHANICAL
COLLEGE.

By the act of the Legislature, approved February 24th, 1870, locating the Agricultural and Mechanical College at Columbia, in connection with the State University, the County of Boone and Town of Columbia were required to give, as a bonus for the location, the sum of \$30,000 in cash, and six hundred and forty acres of land convenient to the present University grounds, as the Agricultural College Farm.

Commissioners were also appointed by the same act to meet at Columbia within a given time, and determine whether the foregoing conditions had been fully complied with. This final act of location has been performed by the acceptance on the part of the Commissioners of the money and lands proffered by the county.

The following Commissioners, viz., Edward Wyman, Philemon Bliss, J. W. Matthias, R. L. Todd, and Paul Hubbard, met at Columbia on the 3d day of May, 1870, in pursuance of previous notice, and proceeded to examine the land and the titles to the same, and also to see that the money was properly deposited. After such examination, and certifying to the correctness of the title papers to the land, and that the money was duly paid over to the credit of the University, they certify in the following terms :

“That having examined said tract of land, we found the same handsomely improved with valuable buildings, diversified with a variety of soil, well watered and timbered, and admirably adapted for the uses and purposes of the Agricultural and Mechanical College; and we further certify that in extent and character of this part of their donation, with the amount of money they have expended to secure it, Boone County has fully and honorably met every reasonable expectation, and satisfactorily complied with the obligations incurred to the State in the matter of the location of the Agricultural College.”

This remarkable declaration, in an official document, made at the instance of the Commissioners from different and distant parts of the State, is most honorable to Boone County, and shows her worthy to be the site of a great institution of learning.

The land cost the county \$60,000, which, with the cash gift of \$30,000, makes the total of \$90,000. The county court, with almost perfect unanimity on the part of the people, ordered the issue of \$80,000 in ten per cent. bonds, and the people of Columbia \$10,000 in like bonds, the whole being in value equal to cash.

On the land are several houses, one of them being a very elegant mansion, worth \$20,000, and which has proved of immediate use to the University for the accommodation of students. There are also on the grounds two large vineyards, one planted by Professor Swallow and the other by Major Rollins.

It is a noble domain, affords every variety of soil, is slightly, well-watered, and, with some improvements, will not be surpassed, if equalled, by any other agricultural college farm in the United States. Several gentlemen from other States, of high scientific attainments, as well as agricultural and horticultural tastes, are most enthusiastic in praise of the selection.

It is to be borne in mind, that, by the terms of the law, this land can never be alienated or converted to any other uses than those for which it was given. It remains to the State forever for the high purposes of scientific and agricultural education.

AGRICULTURAL COLLEGE.

The action of the Board of Curators in regard to this department has been prompt and energetic, and such as fully to indicate the wisdom of the Legislature in locating it in connection with the State University.

It is to be borne in mind that not a dollar has yet been received from the Congressional land grant, and yet a Professor of Agriculture has been appointed (the Hon. Geo. C. Swallow, late State Geologist), a superintendent of the farm has been appointed, and also a horticulturist; classes have been organized in the science of agriculture—they have been conducted to the field to perform, under the assistance and inspection of the Professor, operations illustrating principles which they have learnt in the lecture room—a labor system has been organized, and several young men have done a good part toward sustaining themselves.

For all the ordinary branches, as arithmetic, book-keeping, algebra, geometry, surveying, chemistry, etc., there was already provision existing in the University. What was wanted was special provision, both practical and scientific, in the direction of agriculture and horticulture in the various departments. A commencement has been made. Means and facilities of instruction and illustration will be added as rapidly as the endowment of the University and the State appropriations will permit.

In regard to this grand interest, Missouri can never permit herself to stand behind Illinois and Iowa, or in fact any other State, East or West. The Agricultural Farm, as representing the State of Missouri, must be made, in all respects, a model. When it shall be stocked and furnished with the proper appointments of such a farm, it will not only be self-sustaining but a source of profit. But it is evident that at first there must be large outlays for fences, buildings, gardens, nurseries, laying off grounds, and making other improvements.

SCIENTIFIC BUILDING.

One of the first wants of an agricultural college is a laboratory for chemical analysis. Chemistry is the very grammar of the natural sciences. The scientific agriculturist must understand the soil he is to deal with, and the fertilizers he is to use. The very idea of practical scientific education is that the student is himself to go into the laboratory, and do the work of chemical analysis. He is both to know and to do. This is, in fact, the only way to assure his knowledge and make it a permanent and useful possession. He is to do field work and laboratory work. He is to understand apparatus and reagents, instruments and machinery, by their use, not merely in the hands of his professor, but in his own hands. He is to have the means and opportunity of making experiments for himself. Hence the practical scientific institutions are more expensive in their equipments than the old-fashioned college.

The erection of the scientific building could not be deferred. It is a first step in our progress. The plan of the building will, it is believed, be most satisfactory, both in its architectural style and in its accommodation. It is after the general plan of the laboratory of the Michigan Agricultural College, but improved

and enlarged. It will contain the chemical laboratory, both general and analytic, the lecture room, and other necessary appurtenances, to be on the ground floor. There will be a basement for furnaces and other uses of the laboratory. On the second floor will be the lecture room of the Professor of Agriculture, with space for the botanical, mineralogical, and geological collections. In the third story of the main building there will be the rooms of the Professor of Natural Philosophy, including those needed for his various kinds of apparatus. The hall projecting from the main building in the third story will be required for collections in natural history.

The towers, which are not designed to be costly, have purposes of indispensable use, and will give to the building a fine and even imposing effect.

This building is already under contract and in process of erection, and will be finished and the laboratory fitted for the use of practical students of chemistry during the coming university year. The contract was taken at \$45,507.25. The expense of architect, etc., and the fitting up and equipments of laboratory, will involve a further expenditure of, say, \$10,000. The Board had no resource but to go ahead with this building. They will expend upon it the balance on hand of the Boone County fund (about \$20,000), and must look to the Legislature for an appropriation to complete the building, and furnish it with the required appointments.

SCHOOL OF MINES.

It is to be borne in mind that the School of Mines, though forming an integral part of the University organization and to be under the same control, was by the act of the Legislature to be located, under certain conditions, in the mineral district of Southeast Missouri, and to receive for its support one fourth part of the income from the Agricultural and Mechanical College land grant.

It is considered desirable to preserve a history of the proceedings had in regard to the location of this school, both for future reference and to show the extreme care exercised in this delicate matter.

LOCATION.

The committee appointed by the Board of Curators of the State University to locate the Congressional land grant for a "School of Agriculture and the Mechanic Arts, and a School of Mines and Mining," in this State, have, after due deliberation and much labor, performed that duty. It was a patriotic work, inasmuch as the committee received no compensation except actual expenses incurred. Several sections of the State desired the location of the school in their midst, but only two proposals came in such a shape to the committee as to warrant entertainment. These were from the counties of Phelps and Iron, and to the former was awarded the prize. The two propositions, and the reasons impelling the committee to this selection, are fully explained in the report which follows.

Colonels Russell and Northcutt were appointed a sub-committee to visit the two competing counties, and examine and appraise the lands offered. They were out some two weeks upon this duty, and reported in favor of Phelps, estimating the bid of that county—including lands and bonds—at \$130,545, against \$113,500 on the part of Iron. It is said that the latter county would have added \$40,000 to her bid to have secured the location, but she was too late.

It is contemplated by the committee that the buildings for the school shall be erected on a piece of the land donated—a beautiful site—adjoining the flourishing town of Rolla, on the South Pacific road, the ground being 800 feet higher than St. Louis.

The following is a list of the known minerals in Phelps county :

Iron,	Lead,
Copper,	Manganese,
Mineral Paint,	Cobalt,
Nickel,	Zinc,
Gypsum,	Arsenic,
Limestone,	White and variegated
Marble,	Sandstone,
Kaolin,	Quartz.

REPORT OF THE COMMITTEE.

To the Honorable the Board of Curators of the University of the State of Missouri:

The undersigned committee, appointed by the Board of Curators of the University of the State of Missouri, under the law passed at the last session of the General Assembly, approved March 24, 1870, entitled "An act to locate and dispose of the Congressional land grant of July 2, 1862, to endow, support and maintain a school of agriculture and the mechanic arts, and a school of mines and metallurgy, and to promote the liberal education of the industrial classes in the several pursuits and professions of life," after having given to the subject the careful consideration which its importance demands, and visited the counties contending for the location, have arrived at the following conclusion :

The sections of the law defining the duties of the committee, and limiting their action in relation to the location of the school of mines, read as follows :

"SEC. II. The school of mines and metallurgy herein provided for shall be located in the mineral district of Southeast Missouri, but in consideration thereof any county having mines therein, within such district, shall donate to the Board of Curators, for building and other purposes of said school, not less than \$20,000 in cash, not less than twenty acres of land on which to erect buildings for the use of the said school, and lots of mineral land in such quantity, quality and kind as may be deemed necessary for said school, for practical and experimental mining. The title of said land to be clear and indisputable, to be bought without any charge whatever to the State, or to said Agricultural College fund, and to be conveyed to the State of Missouri by general warranty deed, for the use and purpose of said school of mines and metallurgy ; and further, the said school shall be located in that county by a committee of the Board of Curators, selected for such purpose, which shall so give the greater amount of money and land ; *provided, however*, that if no one of such counties shall, within three years from the passage of this act,

comply with the foregoing provisions and conditions, then any or all of such counties may combine for the purpose of complying therewith, and in such case the said school shall be located in the manner aforesaid, within the county of the number so complying with the said conditions in which the greatest variety of ores may then be known to exist, and which has also the other advantages and facilities for the successful working of such school; *provided, also*, that if said conditions are not accepted by such counties within seven years from the passage of this act, the said part of the fund set apart for said school shall be applied to the maintenance and support of a chair of mining and metallurgy in the State University at Columbia.

“SEC. 12. In order to raise the amount of money, and to purchase the quantity of land specified in the last section, voluntary individual subscription should be made to and received by the Board of Curators; and the corporate authority of any city or town, and the county court of any county in the districts mentioned in the foregoing section, are hereby authorized and empowered, respectively, to issue bonds of such city, town, or county, in such sums as they may agree upon, to run not longer than twenty years, and bearing interest not exceeding ten per cent. per annum, payable semi-annually, which bonds shall be delivered to the Board of Curators, to be by them sold and converted into cash, to be used in the erection of the necessary buildings, buying stock, and making improvements, as set forth in section twelve in this act, of the land required to be donated therein; and any such city, town, or county shall have power to levy such tax under the Constitution and laws of this State, as may be needed to meet, according to the terms of the Board, the payment regularly of the principal and interest when due.”

The only counties which made bids under the law, in order to secure the location of the important institution, were Iron and Phelps; the other counties making bids having presented them in such an informal shape, and falling so far below the sums offered by the counties named above, that the committees did not visit them, nor consider their claims for the prize. The contest was therefore narrowed down between Iron and Phelps counties.

The bid made by the County of Iron is as follows :

1. The county bonds, having twenty years to run, and bearing interest at the rate of ten per cent. per annum, payable semi-annually, \$83,500.
2. Five thousand acres of land valued at two dollars per acre, \$10,000.
3. Twenty acres. site for college building, and the most valuable site offered—valued at \$1,000 per acre—known as Fort Hill, \$20,000.

Total bid of Iron County, \$113,500.

The bid made by the County of Phelps is as follows :

1. In county bonds, having twenty years to run, and bearing interest at the rate of ten per cent. per annum, payable semi-annually, \$75,000.
2. Seven thousand seven hundred and nine acres of land, valued at \$38,545.
3. Forty acres of mineral land, for practical and experimental purposes, valued at \$4,000.
4. One hundred and thirty acres, site for college building, adjoining the town of Rolla, and known as Fort Wyman, valued at \$13,000.

Total bid of Phelps County, \$130,545.

The sections of law above quoted make it imperative upon the committee to fix the location of the mining school in that county "giving the greatest available amount of money and land," and believing that the sites offered are not only eligible, but also equally available for the purpose of the proposed school of mines, and in order to ascertain the actual value of the bid made by the two counties, the committee deemed it just to appoint two of their number to visit and inspect, as far as they could do so, the lands subscribed by each of the counties.

Accordingly, Messrs. B. F. Northcutt and F. T. Russell were appointed such sub-committee, who proceeded to discharge the duty imposed upon them, and upon their report the above valuations were placed upon the lands.

Having carefully informed themselves of the financial condition of Iron and Phelps counties, the committees considered the bonds offered by each as entitled to be received at their par value.

Summing up the whole matter, the account stands thus :

Total value of the bid of Iron County, \$113,500.

Total value of the bid of Phelps County, 130,545.

Making a difference in favor of Phelps county of \$17,045.

Limited in their action by the *express terms of the law*, the committee felt that they could not overlook the larger amount offered by Phelps county. They have therefore decided to fix the School of Mines and Metallurgy at Rolla, in Phelps county, and on the site tendered and known as "Fort Wyman," to be made final and complete upon the delivery by the county court of said county of the bonds of Phelps County, amounting to \$75,000, legally and properly executed according to the offer made by said county court; and also deeds of general warranty to the lands donated, in accordance with the terms and conditions of the law providing for the location of said School of Mines and Metallurgy. The committee, having discharged the duty assigned them, cannot do otherwise than to commend the liberal and honorable spirit by which the people of the counties contending for this prize have been governed, and to express the sincere wish that this institution of learning, so well endowed by the munificence of the general government and by the liberality of the people of Missouri, may provide large facilities in the development of our best mineral resources, and prove a blessing to the cause of science and liberal education.

A. J. CONANT, *Chairman*.

B. F. NORTHCUTT,

O. S. REED,

W. W. ORRICK,

JAMES S. ROLLINS,

F. T. RUSSELL, *Secretary*.

ST. LOUIS, December 8, 1870.

Phelps County having in all respects complied with the offers made, the School of Mines was accordingly located at Rolla, in that county; and the site of the buildings for the school is to be Fort Wyman, in the immediate vicinity of the town—one of the grandest situations in the State, commanding a view in all

directions as far as the eye can reach, and in the midst of one of the richest mining districts of the world.

The site consists of *one hundred and thirty acres* for the college buildings and grounds, and of *forty acres* near by for practical and experimental purposes.

The Board of Curators will put this school into operation at the earliest practicable period. They have already appointed a committee to select and recommend for appointment a Professor of Mining and Metallurgy, who is to have power to recommend for appointment two assistants. The erection of the building is to be under the general charge of the Professor, that it may be as complete as possible in all the requirements of such a building. While architectural taste is to be duly regarded, the wants and necessities of the school are to be mainly considered.

UNIVERSITY COLLEGE FOR WOMEN.

It is a part of the plan of the Curators to establish, so soon as may be, a College for women in connection with the University—a College specifically designed to prepare women for their particular sphere in society, and to open to them such advantages of education and high training as they cannot have elsewhere in the State.

This will require means from the Legislature, for the erection of a suitable building. A site can be had on the University grounds, admirably adapted to such a building, near the principal edifice, commanding a fine view of the town and surrounding country—being a portion of the ground which has been set aside and designed for ornamental gardening and small fruit growing.

It is worse than mockery to open our Colleges and Universities to women, if we make no adequate and proper provision to receive them.

We do not propose to discuss the question of the co-education of the sexes. The point is simply this: Shall we, in establishing a great University for the State, ignore and pass by one-half of our people? Shall women be excluded from its advan-

tages, as though they were outcasts? Or, while they are admitted in name, shall they in reality be shut out, because no provision is made to receive them? This question meets the Curators at the very threshold in organizing the departments of the University.

What is needed is a special College for women, separate and distinct as a College, and having its own supervision, but admitting its members to the recitations and lectures in all departments of the University—to the School of Horticulture, to that of Drawing and Modelling, to the School of Practice in Analytical Chemistry—thus preparing for the care of the sick room and the kitchen, and elevating, by science and art, the commonest duties of home life. The department of Social, Political and Economic Science should be open to them; and, in short, all the instructions of the University which they might desire to attend.

Will the Legislature afford the means of erecting a suitable building, thus providing for the daughters of the State, not less than the sons? Not one dollar, let it be remembered, has the State ever yet given for the specific education of young women. Will it now make its very first appropriation for this noble object? The last Legislature appropriated largely and by an almost unanimous vote for the specific education of the colored race in our midst. Can it now refuse our daughters?

The education of the University for women can be made not only of a higher type, but, in consequence of the Professors and various other appointments already existing, greatly cheaper than can be had in any other way. It can be brought within the means of families in very moderate circumstances.

Will not the women of the State, and from every part of the State, make their appeal to the Legislature, for the equal rights of their sex in the State University? If they make the demand with one voice, they will be heard and heeded, and the means will be given for the erection of a building for the University College for Women. The building only is wanted to start this college immediately, and upon a basis to impart a true womanly education, and at the cheapest possible rates.

The Board, at its recent meeting, resolved to take immediate action on this subject, and appointed the following committee to present the subject to the Legislature at the approaching session, viz: President Read, Judge Bliss, of St. Joseph; Judge Perry,

of Rolla; Hon. W. H. McLane, of Clinton; Hon. James Moore, of Union; Hon. B. F. Northcutt, of Linneus, and Hon. Henry T. Mudd, of Kirkwood.

The whole nation has been filled with admiration at the grand bequest of John Simmons, of Boston, of a million and a half of dollars for the establishment of an institution for the education of women in those arts which may render them more independent in procuring a livelihood—such as telegraphy, the arts of design, teaching in its highest grades, etc. Here in the State University, we can provide all the possible advantages of such an institution by a small additional expenditure; here are professors, libraries, laboratories, apparatus, art collections, and gardens. Besides, here will be all the growing and accumulating means of the University from year to year, and age to age. We must either duplicate these means and appointments or deny them to women, unless we open to them our halls.

What is wanted to give the women full University advantages is the suitable COLLEGE HOME, under proper supervision, while they remain as students.

The State of Wisconsin, by the action of its last Legislature, appropriated \$50,000 for the erection of a building in connection with the State University for the accommodation of women students. This beautiful building, an honor and an ornament to that young State, will be ready for occupancy before the close of the present University year.

The committee appointed by the Board of Curators will, in behalf of the women of Missouri, ask from the Legislature, at its ensuing adjourned session, an appropriation for the erection of a building in order that the women students may be accommodated with a suitable home in the University.

If this boon should be denied them, the experiment of admitting female students must be abandoned in consequence of the State making for them no suitable provision.

OBLIGATIONS OF THE STATE GROWING OUT OF THE AGRICULTURAL GRANT.

By the act of the General Assembly, accepting, on the part of the State, the offer by Congress of a grant of land to "provide a College for the benefit of agriculture and the mechanic

arts," the State took upon itself certain obligations—in fact, entered into a contract—to the terms of which Missouri is as solemnly bound as by any other contract which it is possible for the State to make. The obligations of the State are clearly pointed out in the Congressional act of endowment, approved July 2, 1862.

1. The State must provide at least one college "the object of which shall be" to teach "branches of learning related to agriculture and the mechanic arts, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions," "other scientific and classical studies" are not to be excluded, "and military tactics" are to be included.

How shall the State perform this duty? Shall it be in an enlarged and noble spirit, worthy the State, and worthy the beneficence of the general government?

2. All expenses of location, management, superintendence, etc., of the lands granted, and "all the expenses in the management and disbursement of the moneys received therefrom, must be paid by the State out of the treasury of the State," "so that the entire proceeds shall be applied, without any diminution whatever," to the proposed object.

Expenses have been incurred in the selection and appraisal of these lands during the last summer, which must be paid out of the treasury of the State. This is a part of the previous assent which has been signified on our part by a legislative act. These items of expenditure have been presented in proper form to the General Assembly, and were ordered to be paid "from the treasury of the State," as required.

3. "No part of the fund nor the interest thereon shall be applied, directly or indirectly, under any pretence whatever, to the purchase, erection, preservation, or repair of any building or buildings."

This makes it necessary that the State should provide buildings. It is most honorable to our American States, East and West, that they have liberally provided, under the requirements of the Congressional act, not only buildings, but apparatus, libraries, stock for farms, and other material aids of instruction.

Here is a worthy State rivalry—most beneficial to the State—most honorable to the general government which has bestowed so liberally for objects calculated to advance civilization itself.

4. The State, by its act of acceptance, guarantees the capital of the fund, so that if, by any action or contingency, it shall be diminished or lost, the State is bound to replace it.

No grant ever heretofore made by Congress has been so carefully guarded from waste or misuse, by the very terms of the grant. Let Missouri do her part to make the most of the grant which falls to her by the bounty of the general government.

OBLIGATIONS GROWING OUT OF COUNTY AND INDIVIDUAL LIBERALITY.

But the State is bound to meet the liberality and heavy sacrifices of counties and individuals in a spirit of generosity. These have been made in the just expectation that the State will do its part, and but for this reasonable expectation these sacrifices would never have been made.

In order that we may see how large this liberality has been, the following statement is presented :

Gifts of individuals in Boone County, in order to secure the location of the University, made in the year 1839.....	\$117,500 00
Rollins Aid Fund—	
A bequest by Dr. Anthony W. Rollins, to aid young men and women in their education. The proceeds placed at the disposal of the President of the University—now amounting in gross to.....	30,000 00
Gift of Boone County, to secure location of Agricultural College..	80,000 00
Town of Columbia for the same.....	10,000 00
Gift of Phelps County, to secure Mining School at Rolla.....	130,545 00
	<u>\$368,045 00</u>

To the above is to be added \$500, the sum guaranteed by J. L. Stephens, Esq., of Columbia, to found the Stephens prize.

GIFTS AND ENDOWMENTS FROM INDIVIDUAL BENEFACTORS.

As the University shall become firmly established, and understood to be entirely free from mutations arising from political changes, it cannot be doubted that individuals of wealth will

create in the University endowments and foundations, both to accomplish a great and lasting public good for the State and for civilization, and to bear their own names with the University down to future generations of men. The name of Dr. Rollins, for instance, must be known as long as the State University shall exist. He will support, within its walls, representatives of himself for all time. What a noble fame, to live on this earth, in good deeds, for generations after death! For this kind of immortality, the University, now placed upon firm foundations, and to endure as long as the State itself, affords the opportunity; and it is to be hoped that men of wealth will embrace it.

Two hundred years ago, William Pennoyer, of the county of Norfolk, in England, gave the rents of a certain estate in his own county for the endowment of a scholarship in Harvard College, Cambridge, America. The fund has never failed, and to-day there is a lineal descendant of the family supported by the fund in Harvard University.

Revolution has changed political relations—Massachusetts is no longer a British colony, but this fund remains to bless the family of its donor. In the year 1699, Governor Danforth made a bequest to the same institution, the income of which, this very year, supports a lineal descendant in the University. In Yale College there are like instances; and the De Forest Fund is sufficient to educate all students of that name (to whom it is confined) who present themselves.

There are still other objects in the University to which the aid of wealth is invoked, as professorships, library alcoves, buildings, etc., with which to connect the names of benefactors in the history of the institution. In order to build up a great University, not only will State aid be required in ample measure, but also the benefactions and foundations of individual citizens desiring to contribute to a noble object, and acting "in the beautiful hope of doing some perpetual good upon the earth," as well as of leaving monuments of themselves as an inheritance to their posterity.

IMPROVEMENTS.

The Board has during this year been at a very considerable expense for improvements absolutely necessary, either for the

preservation of the property or for accommodations essential in the progress of the institution.

First, A large semi-circular room, defaced with iron and timber braces, and in a dilapidated condition, has been converted into a spacious and beautiful Library Hall. This work was planned under the excellent taste of A. J. Conant, Esq., of St. Louis, a Curator, and skillfully executed under the direction of Dr. Paul Hubbard, another Curator. The hall is seventy-two feet in its greatest length, is twenty feet in height, well lighted and ventilated, and will serve both as a library and a reading room for students and professors. It will be a pleasant place for their convocation in unofficial and friendly relations, and meets a long-felt want. More than \$200 have been subscribed to furnish it with newspapers and periodicals, and several publishers have made generous donations in aid of the object. The cost of repairing, making changes, and furnishing this room will foot up, when the bills are brought in, say, \$2,750.

Second, Repairs upon Hudson house, stoves, and fitting it for occupancy of Farm Superintendent and students, \$1,200.

Third, The main University building, which had not been repainted since it was first built, has been painted, inside and out, at an expense of \$3,000.

The appropriation for library is \$1,200, and for apparatus \$1,500.

Among other objects of recent expenditure and improvement are the following, viz :

Within a brief time past, all floating debts of the University have been paid off, amounting to over \$18,000.

An amount of more than \$10,000 has been expended on the main edifice in the way of repairs.

President's house has been rebuilt, and the fences around the campus have been restored.

Some \$6,000 or \$7,000 have been expended upon normal building and furniture.

About the same amount has been expended upon cottages and boarding-house.

The library and apparatus have been improved.

The number of professors and teachers has been increased.

The Normal department has been established, and liberally provided for.

All this has been done by "saving and pinching."

We are precisely in the condition of a business establishment in danger of failing for want of more capital; or, if not failing, of accomplishing far less than, with a little more means, would be within easy power of attainment.

It must be understood that a University can no more be carried on, and especially one with practical, experimental, and scientific departments, without a large expenditure of money, than can a railroad or other public improvements. The only question to be decided is, whether the State will have a University in fact or merely in name.

INCOME.

The University income consists of three items:

<i>First.</i> Income from Seminary fund (gold) in current funds.....	\$7,220 68
<i>Second.</i> One and three-fourths per cent. of State revenue, after deduction of twenty-five per cent. for common schools.....	12,767 86
<i>Third.</i> Tuition fees.....	5,331 50
There is, in addition to the above, rents received from students for use of rooms in cottages.....	734 85

The income is for the year ending.....\$26,054 89

This income is larger than that of any preceding year, excepting only that of the last.

It is not expected that any considerable amount will, for some time to come, accrue from the agricultural lands, while large demands will be constantly made upon the University funds for buildings, apparatus, books, models, and other requirements connected with practical and scientific education.

While much has been done, the fact is not to be disguised, that still more remains to be done. There has been no large outfit of the University, as in other States, in order to put it at once on a proper basis. We are in want of numerous improvements for farm, garden, and for workshops, to say nothing of the building required for the women's college. To meet these various demands will require at least \$100,000; and it will be true economy, and greatly for the honor of the State, to make at once such appropriation.

The present General Assembly of Illinois as the Secretary of State writes Dr. Read, has appropriated to the Illinois State Industrial University a sum total of no less than \$265,200; and this over and above all former appropriations and its large income from endowments.

The State of California gave her university at Oakland \$245,000 in coin, in order to start it in a manner worthy the State and becoming its high destiny.

Michigan, Wisconsin, Iowa, Minnesota, and even Nebraska, have made provision for their universities and industrial institutions by the appropriation of thousands of dollars, and even of hundreds of thousands.

No State has better understood how to raise up a race of great men among her sons than Virginia. According to a recent statement of the chairman of the faculty, the State has given to her university a grand total of \$1,044,304. She has given tuition fees to 1,081 students, known as State students, and has boarded a large number free of charge. It is estimated by the same authority that the amount brought into and retained in the State by the university is no less than \$4,476,800. Even in the days of her poverty she forgets not her university. The recent appropriations amount to \$82,545.

Shall great central Missouri, so rich in all the elements of wealth and civilization, fall below her sister States around her; or rather shall she not be pointed to as a model and example for her spirit and liberality in sustaining her university upon the broad basis upon which, by her constitution and laws, she has established it?

ACTION OF THE BOARD OF CURATORS IN REGARD TO THE LANDS
OF THE CONGRESSIONAL GRANT.

Very large and responsible duties were devolved upon the Board in regard to these lands by the act of location of 1870, and the amendments to this act of 1871.

Among these are the following: They are to cause the lands to be examined, classified and appraised before being offered for lease or sale; they are to ascertain whether the Commis-

sioners appointed by the Governor, under the act of 1866, had selected the full amount of three hundred and thirty thousand acres of land granted to the State by the general government, counting one acre for two, if within the railroad belt; they are to have lands selected for any deficiency that may be found to exist; they are to appoint a Commissioner to lease or sell the lands after appraisement, who is to keep his office at St. Louis, to fix his compensation, and to take security for the proper discharge of his duties; they are to appoint agents (two or more) to examine, classify, and appraise the lands, also the same agents to make selections for any deficiency found to exist; they are to fix the rates at which the lands may be leased or sold. A minimum, however, of one dollar and twenty-five cents is established by law, and that of two dollars and fifty cents for lands within the railroad belt. They are also to determine the mode of investment when moneys are received from sales, restricted, however, by the Congressional act of endowment.

At the first meeting of the Board after the final action of the Commissioners relating to the location of the Agricultural College had been taken, held in May, 1870, Dr. L. D. Morse, of St. Louis, and the Hon. James Harris, of Boone county, were appointed agents of the Board to perform the duties required by law. They immediately commenced their examinations, and soon found that the deficiency in the lands located by the Commissioners appointed by the Governor was no less than *eighty-nine thousand* acres. Their first work obviously was to select and have withdrawn from sale the balance of land required to make up our quota of the grant, as the quantity of government land was every day diminishing, and especially that having value.

Another difficulty arose which retarded the work of the agents. It was found, upon application to have their accounts audited, that the law authorized the employment of but one agent. The consequence was that Judge Harris, not having his account audited, and receiving no pay for his time or expenses, declined further to act. The law was, however, amended by the the act of Feb. 1871, and the Board empowered to appoint agents in their discretion. Judge Harris was reappointed by the Board at a recent meeting, and still further to expedite the business, Milton Santee, Esq., of Phelps county, was also appointed.

These agents are now in the field completing the work of selection, classification and appraisal, as required by law; and it is expected that at the meeting of the Board, to be held June 27th, a large number of appraisements will be presented to be passed on and approved. The appraised lands will be immediately put into market under the agency of the Commissioner, J. W. Sutherland, Esq., at his office in St. Louis.

The plan of leasing is borrowed from the State of Iowa, where it has proved successful and beneficial both to the State and the party taking that method to become the possessor of land. According to this plan, those who are unable or who do not wish to buy, are permitted to take leases, paying annually in advance *eight* per cent. on the appraised value of the land, as a rent therefor; and at the end of ten years the lessee may become the purchaser of the land at the original appraisal. By the amended act of the General Assembly of Missouri, all leases are made to expire by the end of the year 1881. The advantages of this plan are, it enables the man who cannot pay for his land, or who wishes to put his money into improvements, to have *time* (ten years), by paying in advance annually interest at the rate of eight per cent. on the appraised value. The price remaining unpaid operates simply as a mortgage, on payment of which the incumbrance is removed, so that he is, for all practical purposes, the owner of the fee. But he has still another advantage: he is by law exempt from taxation on his land. When we consider the rapid rise of land by railroads and other improvements in the general progress of the country, it is presumed these liberal terms will cause these lands to be rapidly taken.

GOVERNMENT OF THE UNIVERSITY.

The present organization of the University, as established by the Legislature, provides for a Board of Curators, consisting of twenty-two members, two of whom must be from each Congressional District, and four from the county of Boone. They are appointed by the Governor and confirmed by the Senate. (See Laws of 1868, page 175.)

The locating act of last winter also provides that at least seven Curators shall be from the State Board of Agriculture.

Five have accordingly already been appointed from that Board to fill vacancies.

“They have power to make such by-laws or ordinances, rules and regulations, as they may judge most expedient for the accomplishment of the trust reposed in them, and for the government of their officers, and to secure their accountability.”

The Curators appoint the President, professors and tutors, no one of whom is permitted to preach or exercise the functions of a minister of the gospel, or of any one of the learned professions, during his continuance in office.

The manifest object of this provision is to secure a Board of instruction for the University who shall be professional teachers, and devoted to their profession as such; and not men belonging to some other profession and exercising its duties.

The duty of the President of the University, as defined by the act of incorporation, is, “among other things, to superintend and direct the care and management of the institution and its grounds, and to make and transmit to the Curators, at each annual meeting thereof, a report of the state and condition thereof, containing such particulars as the Curators shall require.”

The locating act referred to, also provides for a Board of Visitors, five in number, three of whom shall be gentlemen distinguished in agriculture or the mechanic arts, and two of whom shall be graduates of the University.

This last Board performs nearly the duty of the Board of Overseers of Harvard University.

It is a small body, is required to meet at least once each year, to make personal examination into the condition of the University in all its departments, and to report to the Governor, suggesting such improvements and recommendations as they consider important, which report shall be published with the annual report of the Curators.

THE UNIVERSITY FOR THE WHOLE PEOPLE, AND THEREFORE TO
BE NON-SECTARIAN AND NON-PARTISAN.

The University exists by the powers of the State, and is for the whole people of the State, and hence mere partisan politics

and sectarian religion are to be wholly ignored and discarded. No man is to be accepted or rejected, either as President, professor or other employee of the University, because he belongs to this or that sect, or to this or that political party. The University, and indeed our whole State system of education, should be entirely above and beyond the rivalry of sects, or the ups and downs of political parties. The only rivalry which should exist among them ought to be, which shall do most to educate the people. Those who hold the high position of President or professor in the State University, ought, in the words of the late President Lathrop, to be "*too good patriots to be partisans, and too good Christians to be sectarians.*"

The same broad view of the office of the State University to the whole people must embrace the idea, that it shall be open to the women of the State.

There is surely neither reason nor justice in excluding one-half of the people from the highest culture which the State affords.

The progress of the ideas of our country—indeed of the civilized world—have no room for doubt or hesitancy. With Cornell and Michigan, with Indiana and Iowa, with Wisconsin and California, and with Paris, Zurich, Vienna and London abroad, we must admit women to the privilege of the University, and we must also make suitable provision for them.

CURATORS.

A. J. CONANT, Esq.....	Saint Louis.
EDWARD WYMAN, Esq.....	Saint Louis.
HON. ELIJAH PERRY.....	Rolla.
HON. HENRY T. MUDD.....	Kirkwood.
PROF. J. W. MATTHIAS.....	Springfield.
PROF. ORVILLE S. REID.....	Springfield.
HON. GEORGE W. KINNEY.....	Snow Hill.
HON. WILLIAM H. McLANE.....	Clinton.
HON. W. W. ORRICK.....	Richmond.
HON. PHILEMON BLISS.....	Saint Joseph.
HON. GEORGE HUSSMAN.....	Bluffton.
HON. PAUL HUBBARD.....	Columbia.
HON. JAMES S. ROLLINS.....	Columbia.
ELDER T. M. ALLEN.....	Columbia.
R. L. TODD, Esq.....	Columbia.
COL. N. J. COLMAN.....	Saint Louis.
HON. J. W. BARRETT.....	Canton.
HON. SAMUEL G. WILLIAMS.....	Rolla.
WM. S. DYER, M.D.....	Vineland.
HON. WM. T. ESSEX.....	Kirkwood.
HON. J. T. WIELANDY.....	Jefferson City.
REV. J. W. VINCIL.....	Columbia.

OFFICERS OF THE BOARD.

HON. JAMES S. ROLLINS, PRES.	ELDER T. M. ALLEN, VICE PRES.
R. L. TODD, SECRETARY.	J. H. WAUGH, TREASURER.
DR. PAUL HUBBARD, BUSINESS AGENT.	

VISITORS.

(UNDER APPOINTMENT OF THE GOVERNOR.)

J. V. C. KARNES, Esq.....	of Kansas City.
HON. CYRUS S. BROWN.....	of Shelby County.
COL. ALEX. F. DENNY.....	of Randolph County.
CHARLES E. LEONARD, Esq.....	of Cooper County.
HON. E. W. FOX.....	of St. Louis.

UNIVERSITY FACULTY, AND INSTRUCTORS.

DANIEL READ, LL.D., PRESIDENT,
Professor of Mental, Moral and Political Philosophy.

JOSEPH G. NORWOOD, M.D.,
Professor of Natural Science and Natural Philosophy.

JOSEPH FICKLIN, A.M.,
Professor of Mathematics, Mechanical Philosophy, and Astronomy.

OREN ROOT, JR., A.M.,
Professor of English Language and Literature, and Instructor in French and German.

E. L. RIPLEY, A.M.,
Principal of College of Normal Instruction.

JOHN PACKER, A.M.,
Professor of Ancient Languages, and Literature.

GEORGE C. SWALLOW, A.M.,
Professor of Agriculture.

CAPT. R. B. WADE, U. S. A.,
Professor of Military Science and Tactics.

D. W. B. KURTZ, A.M.,
Assistant in College of Normal Instruction.

MRS. C. A. RIPLEY, AND MISS MARY B. READ,
Assistants in Department of Normal and Preparatory Instruction.

CHAS. V. RILEY, STATE ENTOMOLOGIST,
Lecturer on Entomology.

PROF. GEORGE C. SWALLOW,
Secretary of the Faculty.

PROF. J. G. NORWOOD,
Librarian.

STUDENTS.

SENIOR CLASS.

William J. Babb.....Centralia.
 James R. Baker.....Fulton.
 Cornelius M. Burgess... St. Joseph.
 Clark Craycroft.....Otterville.
 Allen Glenn.....Harrisonville.
 Thomas E. Holland.....Weston.
 Frank M. Houts.....Warrensburg.
 John E. Johnston.....Antrim, O.
 Jacob L. Ladd.....Mexico.

JUNIOR CLASS.

Nelson W. Allen.....Allenton.
 William R. Baker.....Lone Elm.
 James M. Baskett.....Mexico.
 Henry Chomeau.....Florissant.
 James R. Clinkscales...Carrollton.
 George F. Davis.....Columbia.
 Andrew M. Ellington...Sturgeon.
 Henry W. Ewing.....St. Louis.
 Eugene Field.....St. Louis.
 Roswell M. Field.....St. Louis.
 George E. Flood.....Columbia.
 James W. Horner.....Columbia.
 William L. Houston....Mexico.
 James R. Huffaker.....St. Catherine.
 Evans P. McDonald....Wellington.
 Cicero A. Milliken.....Bolivar.
 G. Bingham Rollins....Columbia.
 Leland P. Shidy.....St. Louis.
 Robert F. Walker.....Versailles.
 Thomas C. Wilson.....Auburn.
 Ann Eliza Gentry.....Columbia.
 S. Anna Ware.....Spring Hill.

SOPHOMORE CLASS.

John W. Armstrong....Hallsville.
 James Cooney.....Gava, Illinois.
 Benjamin Craycroft...Syracuse.
 Jessie B. Douglass.....Lathrop.
 James H. Dryden.....Mount Ayr, Ia.
 Randall Dryden.....Carthage.
 Scott Hayes.....Springfield.
 Wesley Humphrey.....Mexico.
 John N. Kincaid.....Lathrop.
 Kossuth M. Lear.....Hannibal.
 James E. Lucy.....St. Clair.
 Edward R. Marvin.....Sedalia.
 Lycurgus A. Marvin....Sedalia.
 Zachariah May.....Rushville.
 Turner McBain, Jr....Columbia.
 Allen Quisenbury.....Hallsville.
 David B. Rogers.....Lathrop.

Stephen C. Rogers.....Lathrop.
 Curtis B. Rollins.....Columbia.
 Peter B. Stratton.....Linn.

FRESHMAN CLASS.

Clinton Alloway.....New Hope.
 Edgar C. Brooks.....Middle Grove.
 Lemuel Bruce.....Brunswick.
 Edgar V. Comstock....St. Joseph.
 Fiatt Coles.....Trenton.
 Prince M. Cranor.....Island City.
 Edgar G. Dulin.....Columbia.
 James W. Daniel.....Mexico.
 Levin L. Dorsey, Jr....Gillespie, Ill.
 George N. Elliott.....Brookfield.
 Robert Fagan.....Milwaukee, Wis.
 J. Davis Felix.....Sedalia.
 J. Lockhart Fetzer....Chariton.
 W. Frank Forsha.....Glenwood.
 Enoch H. Fudge.....Harrisonville.
 John D. Hartman.....Agency City, Ia.
 Edward P. Horner.....Columbia.
 James K. P. How.....Kingsville.
 Burnett Hughes.....Richmond.
 Louis C. F. Hugo.....Union.
 Columbus D. Hulen....Columbia.
 Augustus M. Johnston..Chillicothe.
 Samuel L. Long.....Old Mines.
 Jerome Moore.....Delaware, Ark.
 Arthur W. Nelson.....Boonville.
 Thomas J. Owen.....Black Oak.
 Joseph T. Ridgeway....Brookfield.
 Valora G. Samuel.....Salisbury.
 Eugene Scott.....Columbia.
 Lorin A. Staley.....Clarksburg.
 Richard H. Stevens....Columbia.
 James L. Taylor.....Rama.
 James E. Vincil.....Columbia.
 Eugene A. Ward.....Knob Noster.
 Claude Watson.....Columbia.
 William F. Williamson..Grant's Hill.
 Robert M. Wilson.....Altenburg.
 Oliver J. Wood.....Monroe City.
 Ida D. Aldrich.....Columbia.
 Sallie Gentry.....Columbia.
 Helen A. Packer.....Galena, Ill.
 Julia F. Ripley.....Columbia.
 Bertha Read.....Columbia.
 Eva Russell.....Columbia.
 Gertrude C. Seward...Laclede.
 Clara A. Seward.....Laclede.
 Bettie P. Todd.....Columbia.
 Mary T. Williams.....Columbia.

PREPARATORY DEPARTMENT.

CLASS A.

Nicholas Ashbury New Franklin.
 John S. Bedford..... Midway.
 A. Oscar Bettes..... Holden.
 Whitfield N. Billingsley, Glasgow.
 Jefferson S. Bryan..... Papinville.
 Caleb L. Buckmaster .. Freedom.
 John Burnam..... Columbia.
 Curtis Burnam..... Columbia.
 George J. Cason..... Columbia.
 William Hook..... Holden.
 Charles G. Daniel..... Mexico.
 William T. Gibson..... Linneus.
 Webster Gordon..... Columbia.
 James Graves..... Glasgow.
 Manlius E. Hultz..... Columbia.
 William G. King..... Holden.
 Thomas N. Lane..... Columbia.
 Charles A. Leeper..... Brownsville.
 William B. Marshall..... Columbia.
 John A. Miles..... Gray's Summit.
 E. Newton Minor..... Kansas City.
 James W. Murdoch..... Marble Hill.
 Robert J. Orr..... Mount Vernon.
 Thomas H. Price..... Pleasant Hill.
 Fount M. Pitts..... Pittsburg.
 Robert J. Rector..... St. Joseph.
 Frank L. Russell..... Columbia.
 Henry E. Sherman..... Charleston.
 John W. Speed..... Syracuse.
 Wyman Spicer..... Clarksburg.
 Ella Cromwell..... Columbia.
 Dora A. Crumbaugh..... Columbia.
 Therza A. Huxtable..... Brookfield.
 Carrie E. Iiams..... { Marshalltown,
 Iowa.
 Ida Lyon..... Covington, Ky.
 Phœbe D. Moon..... Cape Girardeau.
 Nannie A. Munson..... Clinton.
 Ginevra J. Staley..... Columbia.

CLASS B.

James W. Barfoot..... Wellsville.
 Henry Bassett..... Saint Joseph.
 William T. Bigbee..... Springfield.
 Walter R. Brown..... Harrisonville.
 Henry T. Curtright..... Columbia.
 Tyson D. Evans..... Columbia.
 William S. Frost..... Rolla.
 Thomas J. George..... Pleasant Hill.
 Hiram N. Gibson..... Clarksburg.
 John P. Goodson..... Carrollton.
 Seth M. Green..... Chillicothe.
 Andrew T. Harrison... Richmond, Va.

Charles W. Head..... Millersburg.
 Frank Hewitt..... Maysville.
 George W. Hoskinson... Rolla.
 John W. Hughes..... Rose Hill.
 Jonas P. Ladd..... Mexico.
 Luther Maupin..... Columbia.
 Frederic J. Miller..... Buttsville.
 Francis Pollock..... Jefferson City.
 Frank B. Rollins..... Columbia.
 David B. Seibert..... Altenburg.
 Henry C. Shelton..... Unionville.
 John A. Sterling..... Kingsville.
 Warren Switzler..... Columbia.
 John M. Taylor..... Holden.
 Humphrey Walker..... Rocheport.
 Charles J. Wheeler..... Knob Noster.
 Maggie McIntyre..... Columbia.
 Florence McKay..... Columbia.
 Emma McClelland..... Marshall.
 Nannie Thorpe..... Côté Sansdessein

CLASS C.

James M. Adams..... Mattoon, Ill.
 Robert A. Atkinson..... Butler.
 Edgar Burton..... Salisbury.
 Emmett C. Clinkscales... Columbia.
 J. Edward Crumbaugh... Columbia.
 Silas D. Evans..... Columbia.
 Charles DeGarris..... Hannibal.
 John H. Harris..... Rocheport.
 Aaron M. Hawn..... Sumac.
 James R. Holman..... Knoxville.
 William E. T. Joes..... Columbia.
 James J. Jamison..... Ashland.
 Walter T. Lemon..... Columbia.
 Robert S. Littrell..... Warrensburg.
 Asa W. Mills..... Bridgton.
 Dorsey D. Moss..... Columbia.
 J. Monroe Pigg..... Knob Noster.
 William P. Roberts..... Gray's Summit.
 James E. Roberts..... Cavy Station.
 William Robb..... Altenburg.
 George P. Stephenson... Stephens.
 James S. Sherman..... Charleston.
 De Pat Singleton..... Columbia.
 James E. Stevens..... Holden.
 Edgar A. Smallwood... Lexington.
 William F. Tiffin..... Knoxville.
 N. Hall Todd..... Columbia.
 Robert B. Vincil..... Columbia.
 William R. Wilkinson... Laurel Hill.
 John S. Williams..... Rocheport.
 Asa J. Willis..... California.
 Andrew J. Wills..... Lamar.

Eliza J. Beaty.....	Carrollton.	Emma E. McSchooler....	Columbia.
Mary Cromwell.....	Columbia.	Fanny Miller.....	Columbia.
Mary E. Dempsey.....	Cape Girardeau.	Flora Rollins.....	Columbia.
Sallie A. Dinwiddie.....	Columbia.	Julia I. Russell.....	Columbia.
Fanny D. Douglass	Columbia.	Williamette Singleton...	Columbia.
Anna A. Duvall.....	Kingsville.	Mettie V. Staley.....	Columbia.
Martha Fenton.....	Columbia.	Mattie Walker.....	Clinton.
Dedie A. Greene.....	Clinton.	Mary A. Wyche.....	Carrollton.

PROFESSIONAL SCHOOLS.

COLLEGE OF INSTRUCTION IN TEACHING.

SENIOR CLASS.

Clark Craycroft.....	Otterville.	James K. P. How.....	Kingsville.
Henry Chomeau.....	Florissant.	Zachariah May.....	Rushville.
James H. Dryden.....	Mount Ayr, Ia.	Joseph T. Ridgeway.....	Brookfield.
James R. Huffaker.....	St. Catherine.	Peter S. Stratton.....	Linn.
Leland P. Shidy.....	St. Louis.	Henry C. Shelton.....	Unionville.
Thomas C. Wilson.....	Auburn.	Charles J. Wheeler.....	Knob Noster.
Eliza Gentry.....	Columbia.	William F. Williamson..	Grant's Hill.
		Ida D. Aldrich.....	Columbia.
		Anna A. Duvall.....	Kingsville.
		Mary E. Dempsey.....	Cape Girardeau.
		Carrie E. Iams.....	Marshalltown, Ia.
		Emma McClelland.....	Marshall.
		Phoebe D. Moon.....	Cape Girardeau.
		Nannie A. Munson.....	Clinton.
		Julia F. Ripley.....	Columbia.
		Mary T. Williams.....	Columbia.

JUNIOR CLASS.

James Cooney.....	Galva, Ill.
Robert Fagan.....	Milwaukie, Wis.
Seth M. Green.....	Chillicothe.
Andrew T. Harrison...	Richmond, Va.
John D. Hartman.....	Agency City, Ia.
Scott Hayes.....	Springfield.
Louis C. P. Hugo.....	Union.

AGRICULTURAL AND MECHANICAL COLLEGE.

FIRST CLASS.

Edgar C. Brooks.....	Middle Grove.	Scott Hayes.....	Springfield.
William T. Higbee.....	Springfield.	Wesley Humphrey.....	Mexico.
John S. Bedford.....	Midway.	William G. King.....	Holden.
A. Oscar Bettes.....	Holden.	John N. Kincaid.....	Lathrop.
William H. Cook.....	Holden.	Kossuth M. Lear.....	Hannibal.
Edward B. Crane.....	California.	Charles A. Leeper.....	Brownsville.
Benjamin Craycroft	Syracuse.	Jerome Moore.....	Delaware, Ark.
John W. Douglass.....	Lathrop.	Stephen C. Rogers.....	Lathrop.
Jesse B. Douglass.....	Lathrop.	David B. Rogers.....	Lathrop.
George E. Flood.....	Columbia.	Henry C. Shelton.....	Unionville.
W. Frank Forsha.....	Glenwood.	Thomas S. St. John.....	Lathrop.
Hiram N. Gibson.....	Clarksburg.	J. Longking Townsend..	Kidder.
John D. Hartman.....	Agency City, Ia.	William F. Williamson..	Grant's Hill.
		Asa J. Willis.....	California.

SUMMARY.

COLLEGE OF SCIENCE AND LETTERS.

SENIOR CLASS.....	9
JUNIOR CLASS.....	22
SOPHOMORE CLASS.....	20
FRESHMAN CLASS.....	48—99

PREPARATORY DEPARTMENT.

CLASS A.....	38
CLASS B.....	32
CLASS C.....	48—118
MODEL SCHOOL.....	21
TOTAL.....	<u>238</u>

COLLEGE OF NORMAL INSTRUCTION....	30
AGRICULTURAL COLLEGE.....	<u>27</u>
TOTAL IN PROFESSIONAL SCHOOLS.....	57

COURSE OF INSTRUCTION.

CLASSICAL AND SCIENTIFIC.

PREPARATORY.

English Grammar, Geography, Arithmetic (Ray), Elementary Algebra, United States History, Latin Grammar, Latin Reader (Harkness), Cæsar, Harkness' First Book in Greek, Kendrick's Greek, Ollendorf.

SUB-FRESHMAN.

English Analysis, Outlines of History (Anderson).
Algebra (Loomis), to Quadratics.
Xenophon's Anabasis, Hadley's Greek Grammar.
Sallust, Virgil and Cicero.

FRESHMAN.

Algebra (Loomis), completed, Geometry.
Elocution (Sargent's Standard Speaker).
Rhetoric and Composition (Quackenbos).
Latin (Livy), Prose Composition (Arnold).
Greek (Herodotus and Homer).

SOPHOMORE.

Trigonometry, Surveying, Navigation, Analytical Geometry.
Latin (Horace, Juvenal and Plautus).
Greek (Demosthenes and Xenophon).
German and French (optional).

JUNIOR.

Mechanical Philosophy, Astronomy
Latin (Horace and Tacitus).
Greek (Tragedies and Dialogues).
Logic (Coppee), English Literature (Shaw).
Physics, Chemistry of non-metallic substances.

SENIOR.

Mental Philosophy (Haven).
International and Constitutional Law (Kent.)
British Constitution (Creasy).
Calculus.
Political Economy (Bowen.)
Moral Philosophy (Haven).
Chemistry of the Metals; Geology; Mineralogy.
Orations.

SCIENTIFIC.

Candidates for admission to the Freshman Class of the course will be examined on the following studies:

Mathematics—Arithmetic, Algebra, to Equations of the Second Degree.

English Language—English Grammar and Analysis, United States History, Outlines of History and Geography. (The examination will be on principles without regard to authors.)

FIRST OR FRESHMAN CLASS.

Algebra and Geometry completed.

Physical Geography.

Elocution; Principles of Composition (Quackenbos).

SECOND OR JUNIOR YEAR.

Trigonometry, Mensuration, Surveying, Navigation and Analytical Geometry.

Physics and Chemistry of the Non-metallic Elements.

Logic (Coppee), and English Literature.

THIRD OR SENIOR YEAR.

Mechanics, Hydrostatics, Acoustics, Optics and Astronomy.

Chemistry of the Metals—Mineralogy and Geology.

Mental Philosophy, International and Constitutional Law, Political Economy, Moral Philosophy.

Orations.

From the students of both courses, Declamations and Compositions are required until Senior year; Seniors appear with Orations.

NORMAL.

FRESHMAN YEAR.

Reading, Orthography, Penmanship, Arithmetic, Geography, English Grammar, History of United States, Drawing, Mapping.

SOPHIOMORE YEAR.

Algebra, Analytical Grammar.

Physical Geography, Natural Philosophy.

Physiology.

General History, Latin, Elocution.

Rhetoric, Book-keeping.

Art of Teaching, Science of Government.

JUNIOR YEAR.

Geometry, Trigonometry.

Botany, Zoology, Astronomy.

General History.

Latin and Greek for Gentlemen.

Latin and German or French for Ladies.

Lectures on Theory and Practice of Teaching.

SENIOR YEAR.

Latin, Greek and German.
 Surveying, Chemistry.
 Agricultural Chemistry, Geology.
 Mental Philosophy, Moral Philosophy.
 Philosophy of Education.
 Three Months' Practice.

DEPARTMENT OF MENTAL, MORAL AND POLITICAL PHILOSOPHY.

THE PRESIDENT.

SENIOR YEAR.

First Semester.—Mental Philosophy, Haven as the Text-book, with Lectures. Hamilton's Metaphysics.

International and Constitutional Law, Kent's Commentaries with Lectures.

British Constitution, Creasy as the Text.

Second Semester.—Political Economy, Wayland and Bowen as Text-books. Compendium of the Census for 1870, on progress of Wealth and Population of the United States.

Moral Philosophy, Haven as furnishing outline of Topics, select portions of Paley, Blackstone and Kent, required to be read.

GENERAL REVIEW.

Every student must be examined on this entire course at the close of the year prior to his graduation; and no student from other Colleges will be admitted *ad eundem*, so far as to excuse him from examination on these subjects at the final examination for his degree.

The method of instruction is by examination on text-books, by class discussions, by formal lecture from the Professor, by the student himself becoming the lecturer, and in his own language presenting the topic, and by written essays and analysis.

The instruction is intended to be as little as possible dogmatic; and the method adopted is designed to make the student himself the inquirer and thinker, and to teach him the right method of using books for investigation.

DEPARTMENT OF NATURAL SCIENCE.

JOSEPH G. NORWOOD, M.D.

The course of instruction in this department is given to the regular Junior and Senior classes, and such irregular students as may desire to study Chemistry in lieu of some branch in the regularly organized classes.

JUNIOR YEAR.

The course of instruction for the junior year embraces, during part of the first semester, the elements of Physics. The branches particularly attended to are Heat, Light, Statical and Dynamical Electricity, Magnetism, Electro-magnetism and Pneumatics.

The remainder of the first, and all of the second semester, is devoted to Elementary Chemistry. Every effort is made to render the course of instruction in Chemistry equal to that given in the best colleges in this country, and in accordance with modern doctrines. The principles of the science are abundantly illustrated by experiments.

Throughout the entire course the application of Chemistry to the arts, to mechanical and manufacturing pursuits, to agriculture, and to pharmacy, is constantly brought before the student, in connection with each element and its compounds. Special attention is also paid to Toxicology. Every mineral poison is studied so far, at least, as the tests for its presence and the appropriate antidotes are concerned.

The Text-books used are Barker's Elements, Roscoe's Elements, Eliot and Storer's Manual, and Norwood's Experimental Exercises and Problems; and in Physics, Snell's Revision of Olmsted's Natural Philosophy.

SENIOR YEAR.

Up to this time, the first part of the session has been devoted to the study of Natural History. The branches receiving special attention are Anatomy, human and comparative; Biology and Functional Physiology; Mineralogy and Geology. In addition to the facilities for demonstrating Anatomy heretofore at the command of the Department, and enumerated in my last report, I have made arrangements with a gentleman devoted to such studies, by which our lecture table will be supplied, as it is needed, with properly prepared anatomical material. This will enable us to demonstrate, in a satisfactory manner, every tissue and organ of the human body. With these advantages, the course of instruction in Anatomy in the State University will not differ materially from that given in Medical Colleges, and will render the institution peculiarly adapted to the education of those who intend to study medicine after they leave the University.

The course of Physiology is, in all respects, such as is generally given to classes devoted to medical studies alone. In addition to Human Physiology, as much attention as possible is given to Comparative Physiology. This kind of instruction is peculiarly valuable to the farmer and the stock raiser. Constant reference is also made, throughout the course, to the minor Surgery of different parts, a sort of knowledge for the lack of which many valuable lives have been lost.

The second semester of the Senior Year is devoted to the study of Mineralogy and Geology. The means for illustrating these branches of science are ample, and there is nothing new to be said in relation to them. In order, however, to render the courses of instruction in the various branches mentioned above more complete and of real value, an arrangement has been made with the Professor of Agriculture, by which he devotes the necessary time in this semester to instruction in the last named branches.

The general principles of Agricultural Chemistry and Meteorology are discussed, in connection with the subjects already named, during the Junior Year.

DEPARTMENT OF MATHEMATICS, MECHANICAL PHILOSOPHY AND ASTRONOMY.

—
JOSEPH FICKLIN, A.M.
—

The studies in this department are pursued in the following order :

FRESHMAN CLASS.

First Semester.—Loomis' Algebra. Completed.

Second Semester.—Geometry, Davies' Legendre.

SOPHOMORE CLASS.

First Semester.—Loomis' Trigonometry with its application to Heights and Distances, Mensuration, Surveying and Navigation.

Second Semester.—Loomis' Analytical Geometry.

JUNIOR CLASS.

First Semester.—Snell's Olmsted's Mechanics, Acoustics, Hydrostatics, and the Mathematics of Optics.

Second Semester.—Astronomy.

The adjustment and use of the Quadrant, Compass, Leveling Instrument, and Theodolite, are fully explained and illustrated by practice in the field.

Students in Astronomy, after mastering the theory of the subject in the recitation room, are required to go to the Observatory and apply their theories to practice in the determination of Latitude, Longitude, Right Ascension, time of day, Variation of the Magnetic Needle, etc.

Special attention is given to the mental discipline of the student. The development of the intellectual powers, and the formation and cultivation of correct habits of thinking and reasoning, by a constant reference to the Logic and Philosophy of Mathematics, are made the paramount objects of every recitation.

Prominence is also given to the great *practical* utility of Mathematics. As far as possible, every principle demonstrated is also illustrated by some useful application of it to the arts.

The recitations are conducted with the aid of well selected text-books, and such additional illustrations and explanations as may be necessary are given, in order to impart to the student a thorough philosophical and practical knowledge of all the subjects taught.

Original problems in the various branches are given to the student to test his knowledge of the subject, and to make him self-reliant and independent.

During the course, lectures are delivered on the Philosophy, Utility, and History of Mathematics.

Special attention is called to the requirements in the pure Mathematics, for admission to the Freshman class. Imperfect preparation in Algebra is so common as to compel the conviction that sufficient attention is not given to this branch of Mathematics in the Preparatory Schools. Its importance cannot well be overestimated.

Candidates for admission to the Freshman Class will be thoroughly examined, and those who are found deficient will be assigned to a lower class.

Candidates for higher classes, coming from other institutions, will be examined on the branches which precede the one upon which they desire to enter.

DEPARTMENT OF ENGLISH LITERATURE.

OREN ROOT, JR., A.M.

Students for admission to the Collegiate Department, either Classical or Scientific, will be examined upon English Grammar and Analysis, United States History and General History.

In the Preparatory Course, Anderson's United States History and Anderson's Manual of General History are used.

The Freshmen Class, during the first semester, study Quackenbos' Rhetoric, with frequent exercises in composition and criticism. During the second semester, the class take up Elocution by dictation lectures, with practice in reading from Sargent's Speaker, giving practice in classification, punctuation, and inflection of sentences.

Throughout the year this class has weekly exercises in composition.

The Junior Class study Coppee's Logic and Shaw's English Literature.

Particular attention is given to the practical matters of speaking and writing in the

RHETORICAL EXERCISES.

On Friday of each week, all the classes meet in the Chapel, in charge of the Professor of English Language and Literature, to listen to Orations from the Senior Class; Essays and Declamations from those of the lower classes.

Essays and Orations are examined and carefully criticised by the Professor before they are delivered.

Declamation and rehearsal privately before the Professor by all who wish.

It is the aim of the department to give good power of expression in both writing and speaking to all who choose to avail themselves of the advantages offered. Enthusiasm is awakened by requiring all efforts to be made before the whole body of students, and by prizes awarded among competitors selected for regularity and proficiency, and appearing at a special exhibition on the evening preceding commencement day.

Since the resignation of Prof. Root, (Jan. 1st), this department has been under the charge and instruction of Prof. Ripley.

MODERN LANGUAGES.

Instruction in this department was committed to Professor Root until the beginning of the present year, since which time Miss Mary B. Read has been the instructor. The number of students in German has been thirty-six, in classes of three grades.

DEPARTMENT OF ANCIENT LANGUAGES.

REV. JOHN PACKER, A.M.

This department seeks, by the critical study of the most approved Greek and Latin Classics, and by practice in writing Greek and Latin prose, to so familiarize the student with the structure and genius of the ancient languages, that he can open for himself the treasure-house of ancient thought and feeling. The classics are further utilized as a means to a better understanding of the genius and structure of our tongue, by indicating the points of similarity and dissimi-

larity in construction and expression between that and the classic tongues, and as the source of a large part of our vocabulary. The practical features of Greek and Roman life, together with Mythological, Historical and Geographical allusions, are made matters of careful study.

PREPARATORY STUDIES.

Requirements for entering the Freshman Class :

LATIN.—Harkness' Latin Grammar, complete; Four Books Cæsar's Commentaries; Sallust's Catilinian Conspiracy; Four Books Virgil's *Æneid*; Cicero's Select Oration, or equivalents.

GREEK.—Hadley's Greek Grammar complete; Harkness' First Book in Greek, Kendrick's Greek Ollendorf; First Three Books of Xenophon's *Anabasis*, or equivalents.

FRESHMAN YEAR.

First Semester.—Latin—Livy, (Prose Composition, Arnold's).

Greek—Herodotus (Owen or Harper's Texts), or Selections from Greek Histories (Felton).

Second Semester.—Latin—Cicero *De Amicitia et De Senectute*. Prose completed.

Greek—*Iliad* (Boise), *Odyssey* (Owen).

SOPHOMORE YEAR.

First Semester.—Latin—Select Comedies and Satires—Terence, Juvenal, Horace and Plautus.

Greek—Demosthenes' Select Popular Oration; or Demosthenes on the Crown (Champlin); or *Æschines*; Prose Composition (Boise).

Second Semester.—Latin—Cicero's *De Contemnenda Morte* (Chase).

Greek—Xenophon's *Memorabilia* (Robbins); Prose Composition completed.

JUNIOR YEAR.

First Semester.—Latin—Select Odes and Epistles of Horace.

Greek—Select Tragedies—*Æschylus*, Sophocles (Woolsey), Euripides.

Second Semester.—Latin—Tacitus *Germania* or *Histories* (Tyler).

Greek—Plato, Dialogues—*Gorgias* (Woolsey), or *Apology* (Tyler).

CLASSICAL WORKS OF REFERENCE.

The following works are recommended as almost indispensable helps in the study of the Classics :

Hadley's, Crosby's or Kuhner's Greek Grammar.

Goodwin's Greek Moods and Tenses.

Harkness' or Zumpt's Latin Grammar.

Liddell and Scott's Greek Lexicon.

Andrew's or Bullion's Latin Grammar.

Smith's or Anthon's Classical Dictionary.

Smith's Greek and Roman Antiquities.

Long's Classical Atlas, or

Kiepert's *Atlas der Alten Welt*.

Smith's *History of Greece*.

Liddell's *History of Rome*.

Felton's *Greece, Ancient and Modern*.

Chase and Stuart's series of Latin Texts are recommended in preference to all others, for the general excellence of their paper, type and binding, and specially for the conscientious scholarship of their notes, as well as for their extraordinary cheapness.

THE DEPARTMENT OF MINERALOGY, GEOLOGY AND BOTANY.

—
 PROF. G. C. SWALLOW, M.D.
 —

PHYSICAL GEOGRAPHY

Is taught by a combination of Recitations and Lectures, illustrated by Maps, Minerals, Plants, Animals, and Fossils.

The course includes the Topography and Physical Structure of the Continents and Islands, the Oceans and Rivers, Climates; Distribution of Animals and Plants, and the various Races of Man, their Origin and Characteristics.

Special attention is given to the Physical Geography of the United States.

BOTANY

Is taught by a combination of Lectures and Recitations, which are illustrated by numerous specimens of living and dried Plants, Paintings and Drawings of rare Plants, and Figures showing the form and structure of their various organs.

The Structure, Physiology and Classification of the Vegetable Kingdom receive careful attention.

A part of nearly every Recitation is devoted to the Analysis of Plants.

In these exercises the student is expected to take an unknown Plant, and trace it through its class and order to its proper genus and species.

MINERALOGY AND GEOLOGY.

Two classes in Mineralogy and Geology have been under my instruction during the present semester.

We have abundant means of illustrating these important departments of learning.

Minerals, Rocks and Fossils from nearly all the formations of America and Europe are in the Cabinets; besides numerous Geological Maps and Sections, prepared to illustrate the Structure and History of the Earth's Crust, and aid the student in reading the wonderful record of the Rocks.

ORDER OF COURSES,

AS RECOMMENDED BY THE COMMITTEE OF ORGANIZATION.

The committee present the following courses as allowing large freedom of choice, and at the same time indicating a specific University honor to be attained in each. The courses first indicated lead to the highest academic honors, requiring, each of them, a wide and general culture; and, it is to be presumed, will be held by students in nearly or quite equal honor. They will be pursued in large part in the same classes, bearing the same designation; and where there is a divergence, the

students will go to professors already provided in the University. These courses are substantially those of Cornell, and agree mainly with those of Michigan and Wisconsin. Each should embrace the same period of time for its accomplishment (four years); unless, indeed, it be thought best as a temporary arrangement to adjust the scientific course to three years, as at present:

I. The course in ARTS—leading to the degree A.B. This course embraces Latin, Greek, French and German; mathematics, natural science, political and moral philosophy, history and literature.

II. Course in SCIENCE—leading to degree of B.S. This course embraces mathematics (including calculus), natural science, excludes Latin and Greek; substitutes therefor French and German languages; includes philosophy, and literature. The same approximately as the A.B. course (except as to classics); extends, however, the course in mathematical or natural science.

III. Course in PHILOSOPHY. Degree, B. Ph. Combination of the courses in the Arts and Sciences; includes Latin, excludes Greek; includes modern languages, modifies the course in mathematics—less of mathematics, more of philosophy, history and literature.

IV. Course in LITERATURE. Degree, Bachelor of Letters. This course embraces Latin, Greek, Modern Languages; a thorough study of English in its linguistic elements and in its literature; philosophic and historical studies; together with the elements of mathematics and natural science; but not to the same extent as required in the other courses.

The Faculty may excuse a student from any study in either of these courses, and substitute for it another of equal educational value, and better suited to the taste or objects of the student, without impairing his claim to his degree.

After the Sophomore year, an election of studies designated by the Faculty to be allowed the students.

The object is to secure the highest culture with the greatest liberty of choice, and to award specific University honors to the deserving.

V. Elective course, leading to diploma of Proficiency in studies successfully pursued.

Any student, instead of entering upon the preceding courses, may select his own course; and students thus selecting their own studies shall be known as students in the elective courses, or elective students.

The following rules will apply to this class of students, and must be inflexibly enforced.

1. They must be qualified by previous study and discipline for the classes they propose to enter.

2. They cannot "*get up*" classes according to their own notions, but must choose such studies as are at the time pursued in some of the courses; nor can they have recitation or lecture hours changed to suit their convenience.

3. They must, in ordinary circumstances, and unless specially excused, have the full quota of studies.

4. While it is intended, as far as can be, to give the full freedom of the continental universities, this is by no means to be understood as permitting the student to pass from one course to another without good reason, and without the permission of the President.

ELECTIVE COURSE FOR YOUNG MEN BEYOND THE ORDINARY SCHOOL AGE.

There is a large class of young men from the age of 23 or 24 to 30, in our great West, active and intelligent, some of them in business, or having accumulated considerable means, who, as they phrase it, want more education. They are willing to spend a couple of years in self-improvement, but not a longer time, on account of their age. The University is the proper place for them. They will not go to the ordinary school or the academy. Great good can be accomplished by so arranging the courses of study that such young men can always be provided for. We must adapt our system to *actual* wants, and not to an *ideal* condition of things.

Mathematics; physical science, in some of its branches; commercial studies, embracing practical book-keeping, the English language and literature; political, moral, and historical studies, will afford an ample list for this class of young men to choose from.

The programme of study, as here recommended by the Committee on Organization and approved by the Board, will hereafter be conformed to as nearly as the number of teachers and the circumstances of the University will permit.

PROFESSIONAL COLLEGES.

COLLEGE OF INSTRUCTION IN TEACHING.

FACULTY.

DANIEL READ, LL.D.,

President of the University.

E. L. RIPLEY, A. M., PRINCIPAL,

Professor of the Theory and Practice of Teaching.

D. W. B. KURTZ, A.M.,

Assistant Professor.

MRS. C. A. RIPLEY,

Assistant.

MISS MARY B. READ,

Assistant.

The Constitution of the State of Missouri prescribes that there shall be established and maintained in the State University a department of instruction in teaching.

The Normal College, like a Law College, is a professional school. Its distinct design is to prepare teachers for their peculiar vocation. The elementary branches will be thoroughly taught and reviewed in the preparatory department, while in the Normal School proper, prominence will be given to the *principles and methods, the theory and practice of teaching.*

The only hope of improving our schools is by improving our teachers. Here is the very first step for the advancement of popular education; and this is the direction of effort now everywhere made on the part of its friends. Good schools through the ministration of ignorant and unskilled teachers are impossibilities. Missouri must arouse herself on this subject, or stand behind every State now moving in the line of progress and improvement.

The normal training school is the admitted and recognized agency for the improvement of the methods of teaching. The teacher is here educated with special reference to his work, and imbued with the inspiration of his calling. If but a single thoroughly trained teacher could be planted in each county of the State, the influence would soon reach every school-house.

The connection of the Normal College with the University affords, through a concentration of educational facilities, many advantages not enjoyed by isolated Normal Schools. Pupils, will, while pursuing their regular studies, have an opportunity of attending such lectures and recitations of the University course as they may desire. They will also have the full benefit of Libraries, Cabinets and Societies connected with the institution.

The Committee of Organization recommend that the Normal Course proper be the Massachusetts', or that proposed by Prof. Phelps before the National Teachers' Association; and that any student, male or female, having completed this course, be admitted to the degree of Normal Graduate.

They also recommend that students having studied a more liberal course (to be determined by the President and Professor of Instruction) shall be admitted to the degree of Normal Graduate of the superior grade.

All instructions from every chair, and from the highest to the lowest, ought to be, in the strict sense of the best style of professional excellence; if not, the professor or other instructor should not be retained in the University.

But in order to render the instructions in teaching more complete, each professor in the institution and of every subject may very properly be required to show specially how his subject may be best taught, and thus prepare his whole class to become teachers. In this way the whole University becomes a school for training and instructing teachers. The professor is also himself likely to teach better by being required to *teach teachers how to teach*. He then aims to become himself an exemplar and model teacher to a class of teachers.

AGRICULTURAL AND MECHANICAL COLLEGE.

FACULTY.

DANIEL READ, LL.D., PRESIDENT,
Professor of Political Economy and Agricultural Statistics.

GEORGE C. SWALLOW, A.M., M.D.,
Professor of Agriculture, Geology and Botany.

JOSEPH G. NORWOOD, M.D.,
Professor of Physics, Chemistry, Anatomy, and Physiology

JOSEPH FICKLIN, A.M.,
Professor of Mathematics and Mechanical Philosophy.

OREN ROOT, A.M.,
Professor of English Language and Literature.

E. L. RIPLEY, A.M.,
Professor of Drawing, Coloring, and Book-keeping.

CHARLES V. RILEY, STATE ENTOMOLOGIST,
Lecturer on Entomology.

HON. NORMAN J. COLMAN,
 HON. JAMES S. ROLLINS,
 HON. PAUL HUBBARD,
Farm Committee.

O. A. A. GARDNER,
Farm Superintendent.

GEORGE LONG,
Horticulturist.

The Faculty is now prepared to give a full course of instruction for the first year in the Agricultural and Mechanical College. They are also prepared to teach many of the branches pertaining to the second and third years.

In addition to the subjects mentioned under the several professors, Lectures will be given on Soils, Farm Crops, Domestic Animals, Forests, Orchards, Vineyards, Hedges, Landscape Gardening, Farm Economy, Manures, Draining, Grasses, Rotation of Crops, Weather, Mechanics, and other subjects, by eminent practical men.

The students of this College are by law admitted to the lectures and other exercises of all the departments of the University; and during the present term they have been under the instruction of every member of the Faculty.

It will thus appear that the Curators have redeemed their pledge to put the *Industrial College* into immediate operation.

It is true, many things are wanted to make this college what it should be. A good college, like a city, must be the growth of time. Money, too, is necessary to furnish the means of procuring the facilities for successful instruction.

The farm needs houses, stables, fences, roads, bridges, and a supply of domestic animals. Hot and propagating houses, cold frames, pits, and other fixtures of horticulture, are needed.

Mechanic and machine shops are also a prime necessity. But the endowment is not available, and no other means have been provided for supplying these necessities of an Industrial College, as well as the extensive cabinets of Natural History and apparatus for the lecture room.

LAW COLLEGE.

This department is essential to a complete University system. The legal profession has a right to look to the State University to furnish professional instruction. The committee are of opinion that arrangements ought to be made to open a course of instruction in the law at the beginning of the next collegiate year. It will bring in a new and more advanced class of students, will retain many of our graduates for professional studies in this department, and will conciliate a profession always powerful in a commonwealth.

It has been said that the law student in the law school, with the practice of the moot court, will be better prepared for his profession in half the time, than the student can be without this aid. But, besides, he is likely to go to his profession with higher views of its dignity and importance; and, likewise, with a purpose and inspiration fitting him to enter upon his work with better prospects.

Your committee recommend, that a committee be appointed to nominate a Law Professor, to make a provisional contract with him, and to arrange a plan for the school, and to report to this Board at the annual meeting in June.

This is the expression of the late Committee of Organization, the recommendations of which were adopted by the Board of Curators in full session."

It is not doubted that Professors and Lecturers will be appointed, so that the College will be open at or near the beginning of the next session, and upon such terms as will render its instructions accessible to aspiring young men in moderate circumstances.

THE SCHOOL OF MINES AND METALLURGY.

This school forms an essential part of the State system of education in Missouri. It is made a part of the university scheme for the promotion of liberal and practical education in one of the great industrial pursuits of the State. No man can calculate the wealth which underlies our soil, in the ores beneath its surface. To develop this wealth we must have the best science and art which the world affords. For this object the school is established. That it may have the best supervision, it is placed under the charge of the highest educational body in the State—the Curators of the University—and is made a school of the same, and is thus admitted to the advantages of university degrees, to be conferred upon those completing its prescribed courses of science and practice.

The institution has been located at Rolla, in the county of Phelps, that county having made the highest and most available bid in money and land, according to the requirement of the law providing for its location.

The Board of Curators having performed their legal duties in regard to the location, it becomes their further duty to provide for its organization.

The Committee of Organization recommend that, as a first step, a Professor of Mining and Metallurgy be appointed, who shall also be the Principal or Dean of the school, and have the general charge of its interests, and that he have the power to nominate to the Board for appointment two assistants, so soon as the interests of the school shall demand. This committee further recommend that he have the charge of procuring the plan of a building and other structures necessary and suitable for the objects of the school, and that he be the superintendent of the building while in process of construction. The committee are of opinion that every effort should be used to put the school into operation as soon as practicable.

The committee recommend that the salary of the Professor shall be paid from means afforded by the Phelps County bonds, until otherwise provided for; and also that the President of the Board, the President of the University, and the local member, the Hon. Elijah Perry, be a committee to correspond with scientific men, in order to present to the Board a suitable candidate for this position.

The committee see no reason why this school, commencing under auspices so favorable, and located in a district of country so rich and varied in mineral productions, may not become one of the first institutions of the kind in the country, and the favorite resort or those requiring mining skill and art, not only in this State, but for all the vast region to the west of us. An institution worthy of such patronage we must endeavor to make it.

We shall, doubtless, find that the school will derive, in various ways, important advantages from its university connections, not only by receiving students from it, but often by an interchange of professors.

The Board will not fail to cherish and cultivate this school as both an honor and benefit to the parent institution.

ANALYSIS AND LABORATORY WORK.

Ample opportunity will be afforded both to general and special students in this direction, so soon as the scientific building is

completed, which will be during the coming session. It is the design of the Curators to fit up the working laboratory in the most ample and complete manner. Chemistry lies at the foundation of agricultural improvement, and, in fact, of all advancement in very many of the useful arts. Great prominence must be given to a science so fundamental in its character. A large amount of laboratory practice is indispensable. There will be a certain amount of analysis required of all students, and special students may be permitted to devote their whole time to laboratory work.

DEPARTMENT OF CIVIL AND MILITARY ENGINEERING
AND TACTICS.

CAPT. R. B. WADE, U. S. A.

By a resolution of the Board of Curators, the degree in Engineering will be conferred upon any student who completes and passes a satisfactory examination upon the following subjects, viz.: Algebra, Geometry, Trigonometry, Surveying, Navigation, Mensuration, Analytical Geometry, Calculus, Mechanics, Astronomy, Chemistry, Mineralogy, Geology, Descriptive Geometry, Civil and Military Engineering, and Tactics.

The course in Civil Engineering embraces full instruction in regard to the construction of common roads, pikes, gravel roads, railroads, bridges, canals, slack water navigation, improvements of rivers, harbors, etc. Under the head of Military Engineering is embraced full and complete instruction in regard to the construction of Temporary or Field Fortification, Permanent Works, attack and defense, duties of guards, outpost or picket service, theoretical and practical instruction in the school of the soldier, company and battalion, sabre exercise, nomenclature of heavy guns, etc. The pursuit of these various branches is optional with the student, but practical instruction in the school of the soldier, company and battalion, is enjoined upon all, unless, under peculiar circumstances, excused therefrom by the Faculty.

The following is the action of the Board of Curators:

Resolved, That all students of the University be required to enter the Military Department, unless excused by a vote of the Faculty, on the recommendation of the Military Professor."

By resolution of the Faculty, any student desiring to be relieved from duty in this department must present his excuse, in writing, to the Military Professor, who will present the matter to the Faculty.

The following uniform has been prescribed by the Board of Curators, viz. : Dark blue coat, frock, with nine State buttons ; dark blue pants, with green welt on seam ; cap of same color, with a band of gold lace at base.

All students are required to provide themselves with this uniform, unless excused by the President. A very neat and serviceable suit can be obtained here for from \$12 to \$15, which may be worn at drill and elsewhere if the student choose, thus avoiding the wear of other more expensive clothing.

In attendance upon the drills, students lose no time from their appropriate studies. The drills are short, and the military duty required of students involves no hardships or fatigue. The Military drill is a health-giving exercise, tending in a great measure to the development of the *physique* of students.

The entire body of students is divided into companies ; each company is officered by one Captain, one First Lieutenant, one Second Lieutenant, with a proper number of Sergeants and Corporals. The officers and non-commissioned officers are distinguished by appropriate badges.

The commissioned officers are selected from the Senior, the Sergeants from the Junior, and the Corporals from the Sophomore class.

These appointments are conferred by the President of the University as honorary distinctions, and are continuous for the collegiate year, unless forfeited by misconduct.

Since the retirement of Capt. Wade from the army, and his consequent resignation as Military Professor, the place has been vacant, but the detail of another officer is soon expected.

By the act of Congress for the endowment of agricultural and mechanical colleges, in prescribing the required studies, the words "*including* military tactics" are used. The grant act should be faithfully complied with, so far as means will permit. Both the drill and the instruction are most useful in forming the cultivated man. Occasions also arise in human society, when these instructions become of the highest possible value. It is he part of a State University to provide men for all the exigen-

cies of the commonwealth—for war as well as for peace. But without any reference to that greatest of social calamities, war, military exercises and training have an educational value; in perfecting the man in his *physique* and bearing, not to be supplied in any other way.

PROVISION FOR YOUNG WOMEN.

Young women are received into the Normal, the Preparatory, or into any other of the University classes for which they may be found qualified, and have the special care and supervision of the professors or teachers whom they attend.

Several young ladies now recite in advanced classes in University courses.

There is yet no building specially designed for the Woman's College. This is a great and pressing need.

For the encouragement of female teachers in the Normal Department, they are charged, as an entrance fee for the year, but \$10, and no other charge of tuition is made.

Board is had in the best private families, and under the best supervision, at but three to four dollars per week. The whole charges are at so reasonable a rate, that young women may have the full advantages of the University at a cost much less than at schools affording fewer advantages.

COUNTY STUDENTS.

By the following law, certain students are exempted from payment of fees of tuition. Chapter 45, page 254, General Statutes :

SEC. 53. The County Courts of the several counties in this State shall during the regular term of their respective County Courts in the month of May, A. D. eighteen hundred and sixty-seven, and every two years thereafter, proceed to select one boy to every representative to which each of said counties are entitled, between fourteen and twenty years of age, of intelligence, talent, steady habits and good moral character, as a candidate for admission as a student into the State University of Missouri.

SEC. 54. Said candidates, when selected, shall be sent to the University at the commencement of the next session after he is selected, under his written pledge that he will teach school for at least two years within the State of Missouri.

SEC. 55. Duplicate reports of said selections shall be made out by the Clerk of said County Courts, in the counties in which selections are made, under the

seal of said court, one of which shall be forwarded to the Superintendent of Public Schools by him to be kept in his office, and the other to the President of the University, to be filed and recorded in the office of the Secretary of the Board of Curators.

SEC. 56. Whenever the report of the several County Clerks of the counties from which selections are made shall be made to the President of the University, and filed and recorded by the Secretary of the Board of Curators, the candidate selected for admission from such county shall be received as a student of the University, and shall be admitted to all the privileges enjoyed by other students, free of charge for two years, and no longer.

THE ROLLINS' AID FUND.

This fund, now amounting to over the sum of \$28,000, is the result of a bequest of the late Dr. Anthony W. Rollins, father of the Hon. James S. Rollins, President of the Board of Curators. The fund is under the care of the county court of Boone county. By the terms of the will, the principal is to be increased each year by the addition thereto of one-fourth of the interest; the remaining portion is to be expended in aiding the education of young persons of either sex, from the county of Boone, possessing good talents and good moral characters, and needing such aid. Young men having in view the ministry of the gospel are to be preferred. The selection is to be made by the President of the University, after examination as to the attainments of candidates.

The whole interest of the fund is, the present year, over \$1,600, so that \$1,200 will be available in aiding the pupils to be selected.

President Read proposes, in order to aid as large a number of pupils as possible, that only the sum of \$100 per annum shall be appropriated to each pupil. As pupils will be near home, many expenses will be saved, and, with proper frugality and some self-help, the students will be able to pay tuition and meet other expenses in the University.

Twelve students will be selected for the coming college year, to receive aid upon this foundation.

ADMISSION.

In order to admission into the University, each student is required, by ordinance of the Curators, to present to the President a certificate from the Treasurer of the Board, that his bill for

tuition and contingencies has been paid; or if a county student, evidence of his appointment as such.

When an applicant for admission into the University has been connected with any other institution, he should present satisfactory evidence to the Faculty of an honorable standing in the institution from which he comes.

It is highly important that students should be present at the opening of the session, since the loss of a few days at the beginning breaks the connection of their studies and occasions serious embarrassments.

LITERARY SOCIETIES.

There are two Societies connected with the University, viz.: "The Athenæan" and "The Union Literary." These Societies have spacious and well furnished halls in the University edifice, and hold weekly meetings for improvement in debate, oratory, and composition.

They are in a flourishing condition, and form a most important means of culture, especially in extempore speaking and debate.

An address is delivered before the two, united, during Commencement Week, and Diplomas are given to such members as belong to the graduating class.

The Society Orator of the present year is the Hon. B. W. Hanna, Attorney General of the State of Indiana.

The two literary societies, by a joint committee of editors, commence, with the latter part of this current June, the publication of a monthly periodical, which is designed to be not merely a record of University affairs, but also to contain literary, educational, and philosophical matters of interest.

SOCIETY OF THE ALUMNI.

The Society of Alumni is composed entirely of graduates of the University, It holds an annual meeting on the day before Commencement, and is addressed in the college chapel by an orator previously selected from its own body.

The objects of this Society are the promotion of education, especially in the halls of Alma Mater, the reunion of early

friends and co-laborers in literary pursuits, and the revival of those pleasing associations which entwine themselves about academic life.

The Alumni Orator of the present year is John W. Overall, Esq.

PUBLIC EXHIBITIONS.

The exhibition of the Junior Class is held in the college chapel on the last Friday in April.

The Literary Societies give public exhibitions on the last Friday of March and the first Friday of April—the societies alternating in precedence.

Prize Declamation occurs on the evening preceding Commencement.

During Commencement Week orations are delivered before the Literary Societies and the Society of Alumni, and on Graduation Day orations are delivered by members of the graduating class.

APPARATUS AND CABINETS.

The outfit of instruments and other facilities for illustrating the principles of Natural Philosophy, Chemistry, and the cognate branches, has been increased from year to year, and is now very full and complete.

The Cabinet has been greatly augmented from time to time by exchanges, and particularly by additions made by order of the General Assembly, through the State Geologist.

Yearly additions to the Cabinet of Minerals will continue to be made during the progress of the Geological Survey. Its size and value at present are increased by many valuable specimens belonging to Professors Swallow and Norwood.

The number of specimens in the Cabinet is about 500,000.

The appropriation the present year for apparatus is \$1,500.

We must have apparatus that will cost a very large sum. We cannot do without it. The time was, in the elementary state of scientific investigation, when great results were obtained by a few broken bottles and glass retorts; and doubtless, also, the simplest and least expensive apparatus in the hands of the ingenious professor will be more useful than the most expensive and elaborate in the hands of the inexpert and bungling; yet

the scientific man in our day requires the constant aid of the best means, both in his instructions and original investigations. He must have them, just as the farmer must have improved implements and machinery.

OBSERVATORY.

The Observatory stands west of the University edifice. It is forty-four feet long, fourteen feet wide, fourteen feet high in the Equatorial room, and ten feet high in the Transit room.

The roof of the Equatorial room is a cone which revolves on eight lignum vitæ balls, and is confined to the building only by its gravity. The roofs of both rooms are intersected by shutters for the convenience of observation. The instruments stand on stone slabs, which rest on pillars that descend about six feet into the ground, and have no connection with the floors.

The Equatorial room contains an Equatorial Telescope, by Fitz, of New York. The Transit room contains a Sidereal Clock, a Transit Circle, an Altitude and Azimuth Instrument, and a Transit Theodolite. Besides the foregoing instruments, the outfit includes a Sextant, Mercurial Horizon, Barometers and Thermometers.

By means of these instruments, the student is enabled to gain an insight into the important *practical* work of modern astronomy.

LIBRARY AND LIBRARY HALL.

There has been recently fitted up a very elegant hall as a reading and library room. The University Library consists of some five thousand volumes. It is in a state of constant increase by gift and purchase.

The annual appropriation by the Board of Curators for the increase of the library is \$1,200. Besides, the two literary societies have each some fifteen hundred volumes.

The Library is open every day three hours from 3 o'clock P. M. for consultation.

READING ROOM.

A University reading room has been established, and means taken to procure newspapers, and the principal home and foreign periodicals.

The Reading Room Association occupies Library Hall, which is open each day at 3 P. M. as a reading room for the students and professors.

DISCIPLINE, LEAVE OF ABSENCE, ETC.

The Discipline of the University is intended to be mild and suasive, as far as circumstances permit. If, however, students manifest such moral obliquities, or such idleness as render them unworthy members of the body collegiate, they are returned to their friends without exposure, when it is practicable so to do; and it is only in cardinal offenses that the Faculty resort to PUBLIC and EXEMPLARY punishment.

When a student enters the University, the discipline of the Institution allows him a credit of one hundred merit marks; and he is charged on the record with such demerit marks as arise from misdemeanors and neglect of college duties. When it is ascertained that his demerits reach fifty, a letter of notification is sent to his parent or guardian, and when the number reaches one hundred, he is excluded from the Institution by the operation of law, which is rendered effective by an announcement of the fact by the President.

If a student shall have incurred twenty-five demerit marks, he cannot be selected by the Professor of Rhetoric as a prize declaimer.

When a student wishes to leave the University, either temporarily or permanently, he should confer with the President, in order that charges for absence may not accumulate against him on the record of demerit. It is hoped that absences from the Institution for the purpose of visiting friends, etc., will be discouraged by parents and guardians, because such absences interrupt a student's progress, and greatly diminish the pleasure and profit of his literary pursuits.

In cases of withdrawal, written authority from the parent or guardian will be required; and, as a general rule, like authority will be required even to obtain a leave of absence. Parents and guardians are again urged not to encourage withdrawals; nor to permit them save from controlling reasons.

RULES.

These are few, and designed to promote the good order and welfare of the University community, and the best interests of the individual students.

IT IS REQUIRED OF STUDENTS:

1. Immediately upon arrival to pay tuition fee, and bring receipt of Treasurer to the President in order to be enrolled as matriculates, and examined for admission to proper classes. In case of continued delinquency to enroll and loitering about the town, the person so delinquent will not be received as a member of the University. No one can be enrolled until he shall have presented the receipt of the Treasurer, or, in lieu thereof, a certificate of appointment as a county student, or authority of admission from Curators. No student can enter a class with any Professor until he shall have been admitted to the University and enrolled by the President.

2. To have three recitations, unless for good reasons excused; and to take such part as may be assigned in all general exercises of the University.

3. To be present at daily prayers in the University Chapel; at all recitations and other exercises as may be assigned, and to make due preparation therefor.

Absolute promptness and punctuality are required.

4. Faithfully to observe "*study*" hours, and not to be found loitering in the streets, in shops, or at places of amusement during these hours, or after dark, or at late hours.

5. It is expected and enjoined that students, on Sunday, attend the church of their choice, or that of their parents, and to observe the day as good and orderly citizens of a Christian community.

6. In general terms, it is required of students to be quiet, orderly and industrious; to observe the rules of the recitation room by abstaining from whispering or other communication,

from spitting on the floor, from all unseemly postures, and at all times to observe the conduct and deportment of well-bred gentlemen.

7. It must be distinctly understood that the University is for the good and virtuous young men of the State, and not for the idle and disorderly, the vile or vicious.

THINGS FORBIDDEN TO STUDENTS.

1. To enter a billiard or drinking saloon, upon any pretext whatever; to carry concealed weapons, or to use profane or indecent language, or to indulge in intoxicating drinks of any kind.

2. Noisy and disorderly conduct about the University buildings, assembling about the doors, whistling, sitting in the windows, shouting or calling aloud from the windows, or assembling in halls before or after recitation or other exercise.

3. To smoke in the buildings or on the campus.

4. In any way to mar or injure the University buildings or furniture, by whittling, cutting, marking, or in way defacing the same. All University property is to be guarded and preserved as a sacred trust, and to be used without abuse.

5. To leave town, or to change a recitation which has been assigned, without the permission of the President. Leave must be obtained beforehand.

6. No student will receive an honorable dismissal who is under a charge, or who has failed to pay all University dues, or who has not returned all library books.

7. All those things are forbidden which tend to deteriorate moral character, to prevent intellectual and moral advancement—in short, all those wicked and immoral practices and habits which would be forbidden in good and cultivated families, and which tend to prevent preparation and training for good citizenship.

SESSIONS, VACATIONS AND EXPENSES.

The Annual Session begins on the third Monday of September, and continues forty weeks.

Commencement occurs the last Wednesday in June.

The annual vacation is from commencement till the third Monday of September.

A recess of two weeks is taken during the holidays.

Tuition fees, in all departments, per session, \$40—may be paid \$20 for half session—and no drawback is allowed for absence in any case.

Board in private families, with lodging, washing and fuel, may be obtained from three to five dollars per week.

By entering clubs, this amount may be reduced to one dollar and fifty cents, or two dollars.

The allowance for clothing, books, and pocket money, will vary with the character of the student. It is hoped that parents will bear in mind that too liberal an allowance of money exposes a youth to temptation; interferes with his habits of study, and adds nothing to his happiness or respectability.

Young men, working on the College Farm or in the gardens, will be allowed from ten to fifteen cents per hour, according to their skill, fidelity and industry, to be determined by the Garden or Farm Superintendent.

BOARDING OF STUDENTS.

There are three methods by which students provide boarding.

1st. There is the boarding and rooming of students in a group of cottages, with a dining hall, situated near the University campus, but not on it. These cottages are cheaply-built wooden structures, and afford accommodation for about fifty students. The students who board themselves in the cottages form themselves into a club, appoint their own commissary and other officers, establish and keep up their own police, punish members by fine or expulsion, and on each Saturday meet to hear reports and consider the welfare of the club, and generally to attend to its business affairs. The weekly expense of board, including a

small admission fee to keep up the furniture, also rent payable to the University, does not exceed \$1.75 per week.

Each student furnishes his own room, which may be done at cheap rates. If convenient, he may bring his furniture, at least in part, from home. All can bring bed-clothing, and had better do so.

The present is the third year of experience upon this plan. The club, by its proper officials, has hired its own cook, regulated the bill of fare, bought provisions, and maintained the order of the establishment.

The plan has been a complete success, is popular among the students, and has attracted much attention throughout the State. It is a full solution of the question—how may boarding be secured at the lowest rate, and in a manner most satisfactory to the student?

Very young students, or those incapable of taking care of themselves, ought not to enter the boarding club. While the President and Professors frequently visit the rooms of the club, the police duty devolves mainly upon the young men themselves, and is more effectively carried out than it could be by the Faculty. Their rules are strict, and students of known shiftless ways or noisy habits are not admitted; or, if admitted, are soon cut off. Good behavior and quiet habits are indispensable, and none other than those possessing these characteristics can enter or continue members of the club.

It ought to be remarked that the health of the members of the club has been above the average of the students of the University.

2d. We have the boarding and rooming of our students at the Hudson House, a fine mansion, having two adjoining cottages, with beautiful lawns, about half a mile distant from the University. This beautiful property, and so important to our general plan, fell to the ownership of the University with the college farm.

Students are boarded at this house upon the club system, under the direction of the Farm Superintendent, and with his family, at a little over \$2 a week.

3d. Students find boarding and rooms in private families at rates such as shall be agreed on, generally at from \$3 to \$5 per week.

In many cases, it is best that boarding should be obtained in good private families.

RENTING ROOMS.

Students in order to rent rooms in the cottages, or the Hudson House, or any other building belonging to the University, must apply to Dr. Hubbard, the Business Agent, and receive them upon the following conditions, viz. :

1st. To keep the rooms in a proper and cleanly manner ; in no way to injure or deface them, and to open them to the proper officer for inspection.

2d. To avoid boisterous and improper conduct.

3d. To observe the rules of the House or club, and to be subject to be removed for non-payment of assessments, fines, or charges.

4th. No student occupying a University room can exchange it with another student, or under-rent it, except by the permission of the Business Agent.

5th. Rent is to be paid in advance, and before entering the room.

The Business Agent shall in all cases be the judge of the violation of these rules, and have full power to remove a student therefor ; and in case of such removal there shall be no repayment of rent.

EXAMINATIONS, HONORS, AND DEGREES.

There are four examinations in the University :

1. An examination of the new students is held at the beginning of the session for the purpose of ascertaining their scholarship, and assigning them to the classes for which they may be qualified.

On the occasion of these examinations, the Faculty generally recommend the full course of study to students whose age and means render such a course advisable.

2. An intermediate examination of all the classes, partly oral and partly in writing, is held about the middle of February.

3. An examination of the Senior Class is held, a short time before commencement, in order to determine what members are qualified for graduation.

4. A general examination of all the other classes is held during the last week in June, for the purpose of ascertaining the progress of the students, and deciding what students shall be promoted to higher classes.

Each candidate for graduation is required to prepare a Thesis—Oration or Essay—which may be delivered or not, at the discretion of the Faculty. The usual College honors, appropriate to each of the first Academic degrees, are awarded by the Faculty among the graduates.

The regular degrees are Bachelor of Science, conferred upon those who satisfactorily pass through all the College Departments but that of Ancient Languages; Bachelor of Arts, upon those who thus pass through all the Departments; and of Normal Graduate, upon those who complete the course of the College of Normal Instruction.

The degree of Master of Arts is also conferred, three years or more after graduation, upon such Bachelors of Arts as pursue a professional or literary career.

The Curators can, of course, in addition to these, confer any of the usual honorary degrees and titles.

REPORT OF COMMITTEE ON UNIVERSITY DEGREES.

The following is the report of the Committee of Reorganization, the recommendations of which were adopted by the Board of Curators, and to which the action of the University will be conformed in the awarding of its degrees and certificates of proficiency in the various branches of learning, as specified in the appointed courses. The report says :

“The question of what shall be the degrees, is one worthy of consideration.

First. Shall there be any honorary degrees? They have been abused until they are almost worthless as honors. When General Jackson received a doctorate from Harvard, it conferred

no great honor either upon the recipient or the giver. Or, when the Duke of Wellington was made Chancellor of Oxford—an honorary office—and pronounced his Latin oration in very bad quantity (even after drilling), it can not be said that the university either gave or received any extraordinary honor. But learning has in all ages, from the days of Augustus, paid its court to power. It has sometimes done itself honor by paying honor to the worthy. The object of these degrees is to honor merit, to incite to noble effort, and to give academic recognition to great literary, scientific, or civic excellence.

Your Committee are not prepared to recommend the total discontinuance of honorary degrees by a rule, as is the case in the Virginia University; but certainly that our University should be exceedingly sparing in conferring them.

The regular academic degrees in course should be as follows: Bachelor of Arts, Bachelor of Philosophy, Bachelor of Science, and also Bachelor of Letters (*in literis humanioribus*), for great excellence in classical and literary studies.

These degrees to be conferred after the proper trials and examinations.

Certificates of proficiency for those proficient who have completed the course in any branch and sustained their examinations. Such certificates to be formally and publicly awarded.

Students who have pursued elective courses equivalent, in the judgment of the Faculty, to one of the specified courses, may receive the degree judged most appropriate.

The degree of Master of Arts, Master of Science, Master of Philosophy, and Master of Letters, will be conferred, on the recommendation of the Faculty, after the expiration of three years from the time of graduation, upon those deemed worthy.

SPECIAL OR PROFESSIONAL DEGREES.

These will be, Bachelor of Law, Bachelor of Agriculture, Bachelor of Engineering, of Mining, etc.

There will be also the degree of Normal Graduate, and a certificate of proficiency in the Art of Teaching, and also a degree of a higher grade to teachers.

These degrees to be conferred by the Board of Curators, after recommendation of the candidates by the Professional

Faculty to the General Faculty of the University, and thus presented to the Board.

POST GRADUATE COURSE AND DEGREES.

There is great difficulty in providing a system which shall meet the wants of all students of every grade. This must be done as far as possible, and, in fact, herein is the idea of the true University. As the means and appliances of the University shall be enlarged in all directions, and the Professors become numerous, it will become the residence of students who wish to continue their studies after graduation. Even now there are some such, and the number will increase from year to year.

The course which students of this class will pursue, will be for the most part according to their own individual wishes. The Faculty, when fully organized, should provide aid, by lectures, recitations, and courses of reading, to assist such students in the pursuit of their studies and investigations.

Your committee recommend that the following degrees be conferred upon students who become resident graduates, and students upon post-graduate courses, under the direction of the Faculty :

Students who remain one year after graduation in Arts, Philosophy, Science, or Letters, shall, on recommendation of the Faculty, be entitled to the degree of Master.

Students who remain a still longer period, as shall be appointed by ordinance, may be admitted to the degree of Doctor.

All degrees must be conferred upon recommendation of the University Faculty.

Bad character, or University delinquency of any kind, shall be good reason for exclusion from a degree."

PRIZES.

The Stephens' Prize, founded by J. L. Stephens, Esq., of Columbia, is given each year, in the form of a Gold Medal of the value of \$50, to the member of the graduating class adjudged to be the finest Orator on Graduation day.

The Case Prizes, four in number, will be awarded to the best speakers, from sixteen competitors selected from the body of the

students below the Senior Class, who shall appear at a public exhibition on the evening preceding Commencement; but no student can be selected who has received twenty-five demerit marks.

A Department Prize is awarded to that student of the Senior Class, showing, upon examination, the best knowledge of Law and Constitutional History.

Prizes (first and second) of Senior Class to Juniors for excellence in oratory at the Junior Exhibition, matter and style of composition, as well as delivery, being taken into consideration.

Prizes are also awarded in the Agricultural Department—one for the best essay on Grape-growing in Missouri; another for the best oral examination on Pruning.

SITE.

The University is situated near the center of the State, at Columbia, in a beautiful and picturesque limestone region, on the elevated rolling table-land lying back from the north side of the Missouri river; and were the selection of a site to be made anew, perhaps no spot in the State could be found, combining more desirable elements, as the seat of the State University. The town contains three thousand inhabitants; and in its healthfulness and scenery, and especially those social, moral and religious influences which tend to preserve the character of young men, and promote among them gentlemanly conduct, good order and studious habits, can hardly anywhere be surpassed.

SPHERE AND OBJECT OF THE UNIVERSITY.

The State of Missouri, in devising a scheme of public education, provides in the Constitution as follows:

“SEC. 1. A general diffusion of knowledge and intelligence being essential to the preservation of the rights and liberties of the people, the General Assembly shall establish and maintain free schools for the gratuitous instruction of all persons in this State between the ages of five and twenty-one years.”

“SEC. 4. The General Assembly shall also establish and maintain a State University, with departments of instruction in teaching, agriculture, and in natural science, as soon as the public school fund will permit.”

Thus it will be seen, the State has made free schools and a University part of the same system; and the object is declared

in the preamble of the provision on the subject, to be "a general diffusion of knowledge and intelligence," and this as "essential to the preservation of the rights and liberties of the people." The end to be secured is the highest possible one that can be held up before a free people.

The University of the State of Missouri was chartered by the Legislature during the session of 1838-39, and went into full operation on the 4th of July, 1843. The annual income of the proceeds of "the seminary lands," that is, of lands granted to the State by Congress for the perpetual support of a seminary of learning, was set aside for the support of the University.

Under a succession of able and learned Presidents and Professors, the University, though having but small means, was eminently useful. The number of graduates were over 200, besides a much greater number educated in the University, but who, on account of deficiency in some part of the full course, have not been admitted to graduation.

The new Constitution, in accordance with the spirit of progress, requires the University to be established and maintained with other departments, viz. : of instruction in teaching, in agriculture, and in natural science.

The Constitution manifestly contemplates and intends a University to include various departments or colleges, three of which, in addition to the department already existing, are specified.

The Board of Curators, four years ago, established a College of Normal Instruction, which has been since in successful operation, and at the coming commencement will graduate its third class.

The grant of land to the State for the establishment of a College of Agriculture and the Mechanic Arts, constitutes in the hands of the Legislature a "public school fund," which will enable that body to fulfil the noble provisions of the Constitution, by the speedy establishment of the Agricultural College, with schools of Engineering, Mining and Metallurgy, and Analytic Chemistry, which, with the departments already established, and others which from time to time shall be established, will constitute a great University, almost in the very heart of the State, to which the sons of Missouri may resort for the instruction they may need, in all branches of human knowledge.

These lands, by the act of the Legislature, approved February 24, 1870, were turned over to the University, for the support of a College of Agriculture and Mechanic Arts connected therewith, and twenty-five per cent. thereof for the support of the Mining School located at Rolla in Phelps county.

UNIVERSITY HONORS.

CLASS OF 1870.

- First.* Valedictory, S. C. Douglass.
Second. Salutatory, O. L. Houts.
Third. Scientific Oration, T. J. Lowry.
Fourth. Philosophical Oration, Eli Penter.

LAW PRIZE.

T. J. Lowry.

STEPHENS' PRIZE. (GOLD MEDAL—\$50.)

Founded by T. L. Stephens, Columbia.

O. L. Houts, of Warrensburg.

CASE PRIZES. (BOOKS.)

To the best six speakers from sixteen competitors selected from students, except Senior Class. Prize established by Col. Theodore S. Case, of Kansas City:

- | | |
|-----------------------------------|--------------------------------|
| 1st prize, L. A. Marvin, Sedalia. | 4th prize, T. L. Ladd, Mexico. |
| 2d " P. M. Cranor, King City. | 5th " E. R. Marvin, Sedalia. |
| 3d " A. Glenn, Harrisonville. | 6th " F. L. Russell, Columbia |

BAKER PRIZE OF \$25.

For ability in debate, established by John W. Baker, a recent graduate of the University, awarded upon trial to

S. C. Douglass, Columbia, and S. L. Houts, Warrensburg.

PRIZE IN HISTORY.

Miss Eliza Gentry.

W. F. Forsha.

MOSS PREWITT (MATHEMATICAL) PRIZE.

Allen Glenn, Harrisonville, Mo.

PRIZE OFFERED BY SENIOR CLASS TO JUNIORS FOR BEST ORATION
AT THE JUNIOR EXHIBITION.

1870.

Clark Craycroft.

1871.

1st. Henry W. Ewing, St. Louis. | 2d. George F. Davis, Columbia.

HONORS OF GRADUATING CLASS.—1871.

Valedictory.—John E. Johnston, Antrim, Ohio.

Scientific.—J. L. Ladd, Mexico.

Philosophic.—Clark Craycroft, Otterville.

Mathematical.—Allen Glenn, Harrisonville.

DEGREES CONFERRED COMMENCEMENT, 1870.

MASTER OF ARTS, IN COURSE.

John B. Hairston,
Lewis C. Nelson,
Gardiner Lathrop,

E. W. Stephens,
M. Allen Elston,
W. Lenoir Church,

B. W. Badger.

MASTER OF SCIENCE, IN COURSE.

Arthur P. Selby,

W. C. Grainger,

I. S. Preston.

HONORARY DEGREE OF A.M.

Prof. Calkins, St. Joseph.

Prof. W. P. Hurt, Christian Coll.

HONORARY DEGREE OF LL.D.

Prof. William Chauvenet.

Prof. Henry H. White, of Kentucky University.

Supt. William T. Harris, of St. Louis.

HONORARY DEGREE OF D.D.

Rev. Samuel G. Green, Pres. Rowdon College, near Leeds, England.

DEGREE OF A.B.

S. C. Douglass.

DEGREE OF B.S.

R. W. Dorsey,
J. C. Hearne,
O. L. Houts,

T. J. Lowry,
Eli Penter,
J. F. Robinson,
Paul Waples.

NORMAL GRADUATES.

Miss Lulie Gillette,
T. J. Lowry, J. F. Robinson.

 CALENDAR.

1871-72.

1871.

September 18, Monday....Session opens.
December 15, Friday, P. M. Closes for Holiday Recess.

1872.

January 1, Monday.....Reopens.
January 15, Monday.....Subjects for Junior Exhibition and Com-
mencement presented.
February 6, Tuesday to } Semi-annual Examination.
February 9, Friday..... }
February 12, Monday.....Second Semester begins.
March 18, Monday.....Junior Exhibition, Orations presented.
March 22, Friday.....Annual Exhib'n Union Literary Society.
April 5, Friday.....Annual Exhibition of Athenæan Society.
April 22, Monday.....Graduation Orations presented.
May 6, Monday.....Honors announced.
May 10, Friday.....Prize Declaimers appointed.
June 18, Tuesday, to } Annual Examination.
June 21, Friday..... }
June 23, Sunday.....Baccalaureate Discourse.
June 24, Monday.....Address before Societies.
June 25, Tuesday, A. M....Meeting B'd of Curators, Alumni Meeting.
P. M....Prize Declamations.
June 26, Wednesday.....Commencement.

DIRECTIONS FOR NEW STUDENTS.

1. Reach Columbia, if possible, on the Friday preceding the opening of the session.
2. If assistance is desired in obtaining board, report to the President or other member of the Faculty, at the University building.
3. Before entering the University, tuition fee must be paid to Mr. J. H. Waugh, Treasurer, at the National Exchange Bank, and his certificate obtained.
4. The Treasurer's certificate should be at once presented to the President, at the University, when the name of the student will be entered upon the roll, and assignment made for study.
5. Young men coming to Columbia, intending to enter the University, are cautioned against delaying their entrance without good reason, as such delay not only injures the work of the entire session, but leads to unfortunate inferences concerning the character and intentions of the student.

APPENDIX.

(No. I.)

REPORT OF PROF. SWALLOW,

ON THE

AGRICULTURAL AND MECHANICAL COLLEGE.

UNIVERSITY OF THE STATE OF MISSOURI,
June 3d, 1871.

Daniel Read, LL.D., President.

MY DEAR SIR:—In accordance with your request, I respectfully submit my Report on the Agricultural and Mechanical College, embracing the following subjects:—

THE PROGRESS OF THE COLLEGE ;
THE COURSE OF STUDY ;
THE HORTICULTURAL DEPARTMENT ;
THE FARM AND ITS IMPROVEMENTS ;
STATE INDUSTRIAL AND ECONOMICAL STATISTICS.

Very respectfully,

Your obedient servant,

G. C. SWALLOW,

Professor of Agriculture.

THE PROGRESS OF THE COLLEGE.

The Agricultural and Mechanical College was finally located in Columbia, in connection with the State University, on May 3d, 1870.

The Professor of Agriculture was elected in September, 1870.

The first class was formed on September 27th, 1870.

The class in Practical Agriculture, organized September 27th, 1870, consisted of six pupils only on the first day.

This small number may be attributed to several causes :

It was not generally known that the College could be opened for instruction during the present year, and students who desired to take this course had made other arrangements.

There were deep, strong and outspoken prejudices in the minds of the aged and influential, that no collegiate technical education could be made practically useful to the farmer. This impression had a marked influence over those who most needed its advantages, and indeed on all—pupils and teachers. And besides, the farm and horticultural grounds were in no condition to attract pupils. The farm generally was in a bad condition ; its fences and fields, meadows and pastures, and woodlands, and vineyards, and orchards, and gardens, had been neglected, or, in part, badly cultivated.

There was no farm-house, no good out-buildings, no domestic animals, no machinery, no farm tools, no propagating and hot-houses, none of the implements of horticulture. And besides, there were no cabinets and apparatus prepared for the special and technical instruction of the agricultural classes.

In starting a new school, there is always more or less difficulty in getting the arrangements perfected and everything in good working order. This difficulty was greatly increased in the attempt to start a school on principles comparatively new in our community.

In other professional schools, the course of studies has been well digested and perfected, so that the teacher and pupil have a beaten path well marked before them. But in the agricultural school, nothing has been long tried and well established, in America, at least ; and the agricultural schools of Europe were established to meet the wants of communities whose relations are so different from our own that their experience is of comparatively little value to us. We have been compelled to adapt ourselves as well as possible, with the few aids we have, to the circumstances surrounding us.

Good text-books have been prepared for all other departments of learning by the best minds engaged in teaching those studies ; but in this department, no books have been published adapted to the wants of

the school-room. This deficit devolves much additional labor upon the teacher and pupil, and is well calculated to discourage both.

But little apparatus has been prepared and adapted to the wants of the teacher of agriculture, and we have been compelled to get along, as best we could, without even that little.

But notwithstanding these and other difficulties and discouraging circumstances, incident to the organization of a new school on a new and untried basis, the number of pupils has regularly increased; and a lively and increasing interest has been kept up from the beginning to the end of the year.

Besides the twenty-nine regular members of this class, some eight or ten others have attended irregularly, as an extra study, when their lessons would permit, especially the out-door working lectures; in which all have borne an active part. The members of this class, and many other students, are pursuing the various studies of the Agricultural Course, such as Botany, Geology, Chemistry, Mathematics, Natural History, and English Literature.

Many of our students are working their own way—paying their expenses by their own labor. Those who manfully overcome the difficulties in such a course, and persevere unto the end, usually take their places among the leading men of the country. They are manly, earnest and studious, and nearly all are young men from the farms of Missouri. They have been punctual and earnest in their efforts to acquire the scientific principles upon which their practical education is based. They have devoted one hour each day to the application of these principles to the various operations of agriculture and horticulture. When the weather would permit, this hour has been spent in out-door work on the farm or in the orchard, the vineyard or the garden, under my own direction and instruction. In this manner they have had a thorough practical training in propagating and training fruit trees, vines, small fruits, many garden vegetables, and some of the staple farm crops.

They have had technical instruction in and performed the practical labor of making cuttings and setting them; grafting and budding; pruning fruit-trees and vines and small fruits; transplanting trees and vines and garden vegetables; making trellises for and staking vines; pruning and training the grape-vine in all stages of its growth; planting corn and other crops; putting out and managing many varieties of nursery stock; mowing, raking and curing hay, and of many horticultural operations. In all these labors, the pupils have manifested a lively interest and a rare perseverance in the work.

In short, full as much has been done, and as many students have entered upon the studies of the Industrial College, as we had any reason

to expect at so early a stage of its progress. It has been but little more than a year since the location was finally settled in this place, and yet we have a good school in full operation, and a good number of enthusiastic, hopeful students. Some of them are practical farmers, fresh from their farm labors.

This class has also had thorough instruction in meteorology, including winds, rains, dews, frosts, seasons, temperatures, and general climatic manifestations in their relations to farming.

Full and complete lectures have been given on Soils, including the chemical compositions and physical structure, their varieties, and the adaptation of each to particular crops, and what trees and other plants indicate each variety. Also the various modes of culture; how to improve poor soils and recuperate those exhausted.

They have also studied the physical properties of plants, their organs, and the particular functions of each; what food each of the staple crops take from the soil, and how much of each element.

Several other departments of science pertaining to agriculture have received such attention as the time would permit. Regular classes have been formed in Physical Geography, Botany, Mineralogy, and Geology.

Many of the students of the Industrial College are pursuing the various studies of the Agricultural and Mechanical Course under the other members of the Faculty.

COURSE OF STUDY.

It is the design of this school to give an education that will fit the pupil for intellectual and manual labor—to make him a man in body and mind, that he may enjoy the *mens sana in corpore sano*. Our graduates must be the peers of scholars and the equals of laborers in manual skill and physical development, that they may be prepared to honor labor and utilize and dignify learning.

To do this one must have a thorough knowledge of his profession and be able to do its work with skill and ease.

The first and highest employment of man is to cultivate the soil, to feed and clothe the world. To do this well, has been the ambition of the great and good of every land. The increase of populations and the multiplied demands for the products of the soil must render this department of human industry more and more prominent, lucrative and honorable.

It is, therefore, eminently appropriate for this College, located in the midst of the best agricultural region of the continent, in which the

populations of the earth are concentrating with unprecedented rapidity, to invite our youths to such a collegiate course of study and labor as will best fit them to develop the agricultural and mechanical resources of the State, and meet the coming demand upon their capacities. For such an education the pupil must learn two things :—

1st. What to do, and how it should be done.

2d. He must acquire the manual skill to do it, and do it well.

To know what and how, is the *Science*.

To have the manual skill, is the *Art*.

To get the *Science*, he must study.

To get the *Art*, he must work.

Our Industrial College, then, must be a school of *labor* as well as *study*. But how much study and how much labor, are questions not definitely settled, but in general terms it may be stated.

The pupil must study until he knows what should be done, why it should, and how. When this is done the Intellectual division of an Industrial Education is finished.

The pupil must labor until he can do all farm work with skill; and when this is accomplished the manual division of an Industrial Education is finished.

Whatever is more than this, has no more place in an Industrial School than in any other. It is not the idea of our school to furnish a place for pupils to work, but a place where they may learn to work as well as think.

But what shall the pupil do? Everything that is done on the farm—feed stock; groom and harness horses; manage poultry; make and cultivate gardens; raise fruit; prune, bud, and graft; make fences; plow; cultivate corn; mow and cradle; make cider, vinegar, wine and sugar. The Professor shall direct this work.

He who says what is to be done, why it should be done, and how, is the one to see that it is done and well done. Then the teaching and practice will agree, science and art go hand in hand; this will prevent the introduction of many useless and impracticable theories. When one teaches merely, he can advance many beautiful theories for others to practice; but when he is expected to carry out his own suggestions, he will be more cautious, take more care that his instructions will bear the test of actual experiment.

The pupil should be taught what will be most useful on the farm and in the workshop; but his education should not be confined to these matters only. The farmer and mechanic should have a good general education, that they may act well their parts in public life, and be fitted to become our rulers and legislators. Let them feel themselves the full peers of the learned professions; let farming become a

learned profession. A certain amount of preliminary knowledge is necessary, that he may understand the subjects which most demand his careful investigation. Neither soils, nor plants, nor domestic animals, can be fully understood without the sciences.

With these views we propose the following studies :—

CHEMISTRY

First of all, as the foundation of all accurate knowledge—practical. There is nothing that challenges the investigation of the industrial man that can be fully understood without it. Soils, plants, animals, paints, dyes, fertilizers—all food, all nature—are founded on chemical principles.

BOTANY.

Next to chemistry, for practical utility, I would place the physiology of vegetables. Without it, we can have no accurate knowledge of what culture is best for various crops and fruit.

In this science we learn the structure of plants, their food and how they obtain it; how plants grow, and under what conditions they grow best.

ANATOMY AND PHYSIOLOGY.

Very high in the rank of studies I would place the Anatomy, Physiology and Hygiene of man and his domestic animals. The farmer should know the structure and functions of every organ of all the animals and birds he raises.

VETERINARY SURGERY

is absolutely necessary in this connection. Many a noble animal is lost for want of a little accurate knowledge of this subject.

One also needs a knowledge of the intellectual characteristics and propensities of animals to manage them well. He who knows the spirit and disposition of the horse, can make him far more useful and safe.

ENTOMOLOGY

will have a prominent place in the catalogue of studies. All will admit its importance.

MINERALOGY AND GEOLOGY

are made prominent as the basis of an accurate knowledge of all soils, their composition, physical structure and durability. Also of clays, sands, limes, marbles, granites, and all other building materials, and

the location of all mines of coal and ores, as well as of all marls, humic and other deposits useful for fertilizers.

CLIMATOLOGY.

All must study and understand the weather, its causes and changes. The indication of conditions and changes, and the adaptation of climate to various crops and domestic animals and fruits, are fully illustrated.

Winds, storms, rain, snow, hail, mists and frosts, are thoroughly studied as materially affecting the crops, fruits, and domestic animals.

MECHANICAL PHILOSOPHY

is carefully taught as most useful in all industrial pursuits. The farmer and mechanic, at every turn, use the principles of this science.

Mechanical Powers, Optics, Acoustics, Pneumatics, Light, Heat, Electricity, have their every-day applications on the farm, and all that pertains to the physical nature of things, is necessary to the farmer and mechanic.

ASTRONOMY

is taught to give a full knowledge of the seasons. Farmers and shepherds cultivated Astronomy in ancient times as most useful in their callings.

MATHEMATICS,

including Algebra, Geometry and Trigonometry, as applied to Mensuration and Surveying, are highly necessary. The higher departments are useful in Astronomy and general Physics.

ENGLISH LANGUAGE AND LITERATURE

must have a prominent place. A man's happiness and usefulness in life, and his intelligent hopes of heaven, depend in no small degree upon his attainments in these studies. Without them the farmer will be the peer of nobody but the illiterate, and the Industrial College will not elevate the profession much.

POLITICAL ECONOMY

should certainly have a place, for without thrift no farmer need hope for success.

So much of learning will be required for graduation in this College.

But there are other studies very useful to the farmer and mechanic,

though not absolutely necessary for his success, which may be added as optional studies:—

Latin Language;
Moral Philosophy;
International Law;
French Language;
German Language;
Book-keeping and Drawing.

With a tolerable knowledge of Latin a pupil will obtain a clear knowledge of the sciences necessary to the farmer much quicker,—so much so that the study of Latin would be an economy in time, to say nothing of the other advantages.

Latin is the language of Science. With it, we can read the scientific works of all languages; but without it, we cannot read intelligently the scientific works of any language.

MORAL PHILOSOPHY

may not be so necessary for a farmer. He communes with nature so much that his moral powers are better developed. Few crimes are perpetrated by farmers.

FRENCH AND GERMAN

are generally useful, especially to the farmer and mechanic, as they are the repositories of vast stores of agricultural and mechanical knowledge.

Book-keeping should be understood, that farm and shop accounts may be kept regularly and accurately.

AGRICULTURAL TECHNOLOGY.

Under this head is included all the practical pursuits of the farm and the work-shop.

It is absolutely necessary the students be taught how each department of farming* should be managed, and how each particular thing should be done.

The *uses* and *adaptations* of farm houses and farm buildings.

The comfort and health, and consequent thrift, of men and all domestic animals, depend very much upon the manner they are housed.

* In technology we here include only what pertains to the farm, and omit what should belong to the work-shop.

Fences, whether of stone, wood, earth, or living plants, should be well understood.

Fences are the one most expensive item in farming. Economy and thrift in this, is necessary to good farming.

The division of the farm into forests, pastures, meadows, fields, orchards, vineyards, gardens, nurseries, lawns and shrubberies, is a matter of great importance to comfortable and successful farming, and should be well understood.

FORESTS—THEIR IMPORTANCE AND MANAGEMENT.

Our forests are disappearing too fast for the future prospects of the country. It requires a generation to grow a forest. Each generation, therefore, should provide the fuel and timber for the next.

Pastures—how to make and keep in the best possible condition. Good pastures make fat cattle.

One acre well kept is worth five covered with bushes and weeds, the grasses but half set, and half choked out.

Meadows—the soils of, whether wet or dry, sandy, clayey, calcareous, deep or shallow, how prepared, and what grasses ought to be used.

Hay is cheaper than grain, and quite as healthful for general use.

Fields—how divided. Exposure and soils to suit crops.

A happy division of fields, enables the farmer to utilize the gleanings of every harvest, and consume the grass of broken places and fence rows.

ORCHARDS—SIZE, EXPOSURE, SOIL.

What fruit, and how much of each ; preparation of soil and fences. Peculiar culture and management of each kind of fruit.

Nothing gives better returns for good care than fruit.

Nurseries, to show the modes of culture, should be maintained on a small scale.

VINEYARDS

should have the most careful attention. Their location, exposure, preparation of soil and fences, and supports for vines, varieties of vines, when and how planted and managed from year to year.

GARDENS—SIZE, SOIL, LOCATION.

Best mode of cultivating all small fruits and garden vegetables.

Flower Gardens must have a place by each home, if but one flower

be cultivated. One lily, or one bright-eyed pansy, is a fountain of sweet pleasures—"a thing of beauty is a joy forever."

Lawns and *Shrubberies* should be well studied in connection with

LANDSCAPE GARDENING.

He can work better and sleep better, who has well-kept lawns and beautiful perspectives. They are pleasant things to have, and more pleasant to understand.

The more attractive home is, the less will its possessors seek their pleasures away from it.

A BOTANIC GARDEN

is absolutely necessary to the success of an agricultural school. Living plants from all climes, and from all classes, are needed to illustrate vegetable structure, the food of plants, and their useful qualities.

The *conservatory*, *hot-house*, *forcing-house*, *pits* and *hot-beds* are absolutely required to give a full knowledge of propagating fruits and other plants, and raising vegetables and ornamental plants for market and use.

PROPAGATION OF TREES AND PLANTS,

including grafting, budding, layering, and transplanting, must have a place.

Pruning and *training* are highly important and least understood.

FARM ARCHITECTURE,

including farm houses and out-buildings, bridges, fences, etc.

SUPPLIES OF WATER.

The construction of wells, cisterns and ponds.
Machinery for raising and conveying water.

FARM CROPS.

What should be cultivated; the management and culture of each.

FARM MACHINERY.

Every pupil must become familiar with the mechanism and use of each machine, and all farm tools.

ROADS, WALKS AND PATHS

will have special attention. The modes of laying out and constructing them must be well understood. A road well made is durable and economical ; but a road badly constructed is worse than a natural road. We formerly lost money by making no roads ; we now lose it by making poor roads.

VARIETIES OF TREES AND TIMBER.

The qualities and uses of the numerous varieties of timber ; what are best for building purposes, for fences, and what for various implements and machinery.

DOMESTIC ANIMALS

will be made the special study of the students of agriculture.

What the uses and profits of each ?

What breeds are the best for each particular purpose ?

What are the good points of each species of domestic animal ?

What the good points in each breed of the various species ?

What are the laws of breeding ?

How to develop any particular quality in any variety ?

The best methods of growing each species and breed ?

How to fatten and prepare for sale and use ?

Are questions that every farmer should be able to answer.

SOILS

are thoroughly examined as to their origin, properties, and uses.

Their composition, chemical properties ;

Their physical structure and qualities ;

What renders them productive ;

What makes them warm and dry and light, and what cold and wet.

The adaptation of each variety to particular crops, and what changes are necessary to adapt any new variety to any particular crop.

How to recuperate exhausted soils, and render those barren more fertile.

What are the best conditions for absorbing and retaining moisture, gasses, and the heat of the sun, for digesting plant food.

SUB-SOILS

are examined in reference to their chemical composition and physical structure ; whether they will be improved by subsoiling, and whether

they contain the ingredients needed to recuperate the surface soils when exhausted.

MANURES AND FERTILIZERS

will receive special attention.

The properties and best modes of preparing and applying stable manures, night-soils, humic deposits, limes, gypsums, sands, clays, turfs, green manures and composts, should be well understood ; also to what crops and soils each is most useful.

UNDER-DRAINING.

The principles on which it is based, showing where it is needed, and the best modes of constructing the drains.

SPECIAL STUDIES.

Each student shall have the care, under the Farm Superintendent, of some part of the work for one week or more. During this time he shall give strict attention to the matter, keep a daily journal of all his operations, and at the close make out a full report of the same.

To illustrate—he has the care of the horses this week. It shall be his duty to see that the stable is kept in order, the horses properly fed and groomed, that they are correctly geared and properly handled, and worked in a skillful manner.

He shall keep an account of all food given to each animal ; the work done by each ; his condition when received, and at the end of the week ; how much was gained or how much was lost.

During this week it shall be his duty to give his time to the study of the horse, reading such books as the Professor may direct.

And at the end of the time he must hand in, to be placed in the farm library, a dissertation on the horse, also a copy of his diary for the time he has taken care of the horses. These journals will form a complete history of the farm, open to all students.

LENGTH OF THE COLLEGE COURSE.

In the Agricultural, as well as all other colleges, there will be students who cannot spend time enough to complete a full course of study ; and, besides, it is a tendency of the times to give as little time to education as possible.

The course of study is arranged to meet, as well as may be without injury, these conditions of things.

If we require a preliminary preparation of reading, spelling, arithmetic, geography, English grammar and composition, a three years

course is deemed best, for which a diploma will be granted for the degree of B.A.A.

There will be a higher course in language and literature and science, for a more thorough acquaintance with the higher departments of agriculture and mechanics, to occupy one year. For this course we give a diploma for the degree of M.A.A.

Students in this higher course may be made tutors and managers of particular departments of the farm and shops, with marked advantage to themselves and the institution.

For such students as desire a partial course, and those who desire the instruction in some particular department—as horticulture—provision will be made, and a certificate of proficiency given.

It is not expected that all this will be accomplished at once. It will require time and means to perfect an Agricultural College. Such schools are new in this country. Proper plans have not been fully perfected, and there are popular prejudices to be overcome and corrected, and means to be accumulated.

It will be our first object to establish a proper course of study, and obtain all the necessary apparatus and appliances to give the best possible instruction in this course.

After this, or at the same time, the Farm will be put in perfect working order, as fast as the means are accumulated. But as we have little or no means to work with at present, some of the less expensive departments only, and those most useful for technical or practical instruction, will be put in order, such as the vineyards, garden, and orchard.

The department of *Technology*, or *Practical Instruction*, will be arranged and perfected as far as the progress of the farm and its appliances will permit, that the students may have its practical advantages as fast as possible.

THE HORTICULTURAL DEPARTMENT.

A portion of the farm has been set apart for the department of horticulture.

Fruit growing and gardening, in all their more useful branches, will be fully and practically carried out in this part of the general plan.

A beginning has been made. We have two vineyards of several thousand vines each. An experimental vineyard of three hundred vines, including fifty different varieties, a few grape cuttings, and a small amount of nursery stock have been put out this season. The

remaining grounds of this department have been thoroughly subsoiled and planted in corn and potatoes to keep them in good condition for the future wants of the horticultural experiments.

Mr. GEORGE LONG, the *Horticulturist*, has rendered efficient service in this department.

THE FARM AND ITS IMPROVEMENTS.

As it is but little more than half a year since we gained full possession of the farm, but little improvement could be expected, even if we had ample means for making it. Still, something has been done—a mere beginning.

The old farm buildings have been repaired, old fences put in order and new ones built, ponds and cisterns made, stumps removed, and the grounds generally put in a condition to sustain no injury until the agricultural fund is available for the improvements needed. A few domestic animals of good quality have been purchased. We have also obtained, by gift and purchase, a good assortment of improved agricultural implements.

STATE INDUSTRIAL AND ECONOMICAL STATISTICS.

In accordance with the law of Congress, it has been deemed best to give in this connection a brief statistical statement of the soils of Missouri, including the characteristics of each variety, its adaptation to the staple crops, the area occupied by it, and its productive capacity.

In the statistics of the State, the soils must stand in the first rank, since they are the great source of national prosperity and power, and the basis of individual wealth and happiness.

Adam commenced dressing the soil in Eden, and his successors have ever found its cultivation their most useful and delightful employment.

No department of agricultural science is more defective than the classification and nomenclature of soils. No system has been adopted by which the many varieties of soils can be so arranged and described that all can be readily identified. This state of the case is due, doubtless, to two principal causes:

The varieties of soil pass into each other by such minute gradations that it is well nigh impossible to point out any definite lines of sepa-

ration ; and besides, farmers have been so averse to the definite scientific terms, that writers on the subject have generally used the more indefinite common expressions in describing soils—often, too, in a sense entirely different from their common signification among farmers—thus creating great confusion in the nomenclature of soils.

In the popular nomenclature we have some very general names, which are very definite when considered in some of their relations, as *timbered lands* and *prairie lands*. These names distinctly mark the soils in the timber and those on the prairie, but do not indicate the quality of the soils any further than they are produced by those relations. To the same class of names belong *bottom lands* and *uplands*, sometimes called *bluff lands*. These terms, like those named above, point out an important natural division of our soils, though they have no reference to the fertility of those in either division.

Prairie Lands are well defined by nature, and distinct from timbered lands in respect to the vegetation they naturally produce. The latter produce trees and shrubs, and some grasses and other herbaceous plants ; and the former produce grasses and other herbaceous plants only. But each division contains soils of all grades of productiveness, from the very best to the poorest. And yet the timbered lands have one advantage over the prairie. If two soils be taken side by side, both based upon the same formation and both subject to the same influences during their formation, save one has produced trees and the other grasses, and the trees have decayed on the one and the grasses have been burned on the other, the former will have more decaying vegetable matter, and will be lighter, warmer, and more kindly in cultivation. But if both be put under the same culture, this difference will gradually disappear, as the vegetable matter will decrease in the one and increase in the other. This difference in these classes of soils, rendered the timbered lands much the more popular among the older settlers.

These *prairie lands* occupy nearly one-half of the entire area of the State, or about thirty thousand square miles. They possess all the varieties of soils found in the timber, and are identical with them, save in the differences above named.

The grasses are as diversified, and as distinctly mark the varieties of soil on the prairies, as do the trees in the timber. The resin-weed, crow-foot, and wild sorghum, indicate as good soils on the prairies as do the elm, hickory, and walnut, in the timber. But, as the trees are more conspicuous and better known, the varieties of soils are best known by the timber they produce.

These divisions of soils have other natural distinctions well marked by location, as *bottom timber* and *upland timber*. The former is in

the river bottoms and the latter in the highlands. So also we have *bottom prairie* and *upland prairie*.

These lands are still further divided so as to indicate the quality of the soil with a marked degree of certainty by their *natural productions*, their *chemical composition*, and by their *physical structure*.

The determination of the qualities of soils by the natural productions is best understood by our farmers; as all are well aware that the soil that produces hackberry and elm, is much better than the soil that produces black jack and black hickory; that the former will yield abundant crops, while the latter will produce none but a very inferior growth of the cereals.

In this division are those soils marked by the growth of particular trees and shrubs from which they derive their names.

Hackberry Lands possess the best upland soils in the State. The growth is hackberry, elm, wild cherry, honey locust, coffee tree, pig-nut hickory, chestnut and bur oak, black and white walnut, mulberry, linden, and papaw.

Analysis of Soil No. 1, from Hackberry Lands in Platte county.* "Soil No. 1 A" 8 inches below the surface, and "No. 1 B" 18 inches below the surface. Of 100 parts, dried at 100° C., it contains:

	Soil No. 1 A.	Soil No. 1 B.
Organic matter and water.....	5.6470	4.2936
Insoluble in acid, silica, etc.....	88.1600	84.2900
Chlorine.....	0.0075	0.0050
Sulphuric acid.....	0.0000	0.0300
Silica (soluble).....	0.3131	0.2940
Peroxide of iron.....	2.5135	4.6680
Alumina.....	2.5309	4.5968
Lime.....	0.6205	0.5153
Magnesia.....	0.5262	0.7875
Alkalies as chlorides.....	0.6670	0.6705
Phosphoric acid.....	1.1985	0.1817

This soil had been in cultivation several years.

The *crow-foot lands* of the prairie region have soils very similar in quality to the *hackberry lands*, and these two soils generally join each other where the timber and prairie lands meet.

Analysis of Soil No. 2, Crow-foot Land in Saline county. A, six inches below the surface. B, eighteen inches below the surface. This soil had been cultivated in hemp.

* The analyses in this Report were made by Dr. A. Litton, of Washington University.

	A.	B.
Chlorine.....	0.0091	0.0071
Soluble silica.....	0.3811	0.2798
Alumina.....	3.1774	3.8890
Peroxide of iron.....	2.5554	3.0067
Lime.....	0.4732	0.3293
Magnesia.....	0.4522	0.4454
Potassa.....	0.2950	0.3293
Soda.....	0.1305	0.0353
Carbonic acid.....	0.1370	0.727
Sulphuric acid.....	0.0287	0.0269
Phosphoric acid.....	0.2354	0.3424
Water 150° C.....	0.5693	05.787
Organic matter.....	6.1872	5.0633
Insoluble in acid.....	84.5890	85.2967

These soils abound in the western counties from Atchison to Cass, and eastward to Saline and Howard. They also cover small areas in other parts of the State.

It covers an area of 6,500,000 acres in the regions indicated.

The productive and durable qualities of this soil are surpassed by none in the country. It has sufficient sand for the water to drain off rapidly in wet weather, and enough of clay, lime, magnesia, and humus, to retain the moisture in the dry. It rests on a bed of fine silicious marls, which will render it perpetually fertile under deep tillage.

These productive powers are well illustrated in the gigantic forests and luxuriant grasses produced by it.

White oaks grow upon it 29 feet in circumference and 100 feet high; linden, 23 feet in circumference and 100 feet high; bur oak and sycamore grow still larger.

Herds of buffalo, elk, and deer, were entirely concealed from the hunter by the tall prairie grasses.

Hemp, tobacco, corn, and the cereals, grow upon it in great luxuriance; and no soil is better adapted to fruits of all kinds.

These 6,500,000 acres of the best land on the continent, are capable of feeding and sustaining 2,000,000 people. A population of 1,000,000 could live on these rich, broad acres in comfort and luxury.

Elm Lands are but little inferior to the hackberry. The name is derived from the American elm, which grows so large and abundant in the magnificent forests of these lands.

The principal growth is elm, hackberry, honey locust, black walnut, cherry, blue ash, black oak, redbud, and papaw.

This soil has about the same properties as the hackberry soils, save

that the sand is finer and the clay more abundant, owing to the finer nature of the marls from which it is derived.

Analysis of Soil No. 3, from elm lands in Marion county. "A" 6 inches below the surface, and "B" 18 inches below the surface.

	No. 3 A.	No. 3 B.
Chlorine.....	.0072	.0035
Sol. silica.....	.1445	.1769
Sulphuric acid.....	.0577	.0438
Phosphoric acid.....	.1023	.0944
Carbonic acid.....	1.0190	.1453
Peroxide of iron.....	2.5310	3.2920
Alumina.....	2.3931	3.6884
Lime.....	.5430	.2939
Magnesia.....	.4365	.5654
Alkalies as chlorides.....	.2696	.4281
Water at 150° C.....	1.0920
Organic matter.....	5.4500	4.3270
Insoluble in acid.....	87.0720	87.1889

This soil abounds, interspersed with hackberry lands, in the region above named; and in the east, it covers large areas in Marion, Monroe, Boone, Cooper, St. Louis, Green and many other counties.

The "*Resin-weed Lands*" of the prairie have about the same quality of soil.

Soil No. 4 is from the resin-weed land in Saline county.

Soil No. 4 A was from resin-weed land, six inches below the surface. Soil No. 4 B was from the same place, 18 inches below the surface. This soil had been cultivated in hemp.

	No. 4 A.	No. 4 B.
Chlorine.....	.0084	.0085
Sol. silica.....	.3080	.2432
Sulphuric acid.....	.0126	.0202
Phosphoric acid.....	.3309	.2155
Alumina.....	2.4205	4.1500
Peroxide of iron.....	2.3200	3.1810
Lime.....	.3688	.4558
Magnesia.....	.3006	.5283
Potassa.....	.3134	.3926
Soda.....	.1222	.0639
Insoluble in acid.....	86.8100	85.7260
Organic matter.....	5.5600	4.1751
Water at 150° C.....	.4300	.7629



It occupies an area of about 3,000,000 acres. Its heavy forests and luxuriant prairie grasses, and its chemical properties, clearly indicate its great fertility; and the marls upon which it is based fully assure its durability. A grape-vine growing on this soil was 22 inches in circumference and 180 feet long, and an elm 22 feet in circumference and 90 feet high. Hemp, tobacco, corn, wheat and other staple crops grow luxuriantly, and all kinds of fruits, adapted to the climate, do well.

Hickory Lands hold the grade next to the elm lands, and are characterized by a growth of white and shell-bark hickory, black, scarlet and laurel oaks, sugar maple, persimmon, dogwood, haws, redbud and crab-apple. In the southeast the tulip tree, beech, and black gum, grow on soils of about the same quality. This soil is more clayey, not so deep, and has a sub-soil more impervious, and the underlying marls have less sand and lime and more clay.

Soil No. 5, hickory land from Scotland county. No. 5 A, from 2 to 8 inches below the surface, and No. 5 B, from 18 to 20 inches below.

	No. 5 A.	No. 5 B.
Silica (soluble).....	.0830	.0818
Peroxide of iron.....	3.4596	4.0557
Alumina.....	4.9748	6.2499
Lime.....	.3884	.2208
Magnesia.....	.4543	.4735
Potassa.....	.6124	.4692
Soda.....	.3096	.2492
Chlorine.....	.0072	.0115
Sulphuric acid.....	.0302	.0182
Phosphoric acid.....	.1908	.1416
Water at 150° C.....	1.1407	1.0508
Organic matter.....	7.3316	5.2267
Insoluble in acid.....	81.3985	81.7739
	<hr/>	<hr/>
	100.3811	100.0229

Large areas of prairie in the northeast and southwest have soils of nearly the same quality, often called "mulatto soils" in some parts of the State. There is also a soil based upon the red clays of Southern Missouri of about the same quality.

Soil No. 6, from the farm of Col. M. G. Singleton, Grand Prairie, possessing about the same qualities as the hickory lands.

No. 6 A, 2 to 8 inches below the surface. No. 6 B, from 10 to 12 inches below; and 6 C, from 18 to 20 below the surface of the Virgin Prairie.

	No. 6 A.	No. 6 B.	No. 6 C.
Soluble silica.....	.1961	.1639	.1010
Peroxide of iron.....	2.9576	4.1244	2.8933
Alumina.....	4.6789	5.7829	3.9593
Lime.....	.3066	.2067	.2135
Magnesia.....	.3066	.4016	.4600
Potassa.....	.3264	.3925	.3443
Soda.....	.1401	.1662	.1684
Chlorine.....	.0093	.0061	.0082
Sulphuric acid.....	.0210	.0340	.0327
Phosphoric acid.....	.0680	.0301	trace.
Water at 150° C.....	.7525	1.0016	1.3248
Organic matter.....	7.2672	5.6284	7.2869
Insoluble in acid.....	83.6330	82.4517	82.7504
	<hr/>	<hr/>	<hr/>
	100.6627	100.4001	99.5428

It is a highly productive soil, which is greatly improved and rendered more durable by deep culture. Our farmers hold it in high estimation for the culture of corn, wheat and other cereals, and the grasses. Its blue-grass pastures are equal to if not superior to any in the State. Fruit is cultivated with marked success. The area is very great in the central and eastern counties north of the Missouri, and in many of those south—6,000,000 acres may be a fair estimate of the area.

White oak Lands occupy ridges where the lighter materials of the soil have been washed away. They sustain a growth of white and black oak, shell-bark and black hickory, dogwood, sassafras, red-bud and fragrant sumach.

Soil No. 7, from a white oak ridge in Boone county. No. 7 A, from 2 to 6 inches below the surface; No. 7 B, from 10 to 12, and No. 7 C, from 18 to 20 below the surface of the virgin soil.

	No. 12 A	No. 12 C.	No. 12 B
Water expelled by drying at 150° C.....	0.4105	0.8030	0.6558
Organic matter and water not expelled at 150° C...	3.0957	3.8901	2.6049
Silica, etc., insoluble in hydrochloric acid.....	90.1420	85.0571	90.8063
Soluble silica.....	0.1384	0.2187	0.1475
Alumina.....	3.0654	4.7672	2.9346
Peroxide of iron.....	2.0553	3.8814	2.0590
Oxide of manganese.....	a trace.	a trace.	a trace.
Lime.....	0.2086	0.4722	0.1242
Magnesia.....	0.3423	0.6581	0.2048
Potash.....	6.3368	0.3895	0.2121
Soda.....	0.1828	0.1220	0.2925
Phosphoric acid.....	0.0560	0.0556	0.0346
Sulphuric acid.....	0.0035	0.0099	0.0508
Chlorine.....	0.0000	0.0276	0.0000
	<hr/>	<hr/>	<hr/>
	100.0373	100.3524	100.1311

The surface soil is not so rich in humus as the last variety, but the sub-soil is quite as good, and the underlying marls not so clayey and impervious. In many places the sub-soil, as indicated by the above analysis, is better than the surface, and the land may be greatly improved by turning it to the surface. The white-oak ridges produce superior wheat, good corn, and the finest quality of tobacco. Grapes, peaches, and other fruit, yield abundant and sure crops. This soil occupies many of the ridges in the region north of the Missouri and east of the Chariton, and those south of the former river and west of the Osage, 1,500,000 acres may be a fair estimate.

Post Oak Lands occupy ridges generally on the south side of the Osage, and produce post and black oak, hickory, sassafras, dogwood and sumach. The growth is about the same as the white-oak ridges, substituting the post for white oak.

This soil is based upon a light-colored *marl*, with less lime and sand than is found in the marls underlying the white-oak ridges; but it produces good crops of the staples of the country, and has for several years yielded the best tobacco of the West. Fruits, of all varieties cultivated in our latitude, excel on this soil.

Deep culture with the sub-soil plow, leaving the sub-soil beneath, will render this land more productive and durable. The area covered by post-oak lands is very large, but not definitely known—probably 3,000,000 acres.

Black Jack Lands have few trees save black jack and black hickory; sometimes a few grapes and some sumach. They occupy the high flint ridges which are usually underlaid with hornstone and sandstone, and some strata of magnesian limestone. The sub-soil is usually a lifeless sandy clay, and the soil full of fragments of flint.

This is the poorest soil in the State, and will be of but little use save for pastures and fruits. It may be made profitable for orchards and vineyards. The cultivation of grapes on these flint ridges will be more expensive, but the juices may be rich enough to pay the extra expense. They will produce excellent wines, and become profitable grape lands when wines shall be more esteemed for their quality than their quantity. These lands occupy a large portion of the flint and sandstone ridges on the south of the Osage, perhaps 3,000,000 acres.

Pine Lands have a growth of pine, post, white and black oak, black hickory, dogwood and sassafras. They have an inferior, sandy soil, and occupy the plateaus, hills and ridges of Southern Missouri, which are underlaid by the sandstones of the magnesian limestone series.

The area of this soil is not fully determined; but it will not be

less than 2,000,000 acres. The soil is sandy and thin, and would be greatly benefited by clay and humus; but plaster and clover, or buckwheat, are the most available means of improvement.

Other soils are better determined by a consideration of both the trees they produce and the rocks from which they were derived. Of this class are the *magnesian limestone soils*, which are based upon and derived from the magnesian limestone or mineral-bearing series of Southern Missouri, and produce black and white walnut, black gum, white and whahoo elms, sugar maple, honey locust, rock chestnut, scarlet and laurel oaks, blue ash, white and shellbark hickory, buckeye, hazel, sumach and dogwood.

These lands occupy the slopes, hillsides and narrow valleys of the southern and southeastern part of the State, and the northern slopes of the Missouri east of Providence.

Soil No. 9, from a Magnesian Limestone slope in Callaway county:

Water expelled by heating to 150° C.....	1.1700
Organic matter and water not driven off at 150° C	9.6299
Silica, etc., insoluble in hydrochloric acid.....	54.2600
Soluble silica.....	0.1639
Alumina.....	10.8588
Peroxide of iron.....	2.5186
Manganese.....	a trace
Lime.....	8.0720
Magnesia.....	1.6609
Potassa.....	1.6378
Soda.....	0.3442
Carbonic acid.....	10.1111
Sulphuric acid.....	0.0605
Phosphoric acid.....	0.0950
Chlorine.....	0.0053
	<hr/>
	100.5880

The soil is dark, light, and warm, rich in lime, magnesia and humus. It is very productive and durable. The region occupied by it is often so broken as to be inconvenient for ordinary culture in farm crops. It is, however, well adapted to fruit. It covers an area of 10,000,000 acres.

This large area, extending from the Missouri river to Arkansas, and from Marshfield to Cape Girardeau, is a table-land varying in elevation from 300 to 1,500 feet. It is cut by deep winding valleys in the south and north, and broken into knobs and ridges towards the east. Large, bold springs of pure, cool waters, gush from every hill-side, and fill the valleys with limpid streams. Magnificent forests abound, and wild grapes everywhere mingle their purple clusters with the foliage of the elm and the oak, the mulberry and the buckeye.

The climate is delightful. The winters are short and mild, the summers long and temperate. Its skies vie with those of Italy, and its fountains and streams, valleys and mountains, equal their favored prototypes in classic Greece.

No soil can surpass this for the grape, and the mild winters and long summers, favored by the warm dry winds of the southwest, are most favorable for maturing their rich juices.

Such are the soils on the uplands of Missouri. The bottom lands are not less important and interesting. They present the following varieties. The whole is divided into *Bottom Prairie* and *Bottom Timber*:

Bottom Prairie has a light, rich, deep, dark and productive soil, clothed with luxuriant native grasses, among which a species of sorghum is conspicuous. Before these savannas were pastured, the grasses grew to a height varying from five to ten feet.

Soil No. 10, Virgin Bottom Prairie, from General Sterling Price's farm in Bowling Green Prairie, Chariton county:

No. 10 A, 2 to 6 inches below surface; No. 10 B, from 10 to 12; No. 10 C, from 18 to 20, and No. 10 D, from 30 to 36 inches below the surface.

	No. 10 A.	No. 10 B.	No. 10 C.	No. 10 D.
Soluble silica.....	.2012	.1792	.2152	.1144
Alumina.....	3.2074	3.5016	3.4468	3.0391
Peroxide of iron...	2.0442	1.9716	2.0467	2.0603
Lime.....	.5484	.4754	.4213	.4514
Magnesia.....	.4921	.2000	.2103	.2786
Potassa.....	.3138	.4766	.4185	.2665
Soda.....	.2042	.1588	.0831	.1736
Sulphuric acid.....	.0726	.0764	.0774	.0615
Phosphoric acid....	.3874	.2716	.2018	.2142
Chlorine.....	.0068	.0082	.0057	.0102
Water at 150° C....	.7077	.9658	.9254	.5081
Organic matter....	4.4185	3.6491	2.2021	2.1781
Insoluble in acid...	87.3756	87.9796	89.3720	90.8520
	99.8799	99.9139		100.2280

As this analysis indicates, the soil of the bottom prairie is rich in all the elements of fertility. They are deep and light, and but slightly affected by excessive wet or drought. Hemp, tobacco, and all the staple crops, grow on it with great luxuriance.

The bottom prairie covers a large portion of the Missouri bottoms above Glasgow, and some considerable areas in St. Charles, Marion, and the southeastern counties on the Mississippi. Some of these prairies on the Missouri are twenty and thirty miles long, and from two

to ten miles wide—as the broad Wyaconda and Huppan Cuty. The area of these lands are constantly decreasing by the action of the river and the encroachments of the forests; but there still remains about 1,000,000 acres of these rich and beautiful natural meadows.

The *Bottom Timber* has several natural divisions, well recognized by the people of the country, and designated as “*high bottom*,” “*low bottom*,” “*wet bottom*,” or “*swamp*,” and “*cypress*.”

High bottoms have a deep, porous, and rich sandy soil, which produces a gigantic growth of elm, sugar maple, white ash, cherry, locust, linden, sweet gum, buckeye, bur, red Spanish, swamp and scarlet oaks, thick shell-bark hickory, hackberry, pecan, black walnut, plum, and mulberry. Grape-vines, trumpet and Virginia creepers, poison oak, wistaria, and staff-tree, climb the highest trees, and mingle their scarlet and purple flowers and fruits with their highest foliage.

The fertility of this soil is well attested by its chemical properties and the large trees grown upon it. The following, among other samples, were measured in 1857:—

Sycamore.....	43	feet in circumference,	65	feet high.
Catalpa.....	10	“	“	90 feet high.
Cypress.....	29	“	“	130 feet high.
Cottonwood.....	30	“	“	125 feet high.
Black Walnut....	22	“	“	110 feet high.
Spanish Oak.....	26	“	“	90 feet high.

Soil No. 11, from a corn-field in the high bottom opposite the mouth of the Ohio river, in Mississippi county. It had been cultivated several years:

Soluble silica.....	.1331
Peroxide of iron.....	2.3385
Alumina.....	3.2864
Lime.....	1.3897
Magnesia.....	.9708
Potassa.....	.4372
Soda.....	.1679
Sulphuric acid.....	.3002
Phosphoric acid.....	trace
Water at 150° C.....	.4554
Organic matter.....	6.2199
Insoluble in acid.....	84.7782

100.5586

This soil covers all the bottoms of our rivers which are above the usual high waters,—about 3,000,000 acres. It is very productive, and so deep and porous that the crops are but little affected by dry and wet

seasons. Hemp, corn, tobacco, and other cereals, are produced in rich abundance.

Low bottoms have a soil similar to the high bottoms, but they are so low as to be covered by water at ordinary overflow. Sycamore, cottonwood, white maple, box-elder, red birch, buckeye, hackberry, willow, river and frost, grapes and poison ivy, are the most common productions. They grow to vast proportions.

The overflows render these lands nearly useless for farming purposes; but when the floods are kept out by levees, they are most productive and valuable. There are large areas of these lands in Southeast Missouri—in the State nearly 2,000,000 acres.

Swamp or *wet bottom* are terms usually applied to a variety of bottom lands very similar to the two preceding, but differ in being so located as to be saturated with or nearly covered by water. This excess of water renders them useless for ordinary culture. They sustain a heavy growth of pin, swamp and red oaks; holly, spice bush, white and black ash, red birch, box-elder, button-bush, sycamore, cottonwood, whahoo elm, sweet gum, water locust, white and red maple, poison oak, frost and river grapes.

Cypress. This name is given to low bottoms which are covered with standing water for a large part of the year. The decomposition of vegetable matter in these waters adds a new deposit of vegetable mould annually to their rich soil, which sustains a very heavy growth of cypress, tupelo, sour gum, water locust, white and red maple, pin and Spanish oaks.

These cypresses are numerous and very extensive in Southeast Missouri. Buffalo cypress and honey cypress are good samples. The central and wettest portions of them usually have deposits of bog ore. These soils are useless for ordinary farming purposes; but their timber is unique, abundant, and most valuable.

The area of swamp and cypress lands will reach 1,000,000 acres.

Such are the soils of Missouri, as they are recognized by the people of the State from their natural productions.

The area attributed to each has been determined with tolerable accuracy by observations extended over nearly every county of the State for a period of twenty years.

(No. II.)

L A W S

RELATING TO CONGRESSIONAL GRANT.

CONGRESSIONAL ACT OF ENDOWMENT.

This Act was approved by the President on the second of July, 1862, and is entitled "An Act donating public lands to the several States and Territories which may provide colleges for the benefit of agriculture and the mechanic arts." It forms chapter CXXX of the Laws of the United States (1862). The text complete is here subjoined:

THE ACT OF ENDOWMENT.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled:

That there be granted to the several States, for the purposes hereinafter mentioned, an amount of public land, to be apportioned to each State a quantity equal to thirty thousand acres for each Senator and Representative in Congress to which the States are respectively entitled by the apportionment under the census of eighteen hundred and sixty: *Provided*, That no mineral lands shall be selected or purchased under the provisions of this act.

SEC. 2. *And be it further enacted*, That the land aforesaid, after being surveyed, shall be apportioned to the several States in sections or subdivisions of sections not less than one-quarter of a section; and whenever there are public lands in a State subject to sale at private entry at one dollar and twenty-five cents per acre, the quantity to which said State shall be entitled shall be selected from such lands within the limit of such State, and the Secretary of the Interior is hereby directed to issue to each of the States in which there is not the quantity of public lands subject to sale at private entry at one dollar and twenty-five cents per acre to which said State may be entitled under the provisions of this act, land scrip to the amount in acres for the deficiency of its distributive share; said scrip to be sold by said States, and the proceeds thereof applied to the uses and purposes prescribed in this act, and for no other use or purpose whatsoever: *Provided*, That in no case shall any State to which land scrip may thus be issued be allowed to locate the same within the limits of any other State, or of any Territory of the United States, but their assignees may thus locate said land scrip upon any of the unappropriated lands of the

United States subject to the sale at private entry at one dollar and twenty-five cents or less per acre: *And provided further*, That not more than one million acres shall be located by such assignees in any one of the States: *And provided further*, That no such location shall be made before one year from the passage of this act.

SEC. 3. *And be it further enacted*, That all the expenses of management, superintendence, and taxes from date of selection of said lands, previous to their sales, and all expenses incurred in the management and disbursement of the moneys which may be received therefrom, shall be paid by the States to which they may belong, out of the treasury of said States, so that the entire proceeds of the sale of said lands shall be applied without any diminution whatever to the purposes hereinafter mentioned.

SEC. 4. *And be it further enacted*, That all moneys derived from the sale of the lands aforesaid by the States to which the lands are apportioned, and from the sales of land scrip hereinafter provided for, shall be invested in stocks of the United States, or of the States, or some other safe stocks, yielding not less than five per centum upon the par value of said stocks; and that the moneys so invested shall constitute a perpetual fund, the capital of which shall remain forever undiminished (except so far as may be provided in section fifth of this act), and the interest of which shall be inviolably appropriated, by each State which may take and claim the benefit of this act, to the endowment, support, and maintenance of at least one college where the leading object shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts, in such manner as the Legislatures of the States may respectively prescribe, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions in life.

SEC. 5. *And be it further enacted*, That the grant of land and land scrip hereby authorized shall be made on the following conditions, to which, as well as to the provisions hereinbefore contained, the previous assent of the several States shall be signified by legislative acts:

First. If any portion of the fund invested, as provided by the foregoing section, or any portion of the interest thereon, shall, by any action or contingency, be diminished or lost, it shall be replaced by the State to which it belongs, so that the capital of the fund shall remain forever undiminished; and the annual interest shall be regularly applied, without diminution, to the purposes mentioned in the fourth section of this act, except that a sum, not exceeding ten per centum upon the amount received by any State, under the provisions of this act, may be expended for the purchase of lands for sites or experimental farms, whenever authorized by the respective Legislatures of said States.

Second. No portion of said fund, nor the interest thereon, shall be applied, directly or indirectly, under any pretense whatever, to the purchase, erection, preservation or repair of any building or buildings.

Third. Any State which may take and claim the benefit of the provisions of this act shall provide, within five years, at least not less than one college, as described in the fourth section of this act, or the grant to such State shall cease; and said State shall be bound to pay the United States the amount received of any lands previously sold, and that the title to purchasers under the State shall be valid.

Fourth. An annual report shall be made regarding the progress of each college, recording any improvements and experiments made, with their cost

and results, and such other matters, including State industrial and economical statistics, as may be supposed useful; one copy of which shall be transmitted by mail free, by each, to all other Colleges which may be endowed under the provisions of this act, and also one copy to the Secretary of the Interior.

Fifth. When lands shall be selected from those which have been raised to double the minimum price in consequence of railroad grants, they shall be computed to the State at the maximum price, and the number of acres proportionally diminished.

Sixth. No State while in a condition of rebellion or insurrection against the Government of the United States shall be entitled to the benefit of this act.

Seventh. No State shall be entitled to the benefits of this act unless it shall express its acceptance thereof by its Legislature within two years from the date of its approval by the President.

SEC. 6. *And be it further enacted,* That land scrip issued under the provisions of this act shall not be subject to location until after the first day of January, one thousand eight hundred and sixty-three.

SEC. 7. *And be it further enacted,* That the land officers shall receive the same fees for locating land scrip issued under the provisions of this act as is now allowed for the location of military bounty land warrants under existing laws; *provided,* their maximum compensation shall not be thereby increased.

SEC. 8. *And be it further enacted,* That the Governors of the several States to which scrip shall be issued under this act shall be required to report, annually, to Congress, all sales made of such scrip until the whole shall be disposed of, the amount received for the same, and what appropriation has been made of the proceeds.

A subsequent act, approved on the twenty-third of July, 1866, extended the time within which the agricultural and industrial colleges must be established, by another period of five years.

LEGISLATIVE ACT OF LOCATION.

AN ACT to locate and dispose of the Congressional Land grant of July 2, 1862, to endow, support and maintain a School of Agriculture and the Mechanic Arts, and a School of Mines and Metallurgy, and to promote the liberal education of the industrial classes in the several pursuits and professions of life.

WHEREAS, The agriculturists and miners of the State of Missouri have, for many years, demanded the means of agricultural education; *and whereas,* in accordance with their wishes in various ways expressed, it has been provided in the Constitution of the State of Missouri, "that the General Assembly shall establish and maintain a State University, with departments of instruction in teaching in Agriculture and in Natural Science, as soon as the public school fund will permit; *and whereas,* the grant of Congress for the benefit of agriculture and the Mechanic Arts affords a public school fund for said object: Now, therefore, to the end that the above provision of the Constitution shall be carried out,

Be it enacted by the General Assembly of the State of Missouri, as follows :

SECTION 1. There is hereby established the Agricultural and Mechanical College and a School of Mines and Metallurgy, provided for by the grant of the Congress of the United States, as a distinct department of the University of the State of Missouri.

SEC. 2. "The leading objects of said colleges shall be to teach such branches as are related to Agriculture and the Mechanic Arts and Mining, including Military Tactics, and, without excluding other scientific and classical studies, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life."

SEC. 3. To effect the said leading objects of the colleges as herein established, it is provided that the students and members thereof shall be admitted to the libraries, museums, models, cabinets and apparatus, and to all lectures, and instructions of the University which now exist, or may hereafter exist, and to all other rights and privileges thereof, in a manner as full and ample as are the students of any other department in said University; and to provide for instruction in military tactics as herein required, it is enacted that in case a system of military education shall be established by Congress, the State University is hereby required by law to make the necessary provision for carrying out the plan so established in connection with the institution; and, furthermore, there is hereby created and established a perpetual fund, to be styled the "Agricultural and Mechanical Fund," to be derived from the sale or lease of the three hundred and thirty thousand acres of land granted by Congress to the State of Missouri, by virtue of an act approved July 2, 1862, entitled "An Act donating to the several States and Territories which may provide colleges for the benefit of Agriculture and the Mechanic Arts," and from all additions to the same, from public or private bounty, the principal of which fund shall remain forever inviolate and undiminished, to be invested in the manner hereinafter specified, and the income thereof shall be placed at the disposal of the Board of Curators of the University of the State—three-fourths of which income shall be for the support of the Agricultural and Mechanical College aforesaid, and the remaining one-fourth for the support of the School of Mines and Metallurgy hereinafter provided for, in accordance with the provisions of this act, and of the act of Congress aforesaid.

SEC. 4. The Agricultural and Mechanical College and the School of Mining and Metallurgy herein provided for, shall have, each, a separate and distinct faculty, whose officers and professors may be the same, in whole or in part, as the officers and professors in other colleges and departments in the University.

SEC. 5. The Agricultural and Mechanical College and the School of Mining and Metallurgy shall have power to confer degrees suitable to their designs and courses of studies.

SEC. 6. The number of Curators of the University of the State shall hereafter be twenty-two, of whom, as near as may be, two shall be appointed from each Congressional district, and four from the county of Boone; and after the School of Mines and Metallurgy shall be located as hereinafter designated, then the two Curators selected from the Congressional district in which said school shall be located, shall be chosen from the residents of the county in which said school is situated; *provided, however,* that in the selection of Curators, one-third thereof shall be chosen from the State Board of Agriculture.

SEC. 7. Hereafter, as vacancies occur in the board, or as they may now exist, they shall be filled by appointment by the Governor, and to the number of one-

third of the board they shall be chosen from the Board of Agriculture; hereafter all appointments of Curators shall be made by the Governor, by and with the advice and consent of the Senate; *provided*, that where vacancies exist, appointments made to fill the same shall continue in force until the next meeting of the Senate, and until their successors are duly confirmed.

SEC. 8. That, in consideration of the permanent location of the Agricultural and Mechanical College in connection with the State University, the County of Boone shall donate not less than thirty thousand dollars in cash, to be used in erecting such buildings and making such improvements as may be needed for such college, and also for buying stock for, and making improvements on, a Model or Experimental Farm of not less than six hundred and forty acres of land, located convenient to the present University grounds, and to be donated by said County of Boone in addition to said sum of thirty thousand dollars in cash. The title of said land to be clear and indisputable, to be bought without any charge whatever to the State, or to the Agricultural College fund, and to be conveyed to the State of Missouri by deed of general warranty, the consideration expressed therein being the location of said Agricultural and Mechanical College in connection with the State University, and that the same shall be held for the uses and purposes of said Agricultural and Mechanical College.

SEC. 9. In order to raise the amount of money, and to purchase the quantity of land specified in the last section, voluntary individual subscription may be made and received, and the form of the subscription shall be thus: "We the undersigned agree and bind ourselves to pay to the Curators of the University of the State of Missouri the sums respectively set opposite to our names, whenever the same may be demanded, and upon the condition that the Agricultural and Mechanical College is located, in connection with the State University, at Columbia"; and the corporate authorities of the town of Columbia, and the county court of Boone county, are hereby authorized and empowered respectively, to issue bonds of the corporation of the town of Columbia, and of the county of Boone, in such sums as they may agree upon, to run not longer than twenty years, and bearing interest at a rate not exceeding ten per cent. per annum, payable semi-annually, which bonds shall be properly executed and delivered to the Curators of the University of the State of Missouri, to be by them sold and converted into cash, to be used in the erection of the necessary buildings, buying stock and making improvements, as set forth in section eight of this act, and in purchase of the six hundred and forty acres of land required to be donated by this act; and said corporation of the town of Columbia and the county court of Boone county shall have power to levy such tax under the Constitution and laws of this State as may be needed to meet, according to the terms of the bonds, the payment regularly of the interest thereon, and the principal when due.

SEC. 10. The members of the Board of Curators residing in Boone county are hereby fully authorized to receive the subscriptions and to purchase the lands referred to in the foregoing sections, and to pay for the same, either in cash or bonds, as may be agreed upon; and when the sum required shall be subscribed, the bonds issued, and land purchased and deeded to the State, as contemplated by this act, the Attorney General of the State, the State Superintendent of Public Schools, in connection with Philemon Bliss, Edward Wyman, J. W. Mathias, R. L. Todd and P. Hubbard, members of the Board of Curators, shall act as commissioners to see that the conditions herein contained have been fully complied with, and being satisfied thereof, a majority of them shall

make out and sign a certificate, stating the facts, which certificate shall be filed in the office of the Secretary of State, and a duplicate copy thereof filed with the Treasurer of the Board of Curators, and thereupon the said Agricultural and Mechanical College shall be fixed and permanently located in connection with the University of the State.

SEC. 11. The terms of this act, so far as the conditions required to be complied with, to fix the location of said college in connection with the State University, to be met and complied with on or before the second Monday of May, 1870, otherwise this act shall be null and void.

SEC. 12. The School of Mines and Metallurgy herein provided for shall be located in the mineral district of Southeast Missouri, but in consideration thereof any county having mines therein, within such district, shall donate to the Board of Curators, for building and other purposes of said school, not less than twenty thousand dollars in cash, not less than twenty acres of land on which to erect buildings for the use of said school, and lots of mineral land in such quantity, quality and kind as may be deemed necessary for said school for practical and experimental mining. The title of said land to be clear and indisputable, to be bought without any charge whatever to the State, or to said Agricultural College Fund, and to be conveyed to the State of Missouri by general warranty deed, for the use and purpose of said School of Mines and Metallurgy; and further, the said school shall be located in that county, by a committee of the Board of Curators selected for such purpose, which shall so give the greatest available amount of money and land; *provided, however*, that if no one of such counties shall, within three years from the passage of this Act, comply with the foregoing provisions and conditions, then any or all of such counties may combine for the purpose of complying therewith, and in such case the said school shall be located in the manner aforesaid, within the county of the number so complying with the said conditions in which the greatest variety of ores may then be known to exist, and which has also the other advantages and facilities for the successful working of such school; *provided, also*, that if said conditions are not accepted by such counties within seven years from the passage of this act, the said part of the fund set apart for said school shall be applied to the maintenance and support of a chair of Mining and Metallurgy in the State University at Columbia.

SEC. 13. In order to raise the amount of money and to purchase the quantity of land specified in the last section, voluntary individual subscription may be made to and received by the Board of Curators; and the corporate authorities of any city or town, and the county courts of any county in the district mentioned in the foregoing section, are hereby authorized and empowered, respectively, to issue bonds of such city, town or county, in such sums as they may agree upon, to run not longer than twenty years, and bearing interest not exceeding ten per cent. per annum, payable semi-annually, which bonds shall be delivered to the Board of Curators, to be by them sold and converted into cash, to be used in the erection of the necessary buildings, buying stock and making improvements, as set forth in section twelve of this act, and of the land required to be donated therein; and any such city, town or county shall have power to levy such tax under the Constitution and laws of this State as may be needed to meet, according to the terms of the Board, the payment regularly of the interest and principal when due.

SEC. 14. At the close of each University year, the Board of Curators shall make a report, in detail, to the Governor, exhibiting the progress, condition and

wants of the several colleges or departments of instruction in the University, the course of study in each, and the number and names of the officers and students, the amount of receipts and disbursements, together with the nature, costs and results of all important experiments and investigations, and such other matters, including State, industrial and economical statistics, as may be thought useful. The Governor shall cause the same to be printed for the use of the General Assembly and people of the State, and shall cause one copy of the same to be transmitted by mail, free of expense, to all the Colleges which may be endowed under the provisions of the Act of Congress approved July 2, 1862, hereinbefore referred to, and also one copy to the Secretary of the Interior, and one copy to the Commissioner of Agriculture at Washington City.

SEC. 15. Inasmuch as all trust funds committed to the management of the State are to be deemed a sacred deposit, and to be vigilantly guarded from perversion, waste, or wrongful use, it is provided that a Board of Visitors, to consist of five persons, three at least of whom shall be citizens eminent in the agricultural and mechanic arts, and not less than two graduates of the University, shall be appointed by the Governor. It shall be the duty of the visitors to make personal examination into the condition of the University, in all its departments, once at least each year, and report to the Governor, suggesting such improvements and recommendations as they may consider important, which report shall be published with the annual report of the Curators; the visitors shall receive no per diem, but they, together with the Curators, shall have their actual expenses paid, and, upon the certificate of the Secretary of the Board of Curators, the Auditor shall draw his warrant on the Treasurer of the State, who shall pay the same out of any money in the treasury not otherwise appropriated.

SEC. 16. The Curators of the University are authorized and empowered to appoint a Commissioner, and fix his compensation, whose duty it shall be to take charge of all of said agricultural land, and who, before entering upon the discharge of his duties, shall take an oath faithfully to demean himself in office, and shall be required to give bond in such sum as the Board of Curators shall direct, with two or more sufficient securities, for the faithful performance of his duties as such commissioner, which bond shall be made payable to the State of Missouri, and be signed in duplicate by the said commissioner and his securities, to be approved by the Board of Curators, one copy of which shall be filed in the office of the Secretary of the Board of Curators, and the other copy in the office of the Secretary of State.

SEC. 17. Said commissioner shall keep his office in the city of St. Louis, and shall cause to be procured and kept in his office, complete lists of all the lands selected in this State under the act of Congress approved July 2, 1862, entitled "An act donating lands to the several States and Territories which may provide colleges for the benefit of agriculture and the mechanic arts," described by their proper subdivisions of parts of sections, sections, townships, and ranges, together with maps and plats such as are kept in United States land offices, all to be kept in strongly bound books, which shall be labeled "Agricultural College Lands." Duplicate copies of such lists of lands, maps and plats shall also be furnished by the commissioner, and in similar books, to the Secretary of the Board of Curators of the State University, which shall also be labeled in the same manner, and safely kept in his office.

SEC. 18. Said commissioner is hereby authorized to lease any of said land, for the term of ten years, in quantities not exceeding three hundred and twenty acres to any one person, the lessee to pay eight per cent. interest per annum, in

advance, on the price agreed upon, and which shall not be less than one dollar and twenty-five cents per acre for lands outside of the railroad belt, and two dollars and fifty cents per acre for lands contiguous to railroads, and where, in the selection of said lands, one acre was taken for two, and the Board of Curators shall cause the said lands to be examined, classified and appraised before the same are offered for lease; and the said board shall, after the said examination, appraisal and classification of the said lands, fix the price at which each tract shall be leased, and also fix the rates of advance thereon, at which the lessee may, at the expiration of his term of lease, purchase the same, as hereinafter provided; and should the said commissioner authorized to appraise said lands discover that a sufficient number of acres has not been selected and located by the commissioners heretofore created by an act of the General Assembly of the State of Missouri, approved March 19, 1866, he shall forthwith proceed to select a sufficient number of acres from the vacant lands of the United States within this State, so as to secure the full amount of three hundred and thirty thousand acres granted to this State by the Government of the United States, taking as heretofore one acre for two when they are selected within the railroad belt, and shall, in like manner and with full effect as the aforesaid commissioners, have the same set apart and withdrawn from entry on the books of the land offices of the United States, and shall [receive] the same per diem allowance for said service as was allowed to commissioners who selected said lands, and be paid in the same manner.

SEC. 19. The lessee of any tract of land shall have the privilege of purchasing the same for cash, at or before the expiration of said lease, at the price specified in the lease; and the lessee failing to pay the interest on any such lease within sixty days from the time the same is made due and payable, shall forfeit his lease, with all interest previously paid and the improvements made thereon, and said commissioner shall be authorized to enter upon and take possession of said land, and release the same.

SEC. 20. Whenever any of said agricultural lands shall have been leased under the provisions of this act, they shall be subject to taxation as other lands, the taxes to be paid by the lessees.

SEC. 21. Said commissioner shall be required to make quarterly reports to the Secretary of the Board of Curators, which report shall specify by the proper subdivisions the quantity of lands leased, to whom leased, and upon what terms, and thereupon the Secretary of the Board of Curators shall insert upon the records required to be kept in his office, the disposition of the land thus leased.

SEC. 22. Said commissioner shall also make out a quarterly statement of his account to the Treasurer of the Board of Curators, in which he shall specify the amount of money collected on lands leased and sold by him in each and every quarter, and which sums of money, at the end of each quarter, he shall pay over to the Treasurer of the Board of Curators, and from whom he shall take duplicate receipts, one of which shall be filed in his office, and the other in the office of the Secretary of the Board of Curators, and the Secretary shall charge the Treasurer of the Board with all moneys thus received by him.

SEC. 23. Under the direction of the Board of Curators, the Treasurer shall invest the principal for which any of said land may be sold, in such United States, or other securities allowed by law, as will be safe and yield a certain and permanent income for the support of said Agricultural and Mechanical College, and the School of Mines and Metallurgy, and all interest received on lease of

land, or on any bonds or securities named in this act, to be expended under the direction of the Board of Curators for the support and maintenance of said Agricultural and Mechanical College, in conformity with this act and with the act of Congress aforesaid granting said land to this State.

SEC. 24. In any case where any of said lands may be sold, and a deed to the same is required to be made, the same shall be executed by the President of the Board of Curators, required by him with the seal of the corporation attached thereto, and attested by the Secretary of the Board.

SEC. 25. Any person who has heretofore or who may hereafter settle upon any of the agricultural lands mentioned in this act, shall be entitled to three hundred and twenty acres of land or less, as he may choose, in preference to any other person; provided such settler shall pay for such land at its appraised value, according to the provisions of this act.

SEC. 26. All bonds for moneys invested under this act shall be deposited for safe keeping with the Treasurer of the Board of Curators, who shall be responsible, upon his official bond, for the safety of said bonds and all other funds in his hands, and the Board of Curators are fully authorized to require said Treasurer to give bond at any time, with two or more securities, to be approved by the board, in double the amount of any sum likely to come into his hands.

SEC. 27. The Agricultural and Mechanical College, and the lands, stock, apparatus and furniture, and all other property belonging to the same, shall be exempt from State and county taxation.

SEC. 28. All acts and parts of acts, so far as the same may conflict with this act, are hereby repealed.

This act to take effect and be in force from and after its passage.

The following Act is amendatory of the preceding one :

AN ACT to amend an act entitled "An act to locate and dispose of the Congressional Land Grant of July 2d, 1862, to endow, support and maintain Schools of Agriculture and the Mechanic Arts, and a School of Mines and Metallurgy, and to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life," approved February 24th, 1870.

SECTION.

1. Powers of commissioner to lease out lands; appointment and duties of appraisers.
2. Agricultural lands exempted from taxation.
3. Rights and privileges of settlers.
4. Proceedings against trespassers on such lands.

SECTION.

5. Disposition of bonds and land grant for school of mines.
6. Allowance of accounts of former assistant appraisers.
7. Act to take effect, when.

Be it enacted by the General Assembly of the State of Missouri, as follows :

SECTION 1. Section 19 of the aforesaid act is amended so as to read as follows: Section 19. Said commissioner is hereby authorized to lease any of said lands for the term of ten years at any time during the year 1871, and for the term of nine years at any time during the year 1872, and so on annually diminishing the term of lease in such manner that all leases may terminate by the end of the year 1881; and in all new leases of land whose lease shall have been forfeited the same rule shall be observed, and the quantity in any one lease shall not exceed three hundred and twenty acres; the lessee to pay interest

upon the price named in the lease, in lieu of rent, at the rate of eight per cent. per annum, to be paid annually in advance, with annual interest upon any interest that shall be unpaid; and said price shall not be less than one dollar and twenty five cents per acre for lands outside of the railroad belt of lands, and not less than two dollars and fifty cents per acre contiguous to railroads where one acre was taken for two; or instead of making a lease as aforesaid, the commissioner may sell any of said lands for cash in hand without regard to to quantity at the price fixed by the Board of Curators. And the Board of Curators shall cause the lands to be examined, classified and appraised by two or more competent agents by them appointed, before the same are offered for lease or sale, and shall thereafter, either by direct action of the board or by a committee of its members, fix the price at the interest of which said land may be leased, or at which it may be sold; and the said board may at any time change said price, or it may withhold or withdraw from sale or lease any specific tract or parcel of land, or may designate what tract or parcel shall be sold only for cash in hand, or may attach contiguous subdivisions of lands not to exceed a quarter section that are not to be separated in their lease or sale. Should it be discovered that the number of acres to which the State is entitled by the act of Congress has not been selected, located and confirmed, the said agents shall forthwith select the additional number from the vacant lands of the United States within the State so as to secure the full amount of 330,000 acres granted by the United States, taking as heretofore one acre for two when selected within the railroad belt, and shall in like manner and with full effect as the commissioners created by the act of the General Assembly of Missouri, approved March 19th, 1866, have the same set apart and withdrawn from entry on the books of the United States Land Office; and said agents shall receive the same compensation for said services, and for any and all other services performed in appraising said lands, and for any other services under this act, as was allowed the commissioners who selected the lands under said act of March 19th, 1866, and they shall be paid in the same manner, and they shall also receive for their expenses a sum not to exceed two dollars and fifty cents per day for each person.

SEC. 2. Section 20 of said act is amended so as to read as follows: Section 20. Whenever any of said agricultural college lands shall have been leased under the provisions of this act, and the act to which this is an amendment, they shall be exempt from taxation for State or county purposes during the period of said lease.

SEC. 3. Section 25 of said act is amended as to read as follows: Section 25. Any person who has heretofore made, or may hereafter make, actual settlement upon the agricultural college lands, shall be entitled to lease or purchase three hundred and twenty acres or less, as he may choose, lying contiguous and including his improvement, in preference to any other person, his right being subject to the power of the board in regard to withholding or withdrawing from sale, of designating what may be sold for cash only, or what shall be attached for sale to adjacent subdivisions; *and, provided,* such settler shall comply with the law and with the rules that may be adopted by the board or commissioner in relation to lease or purchase, the same as is and shall be required by others; *and further provided,* that at or before a day to be specified in a notice to be published by the commissioner, which notice shall be published for four consecutive weeks in some newspaper published in the county in which the lands lie, or, if none be there published, in a newspaper as near as

may be to said county, the last insertion to be thirty days before the day named, such settler shall proceed to make proof of his claim in compliance with the rules aforesaid, or he shall forfeit all preference, and the lands shall be subject to lease or sale as other lands; and the commissioner for the sale of the lands shall have authority to hear and determine the conflicting pre-emption rights of any who may claim a right to preempt the same land, and he shall be entitled to such compensation for his services as shall be or shall have been provided by the Board of Curators; *and it is further provided*, that the actual settlement referred to must be made prior to the first publication of the commissioner herein referred to.

SEC. 4. It shall be the duty of the circuit court of the proper counties to give specially in charge to the grand juries of the counties in which are situated any of the agricultural college lands, or any of the lands donated to the State for the use of the mining school, the provisions of section 56 of chapter 201 of the General Statutes, with special reference to the destruction of timber upon such lands; and it shall be the duty of circuit attorneys and county attorneys to proceed before justices of the peace against any person violating the provisions of said section in regard to said lands, and procure their recognizance according to law, to answer in the proper court; and inasmuch as Congress has made it the express duty of the State to be at all the expense of administering the trust in regard to such lands, the costs of trial in the circuit court shall, upon conviction, and so far as they are properly chargeable [to] and cannot be collected of the accused, be paid out of the State treasury, and the president of the Board of Curators, or the commissioner for the sale of lands under his direction, shall have authority to institute civil suits in the name of the State for the use of the Curators of the University to recover damages for any trespass upon any of such lands; and those who may take lease for any such lands shall have no authority to cut or carry away more timber than is necessary for the proper improvement of the premises, or for fuel on the same, and any one so doing shall be held to have forfeited his lease, and he shall forthwith, upon notice, surrender possession, that the premises may be sold or leased to other persons.

SEC. 5. Instead of selling the bonds issued by the County of Phelps and delivered to the Board of Curators under the provision of section 13, of the act of which this is an amendment, the said board shall have authority, at its discretion, to borrow money and hypothecate the same for the purposes for which they were issued; and if the board shall be able to redeem said bonds by the sale of lands, as herein provided or otherwise, they may, if in the judgment of the board the interest of said mining school shall require it, be held as an endowment in part for the support of said mining school. And further, all the lands subscribed and conveyed to the State of Missouri in order to secure the location of the school of mines in the county of Phelps, are hereby accepted by the State for the purposes of the grant, and the said Board of Curators are authorized, according to such rules and regulations as it may adopt, to sell all or any portion of the lands so conveyed, other than those conveyed for the uses and purposes of building sites, and for the purposes of practical and experimental mining; and upon making such sales, the title of the State and the interest of the Curators of the University shall be conveyed by deed in the name of the State, executed by the Curators of the University of the State of Missouri by the signature of the president of the board, and affixing its corporate seal; and the proceeds of such sale may be applied to the redemption of bonds hypothecated as aforesaid, or to the erection of the necessary buildings and making other im-

provements, to the purchasing of apparatus and library, or any other legitimate objects pertaining to such a school.

SEC. 6. The Board of Curators of the University having heretofore appointed, under the act of February 24, 1870, James Harris and L. D. Morse, to select and appraise agricultural lands under said act, and they having proceeded to render services and incur expenses, and the State Auditor having refused to audit the account of more than one person under the said act, and the said Morse having employed Mr. W. M. Pierce to aid in the selection of the lands aforesaid, but for whose compensation no provision has been made, the State Auditor is therefore hereby directed, on the application of said parties or their legal representatives, to audit and allow the claim of said Harris and Pierce at the rate of six dollars per day for their services so rendered as aforesaid. The same to be allowed upon the written accounts of said Harris and Pierce or their legal representatives, and sworn to by the said Morse; said accounts to be paid out of any money in the treasury not otherwise appropriated.

SEC. 7. This act to take effect and be in force from and after its passage.

Approved March 10, 1871.

GENERAL INDEX.

	PAGE
Action of Board of Curators in regard to lands of Congressional grants.....	30
Admission.....	61
Agricultural College.....	14, 54
Agricultural Farm.....	15
Aid Fund (Rollins).....	61
Alumni Society.....	62
Analytical Chemistry.....	57
Apparatus.....	63
Boarding of Students.....	68
in Clubs.....	69
at Hudson House.....	69
in private families.....	69
Cabinet.....	63
Calendar.....	79
Catalogue of Officers and Students.....	37, 39
County Students.....	60
Congressional Act, donating lands for Agricultural and Mechanical Colleges.....	106
Constitutional Provisions.....	52, 74
Courses of Instruction—Classical.....	41
Scientific.....	42
Preparatory.....	41
Normal.....	42
Agricultural.....	55
Courses, order of.....	48, 50
Curators.....	35
Department of Mental, Moral and Political Philosophy.....	43
of Physics and Natural Science.....	43
of Mathematics, Mechanics and Astronomy.....	45
of English Literature.....	46
of Ancient Languages.....	46
of Geology, Mineralogy and Botany.....	48
of Military Engineering and Tactics.....	58

Degrees, Academical and Honorary.....	71
Special and Professional.....	72
Post, Graduate.....	73
Directions to new Students.....	80
Discipline.....	65
Elective Courses.....	50
Engineering.....	58
Examinations.....	70
Exhibitions, Public.....	63
Expenses.....	68
Faculty and Instructors.....	36, 52, 54
Founding.....	5, 10
General Plan.....	10, 12
Gifts by Individuals and Counties, Summary of.....	26
Government of University.....	32
History and Progress.....	5, 10
Honors.....	70, 77
Hudson House.....	69
Income.....	29
Improvements and Repairs.....	27, 28
Law College.....	55
Legislative Act, locating Agricultural College and School of Mines.....	108
amendatory of same.....	114
in regard to County Students.....	60
Libraries.....	64
Library Hall.....	64
Literary Societies.....	62
Leave of Absence.....	65
Lectures.....	55
Location.....	17
Mining School.....	16, 56
Monthly Publication by Literary Societies.....	62
Normal College.....	52, 53
Observatory.....	64
Obligations of the State.....	24, 26
Optional Course—see “Elective Course”.....	50
Prizes, Stephens’.....	73, 77
Case.....	73, 77
Moss Prewitt.....	77
Department Prize for best examination on Law.....	74
Seniors to Juniors for best Orations.....	74
for Essay on Grape Culture.....	74
for Examination on Pruning.....	74

Private Benefactions.....	26, 61
Provision for Young Women.....	60
Reading Room.....	64
Renting Rooms.....	70
Recess (Holidays).....	68
Report of Committee accepting conditions required of Boone County for location of Agricultural College.....	13
Report of Committee on location of Mining School.....	18
Report of Prof. Swallow on	
Progress of Agricultural College.....	82
Course of Study.....	84
Horticultural Department.....	93
the Farm and its Improvements.....	94
State Industrial and Economical Statistics.....	94
Rhetorical Exercises.....	46
Rollins' Aid Fund.....	61
Rules.....	50, 66
Scientific Building.....	15
Sessions.....	68
Short Course for Men advanced in years.....	50
Site.....	74
Sphere and Objects.....	74
Summary.....	40
Uniform.....	59
University College for Women.....	22
non-sectarian and non-partisan.....	33
Vacations.....	68
Vineyards.....	55
Visitors (State).....	35
Work by Students.....	68



435448

378.7M71
H
cop. 3
1870/71

378.7M71
H
cop. 3
1870/71

University of Missouri Libraries
University of Missouri

MU Catalogs

Source information

Identifier	MU-Catalogue-1871 (010-011676304)
Format	Book
Content type	Text
Notes	

Capture information

Date captured	2018 July
Scanner manufacturer	Ricoh
Scanner model	MP C4503
Scanning software	
Optical resolution	600 dpi
Color settings	Grayscale
File types	Tiff
Notes	Some page curvature due to tight binding Cover scanned from separate copy, barcode 010-011677599

Derivatives - Access copy

Compression	LZW
Editing software	Photoshop
Resolution	600 dpi
Color	Grayscale
File types	Tiffs converted to pdf
Notes	Image editing: pages lightened, canvassed, and noise removed.