

5-24-1881

# Seventh Annual Report of the Principal of the Southern Illinois Normal University Made to the Board of Trustees

Southern Illinois State Normal University

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## Recommended Citation

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SEVENTH ANNUAL REPORT  
OF THE  
PRINCIPAL + OF THE

Southern Illinois Normal University  
Made to the Board of Trustees  
MAY 24TH, 1881.



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# SEVENTH † ANNUAL † REPORT

◀ OF † THE ▶

## PRINCIPAL OF THE

*Southern Illinois Normal University,*

*Made to the Board of Trustees*

MAY 24th, 1881.

GENTLEMEN:—The close of another year brings the pleasing duty of presenting the Annual Report of the Principal of this University. It is first proper to acknowledge the goodness of the Heavenly Father who has preserved the health of teachers and students, so that no death has occurred among us. All the teachers have been enabled to perform their several duties with regularity and success.

In the year past, however, a vacancy has been made in your Board. The Master of all destinies has called one of the five who have been associated together since the opening of the school in July 1874. Mr. Lewis M. Phillips died December 27th, 1880. He was eminently fitted by education, by taste and by character, as well as by habit and zeal, for the duties of a trustee, and all know how earnestly he gave himself to the work. He was rarely absent from your meetings and his decease leaves a very large place in your councils to be filled by his successor. He certainly was a most efficient promoter of the interests of the University and a disinterested friend of the Trustees, Faculty and Students. His memory will not soon be forgotten. Suitable resolutions were passed by our pupils and teachers in commemoration of his worth, and a crayon portrait of him has

been placed in the Normal Hall by contributions made by the teachers, to remind ourselves of his life and sacrifices in behalf of education.

General prosperity has attended the school, and it is believed that its reputation and its power for good have materially increased during the year. One of the most gratifying tokens of our success has been the increasing demand for our students as teachers, and the growing favor of the public towards our system of instruction. It is certain that many more applications from directors for us to supply them with teachers have been received, than in any other year; and in some localities we know that teachers trained here are at once employed at higher wages and accepted more readily as to testimonials and examinations than those coming from other quarters. Both these facts are creditable to us, and cannot fail to encourage those who desire to adopt teaching as a permanent profession, to become well posted in all the various branches of our work. It was ascertained by a careful inquiry last Fall that three hundred and three (303) of our students taught schools in the several counties of the State during the winter of 1879-80, and that in the seven years of our existence as many as seven hundred and eighty-two (782) have been engaged as teachers since their connection with us. Some of these have been employed in the same district for three and even five years, and such persons often have the advantage in wages of five dollars per month greater, and of permanent employment without the cost of searching for a school. These facts we cannot fail to appreciate as creditable. But we wish it to be understood that our students do not seek to escape the most rigid scrutiny as to attainments and success in teaching. A careful attention to this scrutiny will tend to discourage imposters, who would be prompted to foist themselves on the public under cover of a claim that they had been our pupils, when in fact they might have been with us only a very short time. And it will also hold to a strict account all who have attended our school. Of course we desire the community to give all our pupils a fair chance in all things, examinations, teaching and living, but it will best please us when they are expected to do better work no less than to present better qualifications because of their connection with our University. While it would be unjust to demand a different standard of qualification or ability than is set up for others, it will not displease us to know in all cases, as we do in many, that they take with a respectful pride, their own full share of all work public or private, and ask no undeserved favors because they have been in part educated here.



As to the higher wages we must say with emphasis that we do not teach for such an end, so temporary and mean, as the matter of a few dollars in salary. The State gives to all who desire it gratuitous tuition, not to make them eager for more money, but eager for knowledge and power—to fit them better to be noble citizens and teachers. If they really become members of this class they will be likely to receive more cash for their better service, but the public will profit far more by having their children taught so much better and sooner. There will be in this case a better instruction and discipline, a better morality and honesty, and all with a less expenditure of time and money. Our students have shown no unwillingness to accept the country, ungraded schools and at the customary prices. They have labored in these and trusted that the current laws of better work by more skilful labor, and of supply and demand would finally regulate the amount of compensation to be awarded to their services. These primary schools are the most excellent places from which merit may rise, or in which industry and skill may show their superior value in educating the children of the people. They are at once the most responsible and most honorable positions, and if they do not afford the greatest emoluments they give the noblest opportunities. The aspiring young men and young women, almost all of this section, and indeed of the whole country, do now engage in the work of teaching rather as a temporary expedient to be sure. They use this place as a stepping stone from which to rise to a clerkship in a postoffice or a salesman's duties in a dry goods store, or to the honor of a wife in the family. Our purpose is to make the teacher so completely prepared for his work and so fill him with the love of it that he shall remain in it while he is able for its trials, and that he shall thus gain an added experience which shall improve our schools year by year. We would push immaturity and incompetence into the back ground and bring wisdom to the front in this duty, as it is in law or medicine. In short, our design is to supply this most important branch of the public service with competent ability and well instructed skill, and so abundantly that these latter shall compete for places in our public schools as ignorance and inexperience do now. While these latter are encouraged by school directors to under bid for starvation wages, the result cannot be greatly to the profit of our people. Our course of study and training will drive much of stupidity and blundering out of the teacher's profession, and introduce at least something of ambition to be prepared for a life duty and not a temporary day laborer service. By this work of ours each teacher is made so skillful and his individual power to instruct and govern is so

augmented that he shall perform a work doubled in amount and more than doubled in excellence. And at the same time the number of those seeking to do it shall be so increased that they shall bid against each other for the privilege of teaching. We thus increase the better grades of talent and the higher education, as well as the more practiced wisdom and experience, to compete for schools instead of the youth and ignorance of the unwise.

It seemed proper to say words on this point, where our design is sometimes misapprehended and where the effect of our work is not understood. As has already been said, too many suppose that teachers' seminaries, institutes, associations, meetings, are deliberately planned for one end alone, the selfish one of getting higher wages. Not at all. They seek to make better teaching not simply possible, but absolutely certain. In other words they aim by study, discipline, thought, discussion, intercourse, to give all such a familiarity of knowledge and skill of practice in imparting instruction as shall make failures less frequent and success not an accident in this most complicated, delicate and necessary of all the professions in a commonwealth. And if by any means the supply of thoroughly educated and trained teachers can be made to rise faster than the demand, one of two things, both highly profitable, will happen—either the wages will fall or the incompetent will be driven from the business. If, however, the demand shall exceed the supply nothing can hinder wages from increasing and the ill prepared from rushing in. It is to aid in preventing such a calamity that we seek to imbue the minds of multitudes with ambition to prepare for teaching and with a life purpose to follow it as a vocation. If we succeed in this endeavor and are encouraged by the public, teachers' salaries will not rise in proportion to their worth nor to the numbers and intelligence of those who will seek to serve their generation in the most philanthropic of all duties, imparting wisdom and virtue to the children of the age.

For reasons suggested by such considerations it may be well to review more definitely than at any previous time the peculiar duty and aim of a Normal University. There has been, it is best to say at the outset, some criticism made on the use of the ambitious word University in connection with an institution like ours. While neither the present Board of Trustees nor the Faculty chose the word as a title, and while all of us may confess that we should prefer a less pretentious name, it is nevertheless just to the excellent educators who did first select it for the school of teachers in McLean county, to say that their choice is by no means without defense. Premising that the term Normal or Training shall always be attached to the word University let us see what is signified by it and how accurately it describes what must be done for the education of the teachers of our State.

A school is a place where persons gather for instruction, work or

training in some branch of science or in the practice of some art, or in both; as a school of theology, or medicine, or painting, or design; as a school of oratory, or philosophy, or naval or military tactics. If it demands a previous culture and knowledge in order to admittance, its scope is narrow; but if it must give to its students a preparation to enter on its special work, then its curriculum must go down to the foundation and rise to the highest pinnacle, and embrace the University idea. The young people who will gather at such a Normal or teachers' seminary will be found to need something more to learn than the higher art or science of education. They must know the elements of knowledge with much more accuracy than the common diligence of the primary school can or will teach. A teacher should know the alphabet and the multiplication table better than a child, or than a youth of sixteen can possibly learn them among his companions in the best public school. The same should be said of reading or geography and especially of grammar and history. No common or superficial skimming of the contents of compendiums as he learns them while a mere scholar, will answer for a teacher. A learner who is to use facts or principles in daily life may only half understand and find no great difficulties from his lack of extensive knowledge. But a teacher who is to instruct and inspire, to help the child to remember and prepare him to recall, on the proper occasion, everything acquired should know every part of all these branches and the connections of all, and any half knowledge, such as is too often learned in a common or high school, will enhance the difficulties which surround the work of the teachers. This for the elements. It is possible for one to be so full of the higher facts, the more far-reaching laws, the recondite principles of a science, as to be not really a good teacher of beginners. The mind grasps the connections of reasonings and trusts that these will call up the elements. A philosopher holds by laws or abstracts and often forgets the facts which suggested them. How many of us know the action of gravitation as a general law and cease to think of the falling apple as the fact which suggested the proof of it? But the child must be first posted in these facts, and the teacher therefore is to be drilled on the facts till he knows them and can use them, combining, adorning, vivifying them, so that the scholar shall love them and remember them. It was said of a distinguished professor of Harvard University that while he was greatest in the whole world in his own science, he was notwithstanding a very poor teacher. Almost any tutor could instruct freshmen better than he. The conclusions were in his mind and he had forgotten the first steps, and would sadly stumble in simple additions. The child needs specially these first steps and if a teacher is to dwell upon them he must be so familiar as to know and



love them. It will therefore be a philosophical necessity for a Normal school to dwell on elementary studies, in their simplest form many times.

But the teacher must also know the higher lines of thought in these same studies, in order to inspire an ambition for progress, and to show how connections and transitions are made. This gives a very broad field, a long curriculum, minute at the first, less so as we advance, till at the end only a comparatively few general principles need be adduced or expounded. Here will be a place for a teacher to review very minutely and carefully the common studies of the early course, with the idea of learning exactly for himself just what a child needs to know, and exactly how that little one can best and most easily learn it and longest retain it. These considerations justify the name and suggest the extent of our work, but only in part, however, as further reflection will not fail to show.

But even if it could be fully proved that a teacher might learn the elements which he should be required to teach in our common schools, no one will assert that he can there learn the great principles which underlie all his professional work. Nor can he do this in any high school or college as these are now organized. They have other duties to perform, other studies to prosecute, and besides they cannot inspire their pupils with an ambition to excel in teaching. Every detail relating to education, its methods, history, books, appliances, philosophy and maxims, all are to be studied and mastered. The teacher should be familiar with all the arrangements of a school, its buildings, apparatus, business, recitations, exercises and motives. He should know the child, its nature, mind, feelings and will, and understand how to elevate and improve his scholar by appealing to the highest incentives. To give him power to do all this he must be educated where he can learn from books, museums, cabinets and specimens, much about all nations, their histories, manners, customs, the products of their soil, of their looms, shops and art: so that when he goes among children he may be able to interest them without descending to fiction or the tricks of a showman.

But the highest necessity of a Normal school, the best part of its machinery will be its learned, practical, experienced teachers, men and women honored by their generation for the characters they have made for themselves even more than for their eminence in learning or their success in instructing. These become examples, living models, ennobling powers, to show what the profession can help a man to be as well as to do. And under these there should be honest, laborious students, and if of many grades, then the better will it be for the learners who are qualifying themselves to instruct, because they will find themselves among a body of persons who are seeking

knowledge in a philosophic spirit, guided by philanthropic minds who have great insight and great attainments, and where all the means for knowing the past and experimenting for the future are at hand.

It is thus seen that such a school as ours is must be carried on with a University idea in the minds of its professors. It becomes a model school and at the same time a place for original investigations and for thorough reviews of all branches of primary or elemental knowledge. It should thus be used to exemplify methods of teaching, individual mannerisms of teachers, results of training in the several branches, varieties of text books and the excellencies of each, systems of government and discipline, the different modes of presenting topics and calling out the energies of pupils. In this way it becomes in the highest and best sense a Training school and is more valuable for this end than for the amount of knowledge it imparts. It might be said in this connection that perhaps three of the departments of a city graded school, a primary, an intermediate and a grammar school, could be added and would supply the best conditions under which teachers might learn the details of their duty and be saturated with the spirit of their noble profession.

While a Normal University should thus be a model in itself of methods of teaching in all classes, and while it should insist on a thorough review of all the common branches, it should also insist that each one who enters for the purpose of fitting himself to teach shall pursue each term at least one elementary study till the seven are completed, and he should be required to make an analysis of the matter to be learned in the branch and also to produce a topical abstract of the method of teaching it. These papers might be preserved or filed for future reference with the examination papers of such students, and this would not only test the knowledge, but the ability to plan school work and explain it by word and illustration. This would be of especial worth as showing the exact state of attainments now reached by pupils of our public schools, as well what is attempted as how perfectly it is accomplished. This would give a Normal school a body of facts serviceable to the public as well as to itself, and which could be used hereafter in the history of education.

It will bear to repeat concerning Cabinets, Museums, Repertories or Collections, to be gathered and preserved in such a University, that these are of scarcely less value than instructors. Indeed they do make themselves teachers and stimulators of inquiry and science, such as nature herself is, but more methodical and requiring little travel and cost in order to gather the lessons to be learned. These collections should embrace among other things every bit of apparatus which has been devised for the purpose of aiding the teacher to

present knowledge or impress truth on the child's mind, or to illustrate the laws of nature. For examples in the graphic arts, let the ancient tablet of wax and the stilus be shown, the papyrus leaf, the goat skin, the modern parchment, paper, quills and pens in many forms, and specimens of different styles of writing and printing also with engraving and drawing. Some of these things cannot be learned otherwise than by seeing and examining specimens. In arithmetic work there would be a place for counting frames and appliances to show and illustrate the combinations of, and operations on numbers, weights and measures, to give the eye a chance to assist the mind in comprehending magnitudes and dimensions and in preparing for practical business. In reading there are many contrivances both for teaching letters and words, sentences, emphasis, pauses, inflections where the eye aids the ear and helps to control the muscles of the mouth of larynx. In geography how valuable are maps, charts, elevations, models, globes. Instruments for measuring and drawing are in use to open the avenues to the mind or to fasten knowledge on the brain and a Normal school should possess at least a large share of these. Then historical compends and charts, tables of populations, areas and products, with reference books and whatever else may elucidate the past or give a knowledge of the present condition of the race should be admitted. It may be said that the cost of all this is large. But the real question is, will not the time saved to the child more than pay a very large cost? He will acquire his learning earlier and have it in a more available form, and in fact will retain it longer and better make proper connections with all other knowledge. Yet the money cost of all is comparatively small, since many of these appliances will be offered gratuitously if we have the means of preserving and exhibiting them.

And in the higher studies, as essential for many students and teachers as the elements are for all, the advantage of such appliances for illustration increases in a larger ratio. In Physics, in Chemistry, in Physiology, what can be taught without the air pump, electrical machine, pulleys, and other contrivances for showing weight, motion, laws of fluids at rest or moving; or re-agents, crucibles, retorts, blow pipe and laboratory; or skeletons, manikin and model of heart or brain? All these and lenses, telescopes and many more contrivances to exemplify the laws of light and magnetism, are as necessary as plows to the farmer, or the square to the carpenter. These all must be had or the mind fails to comprehend many of the most necessary ideas as well as the most useful in civilizing mankind.

But in the various branches of Natural History, Zoology, Geology, Botany and others, specimens of the objects themselves ought to be gathered by the pupils and preserved. Plants, woods, minerals,

eggs of birds, skins of animals—all that earth or air or water contains should be placed in sight for inspection and study, and many times for use and experiment. These specimens will cost something but nothing in comparison to their educational value. And if the several professors were paid salaries sufficient to enable them to devote time to travel and original investigation, they might collect large amounts of the very materials here described. In all these lines we have already done much. It is now the end of seven years and the State has not been able to grant any more than the slenderest pittance for all these objects so abundant in the promise of profit to the people and their children in making instruction a living delight to mind and soul. Yet we have by sacrifices and labors already filled a large room in the Mansard story so full, and with so large a variety, as to be absolutely bewildering to one without a guide. Dr. Thomas, formerly a teacher but now the Entomologist of the State, Professors Parkinson and French, the other members of the Faculty, and many students and their friends, have all exerted themselves to furnish specimens. If the present General Assembly shall continue the same liberality as the last two, we may safely say that a few years will make our school a foremost place for a student to learn, or even for a scientist to investigate, all the kingdoms of nature. It will be a source of profit and of power to our State, as it already is an honor, to those who have labored to build it up and enlarge its facilities for instruction.

Another thing should by no means be forgotten. We have accumulated a library, valuable and well arranged, adapted both to the wants of the student and the tastes of the general reader. Here again we are indebted largely to Dr. Thomas, who began it by securing a large donation of the publications of Congress—the Reports and Papers of the Smithsonian Institution, and other books. By the care of our Representatives and Senators, especially General John A. Logan, it has been increased, and also by judicious purchases which we have added to it till it contains about seven thousand volumes, and is the richest in books of pedagogical science of any library, public or private, in the West. We have a laudable pride in this part of our equipment, and while young pupils may not be able to take advantage of its treasures, scholars find it giving them rare facilities for investigation and research.

Our own professors find it a stimulus to study and improvement. Indeed without such facilities as it affords for them to push forward their studies in every direction they would find their minds drying and shriveling. But with all our growing cabinets, museums, libraries and collections they need fear no stagnation of zeal or interest in all the studies and investigations of the age. It should be stated



here that the Armory in connection with the Military Department established by the general government is a valuable addition to our work. Each day students are instructed in the use and exercise of arms. This prepares the citizen for the defense of right and the enforcement of law. The instructions, the discipline, the drills, have had a manifest influence upon the young men in promoting a gentlemanly deportment and building self-reliant characters. The officer in charge, Lieutenant Hugh T. Reed, of the 1st United States Infantry, has been zealous, judicious and eminently successful in his department.

Our teachers need no eulogies and a few words will suffice to give them a just meed of praise. Their works praise them. While our system of earnest, unselfish labor is calculated and expected to make so many good teachers, it will not be in good taste to commend them individually. It is enough to say they have been at their posts often at a sacrifice of convenience and not unfrequently at the risk of health. Rarely has any one been absent, and then only from what seemed imperative necessity. I refer to the several reports of their respective departments for statements of work and suggestions. I cannot do justice to my own feelings if I refrain from speaking of the cordial good will and hearty sympathy which each one has shown to me personally, and to all the plans for promoting the interests of the University. Each one of them has made sacrifices to carry out the work laid out by the Trustees and demanded by the wants of this section of the State. They have labored, and particularly the ladies, at salaries smaller than in other institutions of like grade; and it is to be hoped the General Assembly will make it possible to give them the wages which they fully earn and which justice would award them.

Our Special Session last August was more largely attended, and especially in the higher branches of Natural History, was more than ever a success. All our teachers except Professor Hull were present, and labored very efficiently. Professor Hull was excused by the Trustees on account of the health of his wife, who needed his care in a Northern climate.

The total number of students is a little above the last year, but they are of a higher grade as to attainments. More of the young men and women who have received first grade certificates have attended. The whole number in school has been 397, and of these 197 entered for the first time, and they represent employments as follows, viz: Farmers, 127; merchants, 15; ministers, 13; physicians, 11; lawyers, 5; carpenters, 5; millers, 5; laborers, 5; shoemakers, 3; agents, 2; teachers, 2; civil officer, 1; contractor, 1; saloonkeeper, 1; barber, 1.



A few words may be profitably said concerning our graduates, and those who study among us longest and most thoroughly. Only 45 out of the 1,501 students enrolled have graduated. Of these 34 are gentlemen and 11 ladies. The total number of male students has been 883 and of female 618. It will thus be seen that while in the school the males outnumber the females in a proportion of less than 3 to 2 in the graduating classes they are more than 3 to 1. Among the teachers of the State as shown by the Report of the State Superintendent, the females exceed the males in a ratio very nearly 12 to 11. Why then do so many more young men graduate than young women? It is an interesting question and may receive several answers. It certainly does show that women do not desire a complete education as frequently as men do. This fact may mean that women do not want to fit themselves for a profession. Whenever teaching becomes a profession there will arise the necessity to study for it. The habits of the people and probably their instincts in the first case are against women becoming what may be called professional personages. And it is for the interest of the State that they should find a more congenial sphere in the private duties of domestic life. Besides this, these avocations, housekeeping, a wife's or a mother's employments do not promise a great return of money in payment for work. Women can, therefore, hardly be expected to see the pecuniary advantage of large expense in gaining knowledge, discipline or professional skill. They are quite as eligible for the position of wife—the presiding genius of a family, with little education as with much, and perhaps even more so. But they are not eligible at all as teachers for life without large knowledge, and are condemned to exhibit considerable even to obtain a temporary employment. This state of facts may be no recommendation of the intelligence of men who marry, but it is creditable to the public sentiment which demands that she who teaches children shall possess some learning and culture, whatever it may allow in her who bears and trains them. Thus encouraged to become wife with small information, and required to learn so much at great expense to become a teacher, is it a wonder that a young woman's education ceases short of graduation? and that her vocation of teaching is made to terminate as early as possible? It will be singularly unfortunate if the community forgets that an intelligent and well educated wife, to be the companion and life teacher of her own children, is of far more worth to society than a well educated lawyer or physician to conduct a cause in court or to manage a fever in a hospital. In truth she is more valuable in every sense and deserves as much culture and as full a recognition of right to all knowledge. While this in part accounts for the small number of highly educated women it shows the need of cor-

recting public opinion till it shall expect as high a grade of teaching from women as from men and with as large payment of salaries and as great a meed of honor. An influence prevails to a large extent to hinder the complete education of women in the prejudice which demands that women must marry early, or be subjected to bear the sneering title of old maid, and be made to feel that teaching almost debars her from domestic life. Then the smaller wages which she receives and the greater cost of her dress while teaching make it more difficult for her, than for a young man, to earn money enough to carry her creditably through a full course at a Normal. So that where the facts are, as among us, that the majority of students contrive to pay for their schooling by their labors, the women are at a great disadvantage. In city Normal schools where they can board at home or are supported by relatives, it is different, and there the majority, in many cases preponderating almost fifty to one, are females. It is thus wherever friends pay for the education of the youth. But where as here they are self-dependent, young men will more easily win their way and graduate.

The number of students for each term has been as follows, viz :

SPECIAL SESSION.

Ladies .....	22
Gentlemen.....	16

FALL TERM.

Ladies .....	110
Gentlemen.....	142

WINTER TERM.

Ladies .....	101
Gentlemen.....	150

SPRING TERM.

Ladies .....	97
Gentlemen.....	129

Total.....	767
Ladies .....	330
Gentlemen.....	437

IN NORMAL DEPARTMENT.

Paying tuition.....	209
Pledged to teach.....	558
Of these, ladies pay tuition.....	81
Gentlemen pay tuition.....	128

It affords the Faculty pleasure to recommend unanimously the following students, who have completed the prescribed course of study as candidates for graduation, viz :

In the Classical Course—Thomas Brown ; Charles H. Burton ; Henry W. Karraker ; Thomas S. Marshall.

In the English Course—William F. Hughes ; John William Lo-

renz; Oscar S. Marshall; Mary A. Sowers; Edward I. Ward.

It is proper to state that Mr. Brown has been a student four entire years without absence, tardiness or neglect of any duty. He prefers not to be graduated this year, although fully entitled to a Diploma.

GENTLEMEN:—Allow me to tender thanks on my own behalf especially, and on that of the other members of your Faculty for your cordial sympathy with us in our work and for your earnest co-operation with us in all our efforts to increase the facilities of the University for educating the youth of the land. I remain your obedient servant,

ROBERT ALLYN.

May 24, 1881.

## Department of Latin and Greek.

ROBERT ALLYN, LL. D.,

*Principal Southern Illinois Normal University;*

DEAR SIR:—I have the honor to present herewith a statement of the classes and work in this department for the scholastic year 1880-81.

In the Fall Term the classes under my charge were as follows, viz: Greek Rudiments, four members; Latin Elements, Section A. fourteen members; Anabasis and Greek Grammar, three members; the Æneid of Virgil and Latin Grammar, seven members; Cæsar's Commentaries of the Gallic war and Latin Grammar, six members; Latin Elements, Section B. seventeen members.

During the Winter Term my classes were the following: The class in Greek Rudiments advanced to exercises in the translation of Fables, Anecdotes, Jests, Grecian Mythology, etc. Latin Elements, Section A., advanced to Latin Reader and Grammar. Class in Anabasis advanced to Memorabilia of Socrates, and continued the Greek Grammar. The Virgil class read the Orations of Cicero. Class in Commentaries of Cæsar, advanced to Sallust's Catiline, and continued the Latin Grammar. Latin Elements, Section B., advanced to Latin Reader and Grammar.

During the third term and at this writing, the classes under my charge are pursuing the studies in Xenophon's Anabasis and Greek Grammar. Roman History, Section A., and Latin Grammar. Homer's Iliad, Sallust's Catiline and Latin Grammar, Tacitus de Germania: Roman History Section B., and Latin Grammar.

During all the year I have also had charge of one division of Section D., in Orthography, composed of thirty-two members. Miss Jeannie B. Morrison, W. J. Ennisson and R. T. Lightfoot have rendered valuable assistance in correcting the spelling.

It will appear from the above that there have been nineteen classes in this department during the scholastic year, comprising in the aggregate something over two hundred members. It gives me pleasure to state that the students have very generally manifested a



commendable zeal, and have made excellent progress in their studies. A few from irregular attendance and want of proper application will fail to carry their work. Some few have dropped out of the classes, intending to pursue the studies again the next year. The grades of those who complete their studies, in most cases, from daily recitations and written examinations, have been excellent.

The classical course embraces three years of the Latin and two years of the Greek. Three students will this year very honorably complete the full classical course, and one will, in like manner, finish the Latin course.

The study of the Latin and the Greek is designed to aid in the preparation of teachers for the High schools of the State. The English language is, as is well known, a mixed tongue, embracing words from all the principal languages of the world. The Latin and Greek elements in our language are so numerous that they form the basis of not less than fifty thousand derivative words. They are so generally interwoven with the composition and etymology of English roots that a knowledge of them is absolutely indispensable to a thorough understanding of our own vernacular. The teacher of the English language who is familiar with the historic and philologic etymology of the Latin and Greek, is all the better qualified for efficient work.

The method of presenting the lesson at each recitation looks to the practical. Each lesson is examined as to its etymology and grammatical structure. The aim is to cultivate at the same time accuracy in memory and judgment; to reveal the intimate connection of the Ancient with our own language, and especially to render the student's knowledge of the English more thorough and satisfactory.

Added to my duties of the school and recitation room, I have performed the labors of the Registrar of the Institution. These at times have been multifarious and onerous. I have carefully enrolled in the aggregate the names of seven hundred and seventy-six students, giving date of entrance, parent's name, date of birth, nativity, etc.—have collected all tuition and incidental fees, and, on receipt, have transferred the same to the Treasurer of the University; have transcribed the minutes of the meetings of the Board of Trustees, into the record book; have placed on file all original bills; have prepared all vouchers in duplicate for current expenditure; have issued money orders on the Treasurer for the payment of all bills of indebtedness, and have kept a faithful account of amounts received and paid out; and have performed such other duties as pertain to the office of the Registrar of the Institution.

Respectfully submitted,

CHARLES W. JEROME.



# IV. Department of Higher Mathematics and Practical Pedagogics---1880-81.

ROBERT ALLYN, LL. D.,

*Principal Southern Illinois Normal University;*

DEAR SIR:—The following table gives the usual work in my department, by terms, for the school year :

HOOR.	FALL TERM.	WINTER TERM.	SPRING TERM.
1	*Surveying.	E Algebra.	D Algebra.
2	C Algebra.	B Algebra.	A Algebra.
3	C Prac. Pedagogics.	B Prac. Pedagogics.	A Prac. Pedagogics.
4	{ Analytic } { Geometry. }	{ Differential } { Calculus. }	{ Integral } { Calculus. }
5	B Geometry.	A Geometry.	{ Trigonometry } and { Surveying. }
6	E Algebra.	D Algebra.	

(\*Work of class out of school hours.)

Few words will be needed to make the schedule plain. The algebra classes are of two grades, elementary and higher. The former requires two terms, the first of which is marked E and the second D; while the latter requires three terms and are marked in their order from beginning, C, B and A. The practical pedagogics requires three terms and the classes follow the lettering of those in the higher algebra. The geometry requires two terms, the first of which is marked B and the second A.

Two classes in elementary algebra are formed each year, the first beginning with the Fall term and the other with the Winter term. Together these make the advanced class in algebra in the following year.

The usual recitation hour being too brief for good results in trigonometry and surveying, the Spring term class in these branches has the time of two recitations, as the schedule shows.

The analytic geometry and the calculus are optional studies and are not counted a part of either the English or the Classic course. Application was made at the opening of the Fall term for the organization of a class in these optional branches, but it was not deemed best by either the teacher of the department or the principal to grant the application, the labor of those applying being more needed in other directions.

The surveying class was excused from field practice in the Fall term, the previous term in these branches having proved unusually full and satisfactory.

With the exceptions just stated the classes have followed the tabular statement at the beginning of this report.

Of work not in the tabular statement, I have had a class in spelling each term, and a special class in algebra, organized for teachers who entered for the spring term.

The membership of the classes in this department has been as follows:

Fall Term—E Algebra 29, C Algebra 23, B Geometry 9, C Practical Pedagogics 12, Spelling 20.

Winter Term—E Algebra 16, D Algebra 26, B Algebra 19, A Geometry 8, Practical Pedagogics 10, Spelling 14.

Spring Term—E Algebra 22, D Algebra 12, A Algebra 16, Trigonometry and Surveying 9, Practical Pedagogics 13, Spelling 20.

Total in classes 278.

The greater part of the pupils in this department have been faithful and deserve praise. A few have neglected their duty in some measure, but the daily results in the classes warrant the assertion that in both the Higher Mathematics and the Practical Pedagogics the seventh year of our school has been a decided success.

Respectfully submitted,

JOHN HULL.

## Department of Literature, Elocution and Reading and Vocal Music.

*ROBERT ALLYN, LL. D.,*

*Principal Southern Illinois Normal University;*

DEAR SIR:—Herewith is submitted a report of the work done for the year 1880-81, in the department of English Literature, Elocution and Reading and Vocal Music.

### FALL TERM.

Elocution, one class.....	Enrolled 17,	Passed 10
Reading A, “ “ .....	“ 34,	“ 24
“ B, two classes.....	“ 50.	“ 24
Vocal Music.....	“ 34,	“ 19

### WINTER TERM.

English Literature, one class.....	Enrolled 19,	Passed 16
Reading A, “ “ .....	“ 29,	“ 16
“ B, “ “ .....	“ 28,	“ 12
Elocution, “ “ .....	“ 15,	“ 11
Vocal Music, “ “ .....	“ 30,	“ 17

### SPRING TERM.

English Literature, one class.....	Enrolled 14.	Passed 9
Reading A, “ “ .....	“ 33,	“ 11
“ B, “ “ .....	“ 15.	“ 10
Elocution, “ “ .....	“ 26,	“ 10
Vocal Music, “ “ .....	“ 31.	“ 15

In addition to the work of instructing the above classes. I have had under my charge during the last two terms, a class in spelling; and during the last vacation was present as instructor for a longer or shorter time at teacher's institutes in *four* of the counties of Southern Illinois.

On the approach of warm weather Calisthenic exercises were discontinued, but I have still had control of the Normal hall during the general exercise hour. I have freely given my services so far as regular duties permitted, to those needing special drill in preparing for exhibitions, and for the exercises of commencement day. To the students in the upper classes private instruction is especially valuable. It has been my opinion for some time that the seniors should have a thorough course in the cultivation of manner, for, as

the English Archbishop observed, "Manner is *something to all men*; it is *all things to some*." The teacher ought to be a model in grace, as well as in other things.

#### ENGLISH LITERATURE.

The first five weeks of the Winter term was devoted to the study of American authors and the remaining half and term following to English authors. The text book used is *Shaw's Revised History of English and American Literature*. Remarkable periods received most attention, and time has been found for the reading of copious extracts from the best authors.

Thus has interest been awakened and maintained, and a love for good reading developed. The pupils in this delightful branch of learning, with scarcely an exception, have worked faithfully and intelligently and therefore made satisfactory progress.

#### ELOCUTION AND READING.

As these differ but in degree repetition is avoided by including them under one heading.

A considerable part of a teacher's work in this department consists in eradicating bad habits. It is hard to learn, but harder still to unlearn. The tones, inflections, emphasis, manner and facial expression of a majority coming under my tuition are unnatural while reading, and in striking contrast to those used in conversation.

The fault is in the method of the primary teacher. Oral reading calls into exercise two sets of faculties, viz: the *perceptive*, (or *receptive*) by means of which the precise meaning of the author is comprehended, and the *expressive*, through the agency of which the thoughts and suggested emotions of the author are communicated to another. Teachers chiefly fail in teaching successfully the important art of oral reading, because they permit their pupils to try to express and convey thoughts not fully understood. Comprehension must precede expression. The logical order is, first understand, then express. The receptive faculties are first to receive attention, and ought so thoroughly to have been trained, that when the work of communicating thought, feeling and purpose to another mind, through the avenues of sight and reading is begun, they may do their work unconsciously and the whole soul be given to the expression.

I would not be understood as asserting that one who can grasp intelligently an author's meaning, can therefore adequately express it to another. Many a retired scholar reads Shakespeare with delightful appreciation who would make but a sorry appearance before the footlights in an attempt to delineate one of the powerful creations of the great dramatist. The agencies of expression, voice and

manner, would both prove unequal to the task. The ability to clearly grasp thought and strongly feel emotion, and the power to communicate them to others, are entirely different things. But it is self-evident, that without a good conception of that which is to be communicated, the most harmonious voice and expressive manner are vain.

Artistic respiration has been carefully considered, and breathing exercises have been used to assist in the development of the chest. The formation of a habit of full and free respiration is of the utmost importance to him who would read or speak with ease and power.

The tones of the voice have been considered and the five elements of a tone, quality, force, stress, pitch and quantity, passed in review, and their application to delivery exemplified and practiced. The good qualities of voice have been strengthened and the bad suppressed. The elements of simple utterance have been fully studied by the pupils in the reading classes and practice upon them has been most thorough as affording the best means of improving defective or careless articulation. Elements, syllables, words, phrases, sentences and paragraphs, accent, emphasis, slur, inflection, monotone, pauses, personation, and cadence all have been reviewed.

Nor has the cultivation of manner been neglected. Proper attitudes have been required and concert exercises in posture have been given.

Nor yet has the professional part of our work been neglected. The methods of teaching reading in primary grades, Word, Alphabetic and Phonetic, have been discussed, as have also methods for variety, etc.

The progress of pupils, while not all I could wish, has been in the main satisfactory.

#### VOCAL MUSIC.

One term is devoted to this pleasing art. The classes have been large and enthusiastic. Only pupils of the Normal department are required to enroll themselves, but others are permitted to do so at their pleasure, and most gladly avail themselves of the privilege. No other class is so popular. Our pupils, even in the short time given to music, learn to sing ordinary church music with facility. It is my constant endeavor to so teach this refining art that the pupil may not only know the score himself, but will be able to instruct others and thus diffuse a knowledge and love of music among the people.

#### PHYSICAL CULTURE.

The time allotted to calisthenic exercises has been less this than for any previous year. The growing popularity of the military de-



partment, which has enrolled nearly all of our male students, is the chief reason for this. The cadets are relieved from any participation in these exercises. The students enter heartily into the various movements, and the beneficial effects upon form, health and carriage are too marked to admit of question.

All of which is respectfully submitted.

JAMES H. BROWNLEE,

Teacher of Literature, Elocution, and Reading and Vocal Music.  
CARBONDALE, May 21st, 1881.

## Department of Physics, Chemistry and Geology.

ROBERT ALLYN, LL. D.,

*Principal Southern Illinois Normal University;*

DEAR SIR:—The following is presented as my report for the year 1880-81. The accompanying summary indicates the work done in class room :

### FALL TERM.

	ENROLLED.	PASSED.
Elementary Natural Philosophy.....	27	20
Higher Natural Philosophy.....	23	20
Descriptive Chemistry.....	10	10
Rhetoric.....	11	11
Spelling, Class B.....	25	

### WINTER TERM.

	ENROLLED.	PASSED.
Elementary Natural Philosophy.....	27	21
Analytical Chemistry (two hours).....	14	14
Logic.....	12	12
Spelling, Class B.....	27	

### SPRING TERM.

	ENROLLED.	PASSED.
Geology.....	10	10
Analytical Chemistry.....	3	3
Higher Natural Philosophy.....	18	14
Elementary Natural Philosophy.....	16	14
Spelling, Class B.....	33	

In addition to the above the general record of attendance has still remained in my charge. During the year considerable time has been given to classifying and labeling mineral specimens in the museum. The work in the class-room has in the main been satisfactory. Possibly in no other branches is it easier to arouse an interest and enthusiasm than in Natural Philosophy and Chemistry, yet more than this has been desired and in some measure accomplished. While these studies have been made attractive by experiments, they have also been sources of discipline to form habits of study and thought.

The tendency upon the part of the student to rely too much upon the entertaining exhibition of experiments has been studiously avoided, and chiefly only useful and practical illustrations have been given, and in most cases the students themselves have been required to perform them. The changes that were suggested in my last report with regard to text-books have been carried into effect, and with encouraging results. Especially may this be said concerning the Higher Philosophy. The one adopted has aided in securing more definite and complete work on the part of the students. The class in Analytical Chemistry was larger than ever before and exhibited a marked degree of enthusiasm. Yet their work was somewhat impeded and lessened in efficiency and completeness by the want of desk room. The present arrangement can very comfortably accommodate eight students; this we were obliged to distribute among fourteen which often made it very inconvenient. The supply and provision for laboratory work is about the same as in the first years of the Institution: and while they were sufficient at that time, are too meager for our present demand. It is therefore recommended that two additional working desks be made during the early part of the next school year, in order that they may be ready for the Analytical class the second term.

As much material for illustration is needed in Chemistry and Geology, and as the museum is so far from the laboratory the work in these branches would be much improved could a suitable place be provided to keep on exhibition and have ready for use at any moment. To meet this demand for a more convenient supply, it is recommended that the old case used for chemicals be fitted up for this purpose. The case thus prepared will furnish another inducement to secure an exhibit more or less complete of specimens in applied chemistry. During the year some attempt at this has been made, but for want of a secure place to preserve them but little has been accomplished. In recommending this exhibition of material for laboratory work, it is not the design to in any way to detract from or interfere with the museum. Only such specimens will be retained in the laboratory as will be needed for class work; and as far as possible have the choicer duplicates exhibited in the museum. This plan if carried out will leave the museum in better order and appearance than it can be without it.

In making our first purchases in apparatus it was thought expedient to select such as would give the greatest benefit possible from a small amount of money. Consequently the air-pump and electrical machine chosen are of medium value and power. Yet by selecting such as we did it left more funds by which to purchase attachments to these and other valuable pieces. These instruments have

served their purpose well, but the age and dignity of the school demand that we now have more perfect ones. When the Holtz electrical machine which we have was purchased, it was the best of the kind. But during the last seven years these machines have received much attention and many improvements.

For want of facilities but little has been done in dynamo-electricity. That the work may be satisfactory in the future it is recommended that a large plunge-battery be provided.

Since considerable space has been given to the needs of the department, before closing this report allow me to express my appreciation of the improvements that have been added to the laboratory in answer to the request made in the report of last year. The new case for chemicals is admirably suited to the purpose for which it was made. The same may be said concerning the fume closets and delivery tubes. Since these have been in operation the students at work in the laboratory and in other parts of the building have been entirely relieved from the serious annoyance of unpleasant gases, which have given so much trouble in previous years.

The water facilities have been much improved, thus making the laboratory work more pleasant and rapid.

The accompanying analytical table on the following page has been used by the students for general work, with Craft and Fresenius for directions in special cases.

Recognizing your deep interest in the welfare of the departments represented in this report, and an untiring zeal in securing efficient work throughout the Institution, I subscribe myself,

Your obedient servant

D. B. PARKINSON.

# Analytical Table,

For the analysis of aqueous or slightly acid solutions of ordinary salts.

Add *HCl*

PRECIPITATE.	If <i>HCl</i> gave no -v- the metal is still in the liquid; add <i>H<sub>2</sub> S</i> .			
	PRECIPITATE.		If <i>H<sub>2</sub> S</i> gave no -v- add <i>NH<sub>4</sub> Cl</i> <i>NH<sub>4</sub> HO</i> , and <i>(NH<sub>4</sub>)<sub>2</sub> S</i> . (First add <i>NH<sub>4</sub> Cl</i> to keep up the <i>Mg</i> .)	
<p><i>Hg</i> (ous) <i>Pb</i> <i>Ag</i>. Collect wash and add <i>NH<sub>4</sub> HO</i> <i>Hg</i> -v- blackened. <i>Pb</i> -v-, still white. <i>Ag</i> -v-, dissolved. <i>Sb</i> and <i>Bi</i> may also be precipitated by <i>HCl</i> but are dissolved on adding more <i>HCl</i>.</p>	<p><i>Cd</i> <i>Cu</i> <i>Hg</i> (ic) <i>Pb</i> <i>Bi</i> <i>As</i> <i>Sb</i> <i>Sn</i> <i>Au</i> <i>Pt</i>. Collect wash, add <i>(NH<sub>4</sub>)<sub>2</sub> S</i>.</p>	<p>PRECIPITATE. <i>Zn</i> <i>Mn</i> <i>Co</i> <i>Ni</i> <i>Al</i> <i>Fe</i> <i>Cr</i>.</p>	<p>PRECIPITATE. If <i>(NH<sub>4</sub>)<sub>2</sub> S</i> gave no -v- add <i>(NH<sub>4</sub>)<sub>2</sub> CO<sub>3</sub></i>. no -v- add <i>Na<sub>2</sub> HPO<sub>4</sub></i>.</p>	<p>If <i>(NH<sub>4</sub>)<sub>2</sub> CO<sub>3</sub></i> gave no -v- add <i>Na<sub>2</sub> HPO<sub>4</sub></i>. Precipitate. If no -v- apply special tests to the original. Ba <i>Sr</i> <i>Ca</i>. To original solution add <i>Ca SO<sub>4</sub></i> Ba -v- at once <i>Sr</i> -v- in 20 minutes. <i>Ca</i> n -v-.</p>
	<p>INSOLUBLE. <i>Cd</i>, yellow. <i>Cu</i> <i>Hg</i> (ic) <i>Pb</i> <i>Bi</i></p>	<p>SOLUBLE. <i>As</i> (ous&amp;ic) <i>Su</i> (ic) <i>Sb</i> orange <i>Su</i> (ous) <i>Au</i> <i>Pt</i></p>	<p>White <i>Zn</i> <i>Al</i> <i>Cr</i> green. <i>Mn</i>, skin tint. <i>Ni</i> <i>Co</i> <i>Fe</i> Test specially for each in original solution. Craft</p>	<p>K } flame -v- Na, yellow flame. NH<sub>4</sub> } odor by adding <i>Na<sub>2</sub> HO</i>. and heating</p>

Apply special tests for each to the original solution. See Craft's Qualitative Analysis.



## Department of Physiology and History.

ROBERT ALLYN, LL. D.,

*Principal Southern Illinois Normal University;*

DEAR SIR:—During the past year twenty-three classes (including three in spelling) have been taught in this department, two of which, both in United States History, one in the Winter term and one in the Spring term, being assigned respectively to Mr. Daniel R. Miller and Mr. Thomas S. Marshall. All these classes, but especially those of the Winter term were unusually large and interesting, the work performed by the students in preparing for class exercises being more satisfactory than ever before, while at the same time there has been throughout the year a very marked increase over previous years in the number of students who have showed by their ready intelligent answers that they had learned to think for themselves—to rise above a mere repetition of a text-book statement not only to an understanding of the statement itself but to a thorough appreciation of all its relations and inferences. Thus many curious questions, directly or indirectly suggested by the text have been brought before the classes by the students themselves and the discipline and knowledge thus obtained have been by no means small. It seems apparent that the students entering the University come, as the years pass by, better and better prepared to do the somewhat difficult work required of them, a state of things resulting very probably from the fact that from year to year our numbers are more and more recruited from pupils of schools conducted by teachers who themselves have been trained in the classes of the University.

The classes in Physiology have not this year fallen behind any of the previous years in the earnest, faithful work of the pupils or in the enthusiasm with which almost everybody undertakes to pursue what is certainly in itself a most pleasant and profitable study. Recognizing the very great value of the eye in every attempt to acquire scientific truth, and at the same time the fact that what one learns by means of his own research and experimenting will be better understood and more certainly fixed in the memory than what is studied from the books or gained through the medium of lectures, it

has been my practice from time to time to furnish the pupils of these classes with small animals or portions of large ones to be dissected. An excellent plan it seems to me is to furnish each student with animals of the same species, and then after such general directions as may be needed to set all the dissectors on the right track either to hunt for the same or different things, letting each student commence and continue the work for himself. The zest and intense enthusiasm with which pupils enter upon this work is *prima facie* evidence of its real benefit and usefulness. By means of such dissections the relative positions of the organs of the thorax and abdomen can be thoroughly learned almost at a glance, while it is very difficult to do this even after much study of the diagrams to be found in the text-books. I will here describe a little anatomical experiment which never fails of eliciting the intensest interest on the part of pupils, and yet is such that any teacher with moderate care may very easily perform. Let an eye of an ox be *carefully* cut from the orbit and cut an oval aperture a short distance from the line that marks the boundary between the *sclerotica* and *cornea*. The aperture must be cut through the *sclerotica* and choroid coats to the hyaloid membrane which holds the vitreous humor, but the dissector must exercise especial pains not to cut or injure the humor just mentioned. Then let the sunlight shine through the aperture upon the retina, which delicate membrane can now be seen magnified by the three optic lenses lying above it, simply by looking down through the pupil of the dissected eye, taking care that the observer's eye is shaded from the sunlight. In this way the ramifications of the *arteria centralis retinae* may be seen as it divides out into the nervous screen of the eye, the red or scarlet color of these vessels contrasting vividly with the other retinal elements. This is only one of many anatomical experiments which any teacher with a little practice and care might be able to perform for his pupils or rather teach his pupils to perform. This course is especially commended to teachers who may have the misfortune or perhaps fortune of being so placed that neither model or chart is at command.

In this connection I desire to say that especial thanks are due to Prof. G. H. French of the Department of Natural History, who has given me valuable aid in my work by furnishing me with many anatomical specimens preserved in alcohol.

Some attempt at the teaching of Histology has been made in this department during the past year but of course it has had to be necessarily somewhat primary, and yet this comparatively recent branch of Medical Science has become so very important not only to the medical practitioner but also to everybody, that something of its

wonders should not only be taught to members of classes in Physiology, but pupils should be taught the use of the microscope and how to prepare specimens therefor, as the microscope is the very instrument which can in the hands of the intelligent and instructed observer reveal all these otherwise hidden sources of disease and death, it is of the utmost importance that pupils should receive some information how to use it. And here as in Comparative Anatomy and Physiology do Professor French's department and mine touch, and I am glad to say that pupils leaving my classes to pursue Natural History have the opportunity under Professor French's care of pursuing very much farther this science of microscopy than is possible in this department.

The classes in United States History have been very large during the year, several of them numbering over forty members each. The plan of teaching pursued has not materially differed from that of previous years.

At the commencement of the Winter term two classes in German were formed and put under my charge, one Class B meeting daily at 8 a. m., the other Class A, at the third hour. Class A embraced all those who had made considerable progress in the study of the language, and were prepared to commence the work of reading its literature, while Class B embraced those who had no previous knowledge of it. The attempt has been made, and I think with success, to combine the two plans of teaching, "The Grammar Method" and "The Natural Method," and while the grammar and the philosophy of the language have not been neglected, frequent object lessons have familiarized the student with the forms and modes of speech. The necessity for the teaching of this language in the University is seen in the fact that in the Southern section of the State there are whole counties almost exclusively peopled by those who use it as their mother tongue, scarcely knowing any other. It seems obvious, therefore, that it is well in such an institution as ours to furnish means whereby Germans may learn English, and Americans may learn German. These extra classes have entailed on me considerable work both during the regular school hours and outside of them.

Beside the regular work mentioned above I have spent one hour, per diem, throughout the year in the Normal Assembly Room in charge of such students as happened to be seated in the room at that hour.

Appended hereto are the statistics of my department for the year.

FALL TERM.

NAME OF CLASS.	NO. OF STUDENTS.	NO. PASSED.
Physiology, A.....	18	8
Ancient History.....	7	6
History of U. S.—A.....	5	2
History of U. S.—B, Div. 1.....	42	21
History of U. S.—B, Div. 2.....	41	22
Spelling—D, Div. 2.....	25	25
Total.....	138	84

WINTER TERM.

Modern History.....	9	7
Physiology, B.....	33	28
U. S. History, B—Div. 1.....	44	30
U. S. History, B—Div. 2.....	37	22
U. S. History, C.....	23	11
Spelling, D—Div. 2.....	19	19
German, B.....	20	5
German, A.....	8	8
Total.....	193	130

SPRING TERM.

Physiology, A.....	19	8
Physiology, B.....	13	8
U. S. History, C.....	18	18
U. S. History, B.....	37	30
U. S. History, A.....	13	7
German, A.....	8	8
German, B.....	4	3
Spelling, D—Div. 2.....	30	20
Total.....	142	102

Report of Library.

I have performed during the past year as during the preceding five the duties of Librarian. This work, requiring as it does the care of 7000 volumes, with their proper labelling, arrangement and numbering and also the keeping of accounts with students, has involved the employment of considerable time out of school hours. As the library increases the work increases, and it will soon become an important matter of consideration whether it would not be better for the Board of Trustees to employ the services of one person who could devote his whole attention to this work, rather than in the attempt to divide one's time between the work required in a large library and the work required in the class-room, one or the other or

both, in the necessity of the case should be more or less neglected. The students have this year made greater use of the means for reading, which the large and excellent library has afforded than during any of the previous years of its existence and it has been my constant care to give from time to time to all students who desired it, such advice as they needed to lead them to choose and to find the very books they needed, either as aids to their studies or to the preparation of their literary duties in the University Societies.

Yours very truly,  
GRANVILLE F. FOSTER.



## Department of Arithmetic and Astronomy.

ROBERT ALLYN, LL. D.,

*Principal Southern Illinois Normal University;*

DEAR SIR:—I hereby submit my annual report.

The whole number of pupils that have been instructed in my department during a part or all of the year aggregates 565.

Whole number of classes.....	20
First Term—207 pupils, classes.....	7
Second Term—200 pupils, classes.....	7
Third Term—156 pupils, classes.....	6

Pupil Teachers, Mr. J. W. Lorenz, Mr. T. S. Marshall, Mr. W. J. Eddy, Miss Emma C. Prim, Miss Mary Hassinger and Miss Eva C. Prim, have assisted in the work and are deserving of honorable mention for their success.

The work which has been done is indicated by the syllabus published in the catalogue. We have used Olney's Elements of Arithmetic as our text-book, except the third term the A Class used Ray's New Higher. We think well of it and would recommend its use next year. Its greatest fault is in not having a sufficient number of examples under each rule to impress its principles and processes thoroughly on the minds and memories of the pupils. But this will be no disadvantage to our classes, for we should spend much time in composing and working, and explaining original examples.

No person ought to be permitted to teach school who cannot readily make and explain an example, illustrating any principle or process of arithmetic.

Correct work has been made an especial feature in all of our classes. The habits of study formed by most of our students before coming to the Normal have been such that we have not succeeded as well as we had hoped in getting them to work without making mistakes. To do work correctly and know it is correct is a most important element of success. There is but one way to do it. It is drill, drill, drill on the combinations of addition, subtraction, multiplication and division until no mistakes are made. More than half the work done in elementary classes should be of this kind. The pupil

should know he is right, his self consciousness without possibility of fault, telling him he is right.

At the commencement of the school year I asked to be relieved from the general supervision of the spelling classes, and recommended that they be taught by the professors instead of pupil teachers as heretofore, believing better work would thereby be secured.

The request was granted and the recommendation adopted. Its advantage over the former arrangement has been apparent throughout the year. To me was assigned the A division of the class. Over four thousand words and phrases have been spelled. The first term special attention was given, according to the nomenclature of Webster, to the diacritical marking of the sounds of the letters. The second and third terms attention was given to the meanings of prefixes and suffixes, and the manner in which they modified the words to which they were attached, also to the spelling, pronunciation and meaning of words and phrases which have been derived from foreign languages but not yet Anglicized.

The class in Astronomy did good text-book work. The weather was extremely severe during the term and only a few nights were clear, so that less out-door work was done than usual.

The third hour of each day I have attended to Normal Hall work.

I have not been absent from duty a single day this year.

I hope to be able to do better work in the future than in the past.

My relations with the pupils and faculty have ever been of the most friendly and pleasant character.

Respectfully submitted,

A. C. HILLMAN.

## Department of Grammar and Book-keeping.

ROBERT ALLYN, LL. D.,

*Principal Southern Illinois Normal University;*

In accordance with our custom, at the close of this my seventh year of teaching in the Southern Normal, I again have the pleasure of presenting to you a report of the work in my department.

During the first term I had seven classes; the second term I had eight, and the third term five. This makes for the year twenty classes, having a total membership of four hundred and fifty pupils. Which see as follows:

### FIRST TERM.

Grammar, C—1st Division.....	30
.. C—2d .. .. .	25
.. B—1st .. .. .	28
.. B—2d .. .. .	27
Analysis .. .. .	15
Book-keeping.....	8
Spelling .. .. .	26
Total membership.....	159
Classes, seven.	

### SECOND TERM.

Grammar, D—Ist Division.....	20
.. D—2d .. .. .	16
.. C.....	41
.. B.....	35
Analysis of Words.....	26
Spelling .. .. .	21
Book-keeping, B.....	19
.. A.....	7
Total membership.....	185
Classes, eight.	

### THIRD TERM.

Grammar, C.....	32
.. B.....	27
.. A.....	10
Book-keeping, B.....	20
.. A.....	17
Total membership.....	106
Classes, five.	

I regret the fact that this year, as in those previous, my classes have suffered much by members going home before completing the work of the term. The first term seems more excusable than the others, as many had measles and left sick, while others who had been exposed desired to be at their homes in case they would take the disease.

During the Fall and Winter terms Miss Wezette Atkins was assistant in the teaching of spelling. Her work merits praise for its excellency. The Winter term Henry A. Stewart and Mary A. Sowers assisted in Book-keeping. The former did good work during the six weeks he kept the beginners. Of the latter I can say her work was about faultless. She taught fifteen weeks, being a term and a half, and proved herself a thorough teacher. William J. Lorenz also taught four weeks, taking Mr. Stewart's place. He did the work well, though the time was short.

In Grammar Miss Lydia Snyder and Mrs. Mary H. Vaughn taught the two divisions of the D class the Winter term. The latter left after four weeks' work, and as some of the pupils had also left through sickness, the two divisions were united, and Miss Snyder taught both. Having Book-keeping at the same hour I could not be present at her recitations so frequently as I desired. From what I did witness, and the progress her class made, I can say she is an efficient worker.

The aim in teaching Grammar has been to give the pupils a ready use of correct English. In teaching Book-keeping I have sought to fit them to train the boys and girls of our public schools in the useful art of keeping a systematic record of ordinary business; also a knowledge of business terms and papers.

A large per cent. of those who remained to complete the work of any term, have shown results very gratifying. They compare very favorably with the same class of students in previous years. Incorrect English is much less frequent among our students than heretofore. Essays are improving in beauty and force of expression; and the spirit of "don't care" with regard to ungrammatical expressions is dying.

Respectfully submitted,

MARTHA BUCK.



## Department of Natural History.

ROBERT ALLYN, LL. D.,

*Principal Southern Illinois Normal University;*

DEAR SIR:—I have the honor to report as follows upon the work done in this department during the year 1880-81:

The general character of the work has been very much as that of last year. During the special or August session I had classes in botany and zoology in which the same general plans of work were followed. No particular text-books were required, though in arranging topics on the board from day to day the plan of arrangement of those in use in the regular classes was given the preference. In botany field work was done by the students. Besides plants needed for analysis, some were collected for the herbarium. One reason why students in the special session do not engage largely in pressing plants for themselves in the shortness of the time. By the time the class gets fairly into analytical work so much of the short time has passed that only the less succulent plants would have time to dry before the close of the session; still by taking these quite a number have been preserved.

In zoology more of the practical field work was done. Though the weather was such as is usually found in August, some ten or a dozen of both sexes went almost daily to the woods and fields to collect and study the habits of animals in their native retreats. This work was directed, in a measure, to the study of insects, and for a time the large and beautiful genus *Catocala* formed a great part of the collection of the class. I might add that during nine consecutive days in which captures in this genus were made, 835 specimens were taken. As heretofore, no class records were kept during this session, but at its close several were examined in both botany and zoology, the grades being entered in the large record and the papers filed in your office.

As the subject of natural history is taking a prominent place in our common schools, either as a study or by oral lessons from the teachers, it seems to me that to encourage not only class room drills and reviews in our special session, by teachers, but active field work

as well, is a wise measure. If the teacher is familiar with the common plants and animals with which he is likely to meet he has at his command a valuable means of interesting his pupils. Besides this, such a knowledge on his part will have its influence in securing the respect of his patrons.

During the Fall term I had two classes, the regular elementary zoology class assigned me on the programme and a special class in advanced botany. The statistics of the two classes is as follows :

Elementary Zoology.....	Number 14	Left class 4	Passed 10
Advanced Botany.....	" 4	" 0	" 3

The same text books have been used during the year, in the regular classes, as last year. For the Winter term only one class was assigned me with results as follows :

Advanced Zoology.....	Number, 16	Left class, 2	Passed, 14
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This was the regular class in zoology for the year. It was composed almost wholly of those reaching the study regularly, and as a result excellent work was done. The additional tables published last year for the analysis of moths increased somewhat our range of study by that process; and the exchanges and specimens lately received from the State Laboratory of Natural History, give us better facilities for illustrating than we have had before.

On the programme, I have two regular classes for the spring term, elementary and advanced botany; but as heretofore there has been a call for the two classes in zoology as well. These have been taught with the following results :

Elementary Botany....	Number, 18	Left class, 4	Passed.	12
Advanced Botany.....	" 34	" 4	"	30
Elementary Zoology...	" 11	" 2	"	9
Advanced Zoology....	" 13	" 3	"	10

So far I have had a call for these special classes every Spring term, mostly from those who have been teaching through the Winter, or for various reasons could attend school only during that term. For this reason I have asked that these special classes be published in our regular programme of recitations, with the understanding that they be organized only when a sufficient number ask for them to make it proper to spend the time in teaching them.

In addition to the above class work I have had charge of a spelling class during each of the Fall and Winter terms; and at the opening of the Spring term I instructed those not familiar with marking the sounds of letters in the diacritical marks till they were prepared to enter other classes.

As is understood, my time not devoted to teaching the above classes has been given to the regular museum work. During the year opportunity has been given to the students of the Natural His-

tory classes to do analytical and other practical work outside of the recitation hours, and quite a number have spent some time in such work. The value of such work to those who expect to use the knowledge thus gained in teaching or otherwise is great, and I regret that all of those in the advanced classes can not or do not so arrange their work as to profit by it. A little time was devoted to giving the advanced classes in zoology instruction in taxidermy. During the Winter term instruction was given to such as desired it in the use and management of the microscope, the students preparing their own specimens both for immediate examination and for future use. During the Fall term the microscope was used freely in studying vegetable physiology. It has also been used during the other terms but as they were shorter less time could be devoted to such illustration. It is important that those completing botany and zoology shall be able to analyze and know something of objects at sight, but they should also have some knowledge of the structure of some of the organs of both plants and animals that can only be seen by the microscope, and I wish our students had more time for its use. The increase of time which is to be given to our terms another year will enable us to be more thorough in this as well as other work.

Very respectfully submitted,

G. H. FRENCH.

## Department of Geography and Elements of Language.

*ROBERT ALLYN, LL. D.,*

*Principal Southern Illinois Normal University;*

DEAR SIR:—I respectfully submit the following report of the work done in my department during the year 1880-81:

The number of students in this department has been large and their application and proficiency, though not all that I could desire, have been very gratifying.

### FALL TERM.

	PASSED.	DROPPED.
C Geography, 62—2 Divisions.....	36	11
B       "       16.....	10	5
A       "       11.....	8	2
D Grammar, 50—3 Divisions.....	32	8

### WINTER TERM.

C Geography, 44.....	22	16
B       "       47—2 Divisions.....	28	13
A       "       9.....	6	3
D Grammar, 37.....	20	12

### SPRING TERM.

C Geography, 10.....	6	3
B       "       35.....	20	10
A       "       24.....		
Physical Geo. 19.....	14	4
D Grammar, 45.....	20	15

Total .....409

I also taught during two terms and a part of the third a small class in French.

The training of pupil teachers is recognized as quite an important part of our Normal work, and I have given some time and attention to this each term. During the Fall term one division of the D Grammar class was formed into three sections and put into the hands of pupil teachers whose work I superintended.—Misses Alice Krysher, May Duff and May Nixon.

Miss Alice Donovan taught a class in Geography—one division of



class B, and Mr. J. G. Smith for a part of the Spring term taught a class in Geography. During the latter part of term he was obliged on account of sickness to give up the class. All of these persons showed a degree of interest and faithfulness in their work and of aptness for it which augurs well for their success should they make teaching their vocation. The progress of the students in their classes was very satisfactory. The work in Geography requires three terms—two in the preparatory department and one in the Normal course of study.

The C and B classes are of the same grade, students beginning the study of Geography in either of these classes as the hour of recitation may better suit their work in other departments. The C class takes up the study of North and South America. The B class of Europe, Asia, Africa and Australia, with special study of Illinois. The A class completes the whole work in one term and in addition to the thorough review pays a great deal of attention to methods of teaching.

The pupil who is studying Geography with a view to become a successful teacher of this branch must acquire a thorough knowledge of the subjects treated and also those more or less directly related to these, and must be able to present them in such a way that they shall be easily understood and so interesting that the childish as well as the maturer mind shall find pleasure in studying them.

Nor is it enough that he have such mastery of the facts of the text-book alone. he must have at his command facts and incidents in the history of the country his class is studying; items of interest in reference to its fauna and flora—the condition and habits of its people. He must also strive to keep himself informed of what is going on in the world, that he may always have something new to bring before his classes, so that his proficiency and interest may awaken in the minds of his pupils a zeal for knowledge that will endure after they have left the school-room and the teacher's care, and will keep them always learners.

Such teachers we are endeavoring to make of our pupils, and the thorough reviews, the thoughtful criticisms and comparison of different methods of teaching, with the practice in the latter which our "method" or teacher's classes give are found to be of very great benefit to our students when they go out from us to take charge of schools.

Map drawing is taught in all grades of our work, and is found to be one of the best means of impressing upon the memory the outlines of a country, course of rivers, locations of important places. It gives additional interest also, and very good work has been done by our students in this line.

In oral recitations the topical method is preferred, especially for advanced classes.

Physical Geography also forms a part of the work of this department. It is a study which never fails to awaken the interest; and its descriptions of the phenomena of the earth, its study of the laws which govern these, their causes, consequences and mutual relations lead the thoughtful mind to see how perfectly the Creator has adapted the earth for man's abode, and draw the thought "from Nature up to Nature's God." The students in my classes have derived much of both pleasure and profit from the reference library of the University, which they are encouraged to consult as a means of gaining fuller information on many topics connected with their lessons and also of forming the habit of reading carefully and retaining important facts thus acquired.

I have also had during the year part of the D Grammar, and in these classes I have attempted to lay a good foundation for knowledge of the English language and practically to teach my pupils "to speak and write it correctly."

Respectfully submitted,

E. C. FINLEY.

## Department of Drawing and Penmanship.

ROBERT ALLYN, LL. D.,

*Principal Southern Illinois Normal University;*

DEAR SIR:—I beg leave to submit the following report of work in this department for the school year 1880-81.

The number in classes this year is as follows:

	DRAWING.	PENMANSHIP.
Fall Term.....	59	111
Winter Term.....	27	103
Spring Term.....	34	84
Total.....	120	290

The following syllabus will give some idea of the work done in Drawing and its division by terms:

### FIRST TERM.

Simplest Elements.

Lines and Geometrical forms.

Elements of symmetrical arrangement of forms.

Something of conventional and natural forms and elementary design.

Simple explanation of styles of Historical ornament are given and lessons in the principles of Free-hand object drawing.

### SECOND TERM.

The drawing is both Free-hand and Instrumental. Lessons are given in connection with the copies in the leading styles of Historical Decorations; in Botanical analysis for purposes of Conventionalization and Design and in Model and Object drawing from both flat copy and actual model.

### THIRD TERM.

Problems in Plane Geometry continued, also problems in Parallel and Angular Perspective.

Object and Free-hand drawing in light and shade. Figure drawing from copies and cast.

Botanical analysis from nature.

Applied design for common useful objects.

It will be seen that the work is comprehensive and progressive.

Five students complete the full course this year, and to show the work accomplished are required to finish six Diploma Drawings, consisting of :

1. An original black board and dictation exercise.
2. A sheet of Geometrical Problems.
3. An enlarged flat copy of Ornament.
4. An original design of Plant forms.
5. Perspective Problems.
6. Out-lines of objects.

To finish the course as here laid down, requires the full school year of patient, persevering effort ; but when is taken into consideration the fact that *seven years* work in the public school is here condensed into *one* it ceases to be a matter of surprise that *one term* is not sufficient for its accomplishment. Our students sent out as teachers after this one year's drill, can go into any school, from the Primary to the High School Grades and do efficient and satisfactory work as teachers of Drawing.

A few words as to the importance of such a course : 1. Drawing as well as Writing is a means of expressing thought. We often hear urged as an excuse for not pursuing this important branch of study "want of talent," but as writing is not taught only to those who are to become authors so drawing is as necessary to those who are not destined to become artists.

2. The manufacturing interests of the country demand it.
3. The public taste will be improved by it.
4. Pupils will be better workmen, and so more profitable to themselves and their employers for having trained eyes and hands. It cultivates the understanding, the memory and the imagination. Not only do we become accurately acquainted with the *form* of what we draw, but the work of drawing sharpens our observation of forms we do not draw ; thus drawing affords a knowledge of the material world. In addition we acquire the power of representing to others in a visible manner by a few lines, that which would often require a lengthy verbal description, and even then would be far less clearly understood.

The training of the sense of *beauty* is not to be over-looked. This introduces the pupil to that universal pleasure, that enjoyment, exclusively possessed by none, which is derived from the beautiful in nature and art, and must have its influence upon his general intellectual development.

Respectfully submitted,  
JENNIE CANDEE.



## Report of the Curator of the Museum.

ROBERT ALLYN, LL. D.,

*Principal Southern Illinois Normal University;*

DEAR SIR:—I would respectfully submit the following report upon the work done in this department for the year 1880-81. Before entering into details upon the various points to which attention may be called, I would speak of the assistance some of students in natural history have rendered in several parts of the work. During the Fall term they did but little of such work further than what was desired by a few to learn how to put up and care for natural history specimens. In the Winter term Miss Lulu Van Winkle helped me some in labelling and arranging the cabinet of shells. During the Spring term Oscar S. Marshall spent from one to two hours a day for a couple of weeks or more in mounting plants for the herbarium. Wm. F. Hughes has assisted me on an average of an hour a day through the term in labelling and arranging insects, shells and alcohol specimens. While such assistance has been of value to the students in making them more familiar with the objects handled, it has also aided me in my work and my thanks are due to them for the same.

I might here mention a class of objects to be found in the museum that are not the property of the University, but are

### SPECIMENS DEPOSITED

by the owners for various reasons. The first of these is a set of fossil teeth, evidently those of the Mammoth, owned by Mr. John Borger. They were found on his place south-west from the University while digging a well, at a depth of 22 feet below the surface. They are the plate teeth peculiar to the Elephant division of Proboscidae, and though eight in number, being the whole number from one side of one jaw, they may possibly have formed two large teeth, one mature or fully out and the other only partially developed. Several things seem to point to such a conclusion. The state of preservation of about half of them is such as would seem to indicate that they were fully developed, containing but little animal matter and as a result are pretty well preserved. The other half seemed to have been less developed, containing a greater proportion of animal matter, and

they have not kept so well. In some instances the plates are now single and in others from two to four are united but in all cases they can be so arranged as to fit together as though they had formed two large teeth. It is a pity that the rest of the skeleton had not been hunted for when these were found.

Lieutenant H. T. Reed has deposited in the museum his valuable collection of Indian relics and curiosities. These are placed partly in the cases and partly hung about the room. This collection places within our reach specimens that, besides being of general interest to our students and visitors, also give such an insight to the habits and customs of the Indian portion of our population as can not well be obtained from mere descriptions or pictures.

Joseph G. Allyn has deposited a fine set of minerals from Ste. Genevieve, Mo. These were not deposited during the past year but at some previous time. They consist of fine specimens of the copper ores of that locality, including malachite and carbonate, with some large specimens of dog tooth spar coated with carbonate of copper. These are only a few of the many forms of minerals the valuable collection contains.

#### Archeology.

Under this head might be mentioned the arrow heads, scrapers and other implements of the industries and games of the mound builders, that have been in the museum for some time. A little has been added to this during the year, partly in form of arrow heads. Also a number of pieces of pottery and other things from the Smithsonian Institution, obtained through Dr. Cyrus Thomas. These seem to be modern forms of Indian utensils. They were very badly broken when received but I have put the pieces together so that they present a very good appearance.

#### Minerals and Fossils.

Some changes have been made in this part of the collection, partly by addition and partly in arranging and labelling the specimens. Among the collections made may be mentioned a quantity of Chester minerals and fossils made on our trip to that place, and nearly a complete set of Grand Tower minerals. To these should be added the specimens collected by Prof. Parkinson and his geology class, and some others mentioned in the list of contributions.

During the Fall and Winter terms considerable time was devoted to arranging and labelling the material of this part of our collection. In this I have been assisted by yourself and Prof. Parkinson, the latter continuing his work into the Spring term in re-labelling specimens that had been placed on blocks in the center case. Besides the extra work thus accomplished, the aid rendered was of

great value in giving proper locality and collector's name to many specimens, both of which were unknown to me, as well as the identification of some minerals. During the current year 1250 paste board boxes or trays have been obtained for the purpose of better arranging various kinds of small specimens. These are one inch deep by three inches wide and vary from one to six inches in length. All the smaller minerals and fossils have been put into these trays and placed in the east end of the south case, the fossils on the south side and the minerals on the north. The larger fossils and a few of the smaller unnamed specimens occupy the most of the remaining space in this case both the upper and lower part. Most of the large and more showy minerals are to be found in the main part of the center case, while the smaller specimens, mostly ores, are placed on the two lower shelves of the upright center. Those in the main part are arranged in groups according to kinds, those deposited by Joseph G. Allyn being found in the western portion.

#### Birds, etc.

This part of the collection has increased a little during the year. In addition to the work done by myself, Prof. Parkinson has put up several specimens, among which is a fine Bald Eagle which is to be found in Prof. Brownlee's room. Among the others that may be mentioned are two Magpies and a Large Crested Jay from Colorado, sent in a fresh condition by Miss Sara Saul. Many of the hand specimens or "skins" intended for class use are the "worse for wear," but they are such as can readily be replaced; and the value of such a collection to be used in teaching zoology is much greater than the value of an occasional specimen destroyed. There have been a few specimens added to this part of the collection during the year.

The collection of birds' nests and eggs has been put in better shape. The nests, with part of the eggs, have been put in the two corner cases. The rest of the eggs are put into trays and placed in the east end of the north case.

#### Botany.

Our herbarium stands very near where it did last year. A few specimens were collected last season, and a part of those on hand have been mounted. Only one exchange has been made in plants since our last report, and that was with Dr. George Vasey, Botanist of the Department of Agriculture at Washington. The package received from him contained part European and part Californian. In return some of the rare plants of this locality were sent to him, one of which may prove to be a new species. I had intended to get all the plants on hand mounted this year so as to make several exchanges next year, but other work has claimed so much of my time

that my intentions have not been realized. From a mere estimate without counting I should think we have 2,500 different species.

### Seeds and Fruits, etc.

As part of the botanical collection I made a beginning in a group of specimens that may be classed as above. The fruits that are too succulent to be well preserved dry are placed in alcohol, and are to be found on the west side of the north alcove. Others are placed in trays and occupy a place in the east end of the north case.

Neither of these methods seemed to be suitable for small seeds. To properly display these a quantity of small inverted show bottles of two sizes—ounce and ounce and a half—were obtained from Philadelphia. The seeds belonging to the institution have been put into these and they are placed on the shelves in the north alcove. Besides seeds collected in our locality, the collection contains some that I have had for several years, among which are about a hundred species from Russia. There are at the time of writing this 315 different species and varieties besides about fifty kinds not put into the bottles yet that have just been received from the Department of Agriculture, Washington, D. C. Among these are nearly all of our best marked varieties of grains. This part, it seems to me, will be valuable not only to the student in botany but to gardeners and farmers for the purpose of comparison. To secure uniformity and neatness of label for the bottles I have printed them instead of using a written label, each one containing first a common name, the second line the scientific name, and the last line the locality where grown.

The collection of woods is not arranged yet as I want to have it. Besides the "Lignarium" arranged on a black walnut back there are quite a number of species in blocks occupying a portion of the north shelves that I want during the coming year to label and put in better shape.

### Conchology.

Considerable change has been made in this department during the year. Finding that the shells could not be so securely fastened to cards that they would not come off when handled in class use, a change was made in the plan of labelling them. The few already on cards were transferred to the small pasteboard trays already mentioned; and the balance of those on hand that were named, or I had any means of identifying, were disposed of in the same way. In addition to these I have during the year made three exchanges of insects of this locality for shells. By this means our shell cabinet is very much increased. The first of these was with Prof. E. T. Nelson, of Delaware, Ohio, from whom were obtained a little more than fifty species. Part of these were Ohio fresh water shells and the rest



were Atlantic coast marine forms. The second exchange was made with Prof. H. L. Osborn, of Middletown, Conn. From him were obtained a little more than fifty species; but the greater part of these were other kinds of marine invertebrates, something like a third being shells. The last was with Dr. L. G. Yates, of Centreville, Alameda, Co., Cal. This was the largest package, containing over 200 species and varieties, and was in some respects a very valuable collection. The number of specimens sent to represent a species was much larger than exchangers usually send. Besides this there were some very rare species, while some were represented by large and valuable shells. While they come to us from California and to some extent represent the mollusca of that State, the package contained species from several other States as well as other countries, as the following names taken at random from the different labels will show: California, Oregon, Germany, Saxony, Spain, Asia Minor, Chili, East Indies, Jamaica, Hayti, Bahamas, Azores, New Ireland, Ceram, Egmont Key, Fla., Washington, Ter., Balaeric Isles, Austria, Italy, Barbadoes, Hawaiian Isles, France, Mexico, North Pacific coast, Alaska, Switzerland.

These have all been labelled, and the whole collection is placed in the north case, the boxes when placed close together occupying about two-thirds of the case. They have been catalogued as they were labelled, but the only systematic arrangement made as yet is to separate them into univalves and bivalves. As might be expected in making several exchanges a few species would be duplicated, but such extra specimens can be used in future exchanges. The number of species we have now named, including well-marked, named varieties may be seen in the following table:

Univalves, species.....	266	329 boxes
Bivalves ".....	129	163 "
Total .....	395	492

I can form but little estimate of the number of specimens, representing the above number of species as they vary all the way from one to more than a hundred, but know there must be several thousand. Besides the shells named there are quite a number of species which at present I have no means of identifying, but which will be worked up as soon as I can.

I am confident we can further increase our collection of shells by the system of exchange spoken of, as I have already made partial arrangements with several parties to exchange insects for shells next fall.

#### Alcohol Specimens.

About the first of January we received from Prof. S. A. Forbes, Curator of the State Museum of Natural History, a package contain-



ing fifty species of the fishes of Illinois, and two species of salt water fishes. Later in the season another package was received containing some more fishes, several species of reptiles and batrachians and a number of species of insects. As the last were pinned they will be spoken of under insects. In addition to the above, a part of the package received from Prof. Osborn, of Middletown, Conn., are of this class of specimens. These, with what have been collected here and have been donated by friends of the school constitute the additions to this department during the year. In order to properly care for these a few more bottles and jars were obtained from Whetall, Tatum & Co., Philadelphia, and additional shelves were placed in the alcove containing them last year. It may be stated, however, that the amount of shelving in that alcove is not sufficient to hold all the specimens we now have in bottles so that it is probable some new arrangements will have to be made for the reception of the surplus, and the new material that will be obtained the coming year.

Heretofore this class of material has been placed somewhat promiscuously together, but recently it has been separated into the groups, mammalia, reptilia, fishes, etc., each group having appropriate labels on the shelves to indicate its character. The alcohol specimens of fruits and the few anatomical specimens in jars are in the north alcove, the rest so far as it will hold them are in the south alcove.

#### Comparitive Anatomy.

There is a small amount of material that can be conveniently classed under this head, such as the hearts, eyes and other organs of various animals in alcohol, and skeletons and parts of skeletons of various vertebrates. Though not large this collection is valuable in teaching zoology as it serves to illustrate the structure and the difference in structure of the different groups of the higher animals. To these may be added a number of manufactured anatomical preparations such as the human ear and eye, showing their parts, the head and throat and chest showing not only the external structure but the internal parts. Part of this material has been added to our collection during the year, but the rest we have had longer.

#### Contributions.

Besides the additions that have been made to the museum by exchanges or by purchases and my own collecting, our friends, both here and at a distance from us, have donated many valuable things that may be properly spoken of under the above head. In thus acknowledging our indebtedness to the following persons for the specimens received from them during the year I would say substantially as I did a year ago that we are glad to get such things as have in this way

formed a part of our collection; and I hope our friends will continue to aid in building up here a good museum. I have endeavored to make the following list complete, but if there have been any things over-looked the omission has not been intentional:

Prof. A. C. Hillman, fruit of plant known as Apples of Sodom, Cyprus knees from Johnson Co. Paneratuim Rotatum.

Dr. S. B. Palmer, Syracuse, N. Y., part of a fertile pod of banana with seeds, from Brazil, near the Amazon river.

H. Teeter, Log Cock or Black Woodcock.

Prof. D. B. Parkinson, and the Geology Class, coal and salt specimens from DuQuoin.

Charles Prickett, minerals, etc. from Hot Springs, Ark., large cotton plants grown here.

Joseph G. Allyn, two Mallard ducks, a Wood or Summer duck, and specimen of White Flour corn from Ste. Genevieve, Mo.

Prof. J. Hull, a large beetle and some minerals from Madison, Wis., Lake Pepin, Minn., and from Scotland.

John Marten, fruit of Sweet Viburnum, some Grand Tower fossils and a number of insects.

John P. Stelle, Murphysboro, Great Siren.

August Stande, Okawville, a large pod from Galveston, Texas, and some plants for the herbarium.

George Ennisson, a number of insect larvae of various kinds, some perfect insects and an iron concretion.

Lieut. H. T. Reed, fire brick and sample of sewer pipe from St. Louis, copy of Declaration of Independence.

John C. Salter, Warden of Penitentiary at Chester, quite a number of valuable minerals and fossils from the prison grounds.

Augustus Cline, Papilio Philenor, minerals, furnace specimens and iron turnings.

Charles H. Roe, Pinkneyville, Bittern.

Eddie Sanders, Catocala Magdalena.

Captain T. J. Spencer, Ajo Caliente, Texas, string of roots used by Indian scout to convey information to Victorio.

Philip Fager, two boxes of insects from Desoto.

Sara Saul, Jamestown, Col., Steller's Jay, two Magpies, gold ore from Golden Age mine, and a box of Colorado insects.

Wm. Anderson, Murphysboro, coal fossils.

Hayden & Arnold, Union county marble.

J. F. Wiseman, Gorduis or Hair Worm.

George Rendleman, large Over Cup acorn.

W. G. Kilpatrick, Grand Tower, Shovel Nosed Sturgeon, Alligator Gar and a sample of unhulled rice.

Mrs. E. Robertson, cocoon from Black Walnut, Red Bat, White

Lined Sphinx, *Sphinx Celeres*, larva and Foxtrix larvae.

Richard Toney, Sparrow Hawk and Cray fish.

W. S. Thompson, St. Johns, sample of bromine made at the salt works, some salt specimens and iron ore.

John Herbert, Long Billed Curlew.

Alex. Morgan, Okawville, a young Alligator from St. Augustine, Florida.

George Graham, Polyphemus moth, a large spider and samples of wheat.

Brown & Winfrey, samples of corn, buckwheat and other seeds.

Major P. L. Ward, samples of corn.

Lizzie Unruh, some spiders, a snail, a myriapod and specimens of *Styrax*.

H. Rapp, samples of coke.

Hon. Daniel G. Allen, Providence, R. I., and Mrs. M. B. Bateman, East Greenwich, R. I., shells and other marine specimens from Naragansett Bay.

Mrs. H. D. Sayler. (*nee* A. M. Mulkey) Boulder, Col., a number of Colorado minerals and ores.

C. W. Williams, samples of corn and Indian relics.

John Borger, samples of pop corn for the seed collection.

Walter McElhaney, Bald Eagle.

Anna M. Schmerker, Indian arrow head.

Dixon Crucible Co., Jersey City, N. J., samples of graphite as taken from the ore previous to its preparation for lead pencils, and as prepared for lubricating machinery.

James Vick, Rochester, N. Y., sample of Russian White Oats.

Alex. Keown, five dollar bill of "Wild Cat" money.

Prof. D. B. Parkinson, specimens of Caoutchouc, quartz crystals from Hot Springs, Ark., and asphaltum from Salt Lake, Utah.

Rev. Albert E. Wells, Chester, a number of fossils.

Mrs. Dr. Henry Lightfoot, relic from the foundation of the "Bender House," Kansas.

G. G. French, M. D., Rock Island, iron and clay nodule.

Mrs. Lou Mason, nuts of *Carya Maxima*.

A. J. Rapp, Centipede from Shreveport, Ala.

Mrs. Mather, slag from iron works at Mill Shoals, Ind.

Prof. Jas. H. Brownlee, petrified moss from mineral springs at St. Anthony's Falls.

Lydia Balcom, Screech Owl.

Henry Steinagel, skeleton of a mouse.

Dr. Day, Grand Tower, Indian arrow head, concretion and Stag Beetle horns.

Dr. Allyn, Soft Maple seeds, specimens of Pride of Heaven tree

from New Orleans, *Sphinx Celeus*, *Tabanus Atratus*, *Calosoma Scru-tator*, *Gymnetis Nitida* and Chester fossils and minerals.

Jennie Clay, Cobden, *Prionus Laticollis*, *Hypoprepia Fucosa* and *Europter*.

Nellie Tierney, *Pyrota Mylabrina*, *Ajax* butterfly, *Luna* moth, *Fabianus Atratus*, *Junonia Lavinia*, *Terias Nicippe*, *Orthosoma Cylin-drica*, *Catocala Subnata*.

C. A. Sheppard, *Angeronia Crocataria*, *Philampelus Pandorus* and *Rose Galls*.

James C. Brush, *Saddle Back* larva.

Fannie Goodman, Jonesboro, a large spider.

Samuel A. Jackson, Vienna, a double headed chicken and two snakes.

Prof. C. W. Jerome, *Red Bat*.

Lettie Crandall, tobacco worm.

Orcelia B. Hillman, larva of *Imperial Moth*.

Mr. Colier, larva of *Imperial Moth*.

Martha Buck, a *Geometrid* worm and a *Iroctuid* worm.

Frank Woodward, larva of *Imperial Moth*.

Eva Bryden, *Buck moth* larva.

George Brush, *Euptoieta* larva, *Papilio Cruphontes* and "*Arch-egola*."

Kate Ingersoll, larva of *Acronyeta Oblenita*, and of *Eutrapela*, *Transversata*.

Mrs. Ann Perry, larva of *Turnus* butterfly, of *Royal Walnut* moth and a large spider.

Heber Robarts, M. D., *Club Tortoise Beetle*.

Bertha Hull, double ear of corn.

Minnie Johnson, larva of *Dana's Archippus*.

A. Caldwell, *Eubule* butterflies, several *Catecalae*, a *zygaenid* moth and the seeds and seed pod of tobacco.

Mr. J. Robertson, larvae of *Papilio Cresphontes* and of *Sphinx Celeus*.

Robert Lambert, a *Limacodes* larva.

D. F. Craigwell, *Makanda*, larva of *Royal Walnut* moth.

D. B. Fager, *Abbott Sphinx* larva.

R. G. Sylvester, a *Bombylius* fly.

George Moore, *Spreading Adder*.

Frank Gage, *Corn Snake*.

J. K. Miller, *Sparta*, a queen bee and sweet potato blossom.

James Robarts, M. D., almonds grown in Jackson county.

R. Tierney, larva of *Leopard* moth, *Hyperchiria Io*, *Polyphemus* cocoon, *Utetheisa Bella*, *Catocala Walshii*, *C. Piatrix*, *Turnus* and *Comma* butterflies, *Cicada*, etc.



H. G. Easterly, Sphinx Celeus and Bag Worms from cedars.

Thomas Brown, skeleton of rat's head and some leaves from Calcutta.

Mrs. Nancy Bernstein, larva of Royal Walnut moth.

Rena Clay, Cobden, Argynnis Diana and two moths.

T. Miller, Catocala Residua.

Eddie Foster, Utetheisa Bella.

Cora Williams, Bag Worms from cedars.

Katie McCarthy, Papilio Asterias larva.

Mrs. A. B. Parmelee, Hyperchiria Io larva and two Abbott Sphinx larvae.

George Perry, Sphinx Carolina.

Rockwell Bryden, Sphinx Celeus.

Lizzie M. Sheppard, large spider.

Jennie Nesbit, Eudamus Tityrus larva.

F. B. Anson, Irvington, quartz.

North & Campbell, Sphinx Celeus.

T. M. Williamson, Grand Tower, Polyphemus cocoon.

Osman Bryden, two Buck moth larvae.

A. Ackerman, Corydalis Cornuta.

B. J. Laughlin, White Heron.

Peter Harris, Cecropia larva.

Wallace Brown, Mole Cricket.

S. Hewett, Hooded Merganser, Banana.

Hester Perry, Tent Caterpillars.

E. A. McCracken, Shelby Co., a mounted Red Fox and fossil Favosites.

Arthur Patten, Cecropia moth.

Mattie Easterly, Ruby Throated Humming Bird.

C. C. Wright, Cobden, sample of Castoria or castor bean cake.

A. A. Parkinson, San Jose, Cal., several fine specimens of Star and Meanderin coral.

E. Sweep, Rosa Clare, stalactite crystals.

Edward Thomas, Indian arrow head.

Mrs. Henry Beaman, Cecropia moth.

Alice Krysher, Stag Horn beetle.

A. W. Campbell, Arctia Acraea and Corydalis Cornuta.

Arthur Snyder, Farina, Glass Snake.

Charles Lawrence, Corydalis Cornuta.

Prof. G. F. Foster, specimens of minerals and coal from New Brunswick, fossils from Michigan and algae.

Henry Ingersol, Indian spade.

Department of Agriculture, Washington, D. C., a quantity of plants for herbarium and about fifty kinds of seeds and grain for



seed collection, which is now the best and most valuable if not the only one in this part of the State.

### Insects.

Considerable addition was made to our insect cabinet during the year, partly by collection of our home species, partly by exchange and a few by purchase, the last of O. T. Baron, Mendocino, Cal. During the year I collected and pinned 1,423 specimens besides a number of Lepidoptera that were not pinned but were put into papers. Such of these as were new to the collection were set aside for the cabinet, a few were used for analyzing in the classes, and of the rest such as were desired have been used in exchange for other insects, or as has been said before, for shells or other specimens. The following is a list of persons with whom exchanges has been made for insects and the character of the material received :

Adolph Conradi, Bethlehem, Pa., American and European insects.

J. Elwyn Bates, South Abington, Mass., American insects.

C. F. Goodhere, Webster, N. H., American insects.

A. H. Mundt, Fairbury, Ill., *Samia Gloveri* cocoons.

W. W. Hill, Albany, N. Y., European insects.

Besides the above, part of the last package from Prof. S. A. Forbes, of the State Mus. Nat. Hist., contained insects, and several parties have donated small quantities as will be seen by reference to the list of donations.

We have a comparatively small quantity of material unnamed, and that mostly in the orders in which we have no book with which to study our material. Mr. John Marten has worked up a few more of the Diptera during the year, but I think we should aid him by obtaining for the library a few foreign books upon that subject, without which but little more can be done. Recent additions to my own and to the University libraries will enable me to work up the material in the other orders very well, for the present at least. The cabinet contains the following number of named species and number of specimens, aside from a quantity of duplicates not in the regularly classified drawers :

Hymenopter.....	No. species	98	No. specimens	125
Lepidoptera.....	"	747	"	1330
Diptera.....	"	67	"	154
Coleoptera.....	"	810	"	1197
Hemiptera.....	"	84	"	96
Orthoptera.....	"	133	"	306
Neuroptera.....	"	15	"	35
Total.....		1954		3243

## SYNOPSIS OF THE CATOCALÆ OF ILLINOIS.

In spite of the errors that were overlooked in getting up and printing the tables of butterflies and moths, the past two years' use of them in the class room as auxiliaries to the text book has confirmed me in the opinion I had at first that the preparation of such tables would be a great aid to our students. I intended this year to take up the whole family of Noctuidæ so far as that family is to be found in our State but owing to my being unable to obtain necessary specimens or descriptions of some very rare species in season to make the work as complete as I desired, the arranging of tables for the whole family is deferred for a time. I have this year instead of the whole family taken the genus, *Catocala*, of which I have arranged tables of such species as have been found in Illinois. I have varied the form of arrangement a little in this and made the descriptions a little more full than in the former tables; and have also described under new varietal names a few distinctly marked forms that seem to be worthy of such names. In classification I have mostly followed Grotes Check List without regard to what my opinion might be as to the validity of some of the closely related species as my object is not one of criticism of any man's work but the preparation of such tables as will enable our students to identify such forms of our insects as are regarded by entomologists as species. As our cabinet becomes sufficiently full to enable me to do it I intend to take up other orders until the members of our Zoology classes will be able to identify any of our more common insects. Before going further I should make the following:

**EXPLANATION.** In all of the following descriptions I have supposed the specimens to be spread as they are usually prepared for the cabinet. In this position the costa of the fore wing is the front part and the part opposite the costa is the posterior or hind margin (sometimes called the inner margin), and the end of the wing the outer margin. The transverse half line at the base is called the basal line or the basal half line, that at about the first third of the distance from the base the transverse anterior line, that at about two-thirds the distance from the base the transverse posterior line, and one outside of this nearer the end of the wing the subterminal line. The transverse lines are often abbreviated t. a. and t. p. lines. The space between the t. p. line and the subterminal line is often called the subterminal space. A kidney shaped spot near the middle of the wing is called the reniform and a more or less distinctly marked ring below this is called the subreniform. All but the last are common to nearly all of the Noctuidæ but this is found only in the genus *Cat-*

ocala. The subreniform seems to be an inflexion of the t. p. line. Sometimes the inflected parts are united when the subreniform is said to be closed. There are also three more or less prominent dashes or streaks that are sometimes present, one at the base, the basal longitudinal dash, another formed by the heavily shaded inflexion of the t. p. line near the posterior margin that may be called the posterior dash and a third below the apex that may be called the subapical dash or streak. All the characters used in the following synopsis are taken from the upper side of the insect. The expanse is given in inches and decimals of an inch.

**Characters of the Genus.** Fore wings brown, or some tint of gray shaded with brown or black; hind wings uniform black, or black with a white band through the middle, or some shade of red or yellow with one or two black bands. On the under side the wings are banded with black and either white or the ground color of the hind wings. The antennae are filiform, simple; eyes naked; the posterior part of thorax with a more or less distinct transverse crest, sometimes dorsal tufts on the basal joints of the abdomen.

#### SYNOPSIS OF SPECIES.

##### A. Hind wings black.

###### a. Hind wings without white bands above.

###### b. Fringes of hind wings distinctly white, sometimes black at the ends of the veins.

##### \* Fore wings without basal, posterior or subapical dashes.

1 *Catocala Epione*, *Westw.* Fore wings dark gray tinged with brown, reniform and a shade along the transverse lines distinct brown, subreniform pale. Expanse 2.25.

2 *Catocala Sappho*, *Streck.* Fore wings pale grayish white, reniform brown ringed with black which reaches to the costa making a prominent dark spot, two or three smaller dark spots on the costa. Expanse 2.30.

3 *Catocala Lachrymosa*, *Guen.* Fore wings bluish gray, sprinkled with black, a space on the hind margin including the t. a and t. p. lines pale, especially along the lines, subterminal space smoky brown. Expanse 3.00.

**Var. *Zelica*, *French.*** This bears the same relation to the regular form that var. *Phalanga* does to *Palaeogama*. The subterminal space deep brownish black, and a broad shade of the same inside of the t. a. line.

**Var. *Paulina*, *Hy. Edw.*** The whole fore wing suffused with deep brownish black with the exception of a space along the posteri-

or margin to the t. p. line, and the terminal space, which are the usual color.

**Var. Evalina, French.** The base of the wing to the t. a. line, the posterior part of the wing nearly to the middle, and the terminal space except a dash through the middle, suffused with deep brownish black. The rest of the wing of the usual bluish gray.

4 *Catocala Viduata Guen.* Fore wings pale gray, the transverse lines not prominent except along the costa, a prominent curved black shade from the middle of the costa to the end of the wing below the apex. Expanse 3.50.

5 *Catocala Robinsoni, Grote.* Fore wings pale gray, the transverse lines not very distinct, no curved subapical shade. Expanse 2.75.

\* \* Fore wings with basal, posterior and subapical dashes.

6 *Catocala Desperata, S.-A.* Fore wings pale bluish gray, the transverse lines accompanied with a brownish shade, a blackish shade connecting the basal and posterior dashes, and one curving from the subapical to the middle of the costa. Expanse 3.25.

7 *Catocala Retecta Grote.* Fore wings pale brownish gray marked much like the preceding only not so prominent. Expanse 2.75.

8 *Catocala Flebilis, Grote.* Fore wings bluish gray, a broad black shade, broken in the middle, extending from the base of the wing to below the apex. Expanse 2.50.

\* \* \* Fore wings with posterior and subterminal dashes, the basal absent.

9 *Catocala Dejecta, Streck.* Marked a little like *Desperata*. Fore wings smooth bluish gray, t. a. line heavily shaded with black on its anterior half, subterminal space light brown, reniform slightly tinged with brown, posterior dash present but scarcely a trace of the subapical, t. a. and t. p. lines nearly united near posterior margin, pale outside the t. a. line, subreniform open. Expanse 3.00.

10 *Catocala Ulalume, Streck.* Fore wings pale bluish gray, transverse lines and shade quite prominent along the costa, rather indistinct elsewhere, very little brown along the transverse lines subreniform open, a pale space outside the t. a. line reaching across the discal cell, t. a. and t. p. lines the usual distance apart. Expanse 2.75.

bb. Fringes of hind wings gray, white sometimes at the apex.

11 *Catocala Judith, Streck.* Fore wings pale gray, lines indistinct. Expanse 2.00.

12 *Catocala Obscura, Streck.* Fore wings dark gray, a pale



subterminal line, usually a blackish subapical dash. Expanse 2.75.

bbb. Fringes of hind wings black.

13 *Catocala Insolabilis*, *Guen.* Fore wings pale gray, bluish in the center, suffused with black along the posterior margin, and somewhat clouded with the same in other parts of the wing. Expanse 3.00.

14 *Catocala Residua*, *Grote.* Fore wings gray, basal, posterior and subapical streaks or dashes present, transverse lines obscure. Expanse 2.75.

Var. *Lucetta*, *Hy. Edw. M.S.* A broad black shade, broken in the middle, extending from the base to below the apex.

15 *Catocala Angusi*, *Grote.* Fore wings gray, rather pale, a very slight bluish tinge, the posterior dash present though abbreviated. Expanse 2.75.

16 *Catocala Simulatilis*, *Grote.* Fore wings dark gray, a pale subterminal line, usually a subapical dash. Expanse 2.75.

NOTE. This is perhaps a variety of *Obscura* with darker fringes.

aa. A white band through the middle of hind wings.

17 *Catocala Relicta*, *Wlk.* Fore wings white with four black shades extending back from the costa, and two forward from the posterior margin. Expanse 3.00.

Var. *Phrynia*, *Hy. Edw.* Fore wings so universally dotted with black atoms as to give them a grayish appearance, the lines very distinct.

Var. *Bianca*, *Hy. Edw.* The base of the fore wings and a space between the t. p. and the submarginal lines always clouded with black, sometimes very heavily.

NOTE. I add these two varieties thinking they may possibly occur in the northern part of the State.

AA Hind wings magenta or rosy red, with two black bands.

a Fore wings gray, no longitudinal dashes or steaks.

b. Median band of hind wings not reaching the inner margin.

18 *Catocala Walshii*, *Edw.* Fore wings uniform gray, shaded a little with brown, transverse lines dark brown, no black on the base of hind wings. Expanse 3.50.

19 *Catocala Unijuga*, *Wlk.* Fore wings uniform gray, lines black subterminal line white subreniform closed, base of hind wings a little smoky. Expanse 3.00.

bb. Median band of hind wings reaching inner margin.

20 *Catocala Beaniana*, *Grote.* Fore wings paler than in *Briseis*, the t. p. line more dentate, and the brown subterminal shade pal-



er, subreniform open, median band of hind wings broken near the inner margin. Expanse 2.75.

21 *Catocala Briseis*, *Edw.* Fore wings dark gray, lines black, subterminal shade pale brown, subreniform closed, base and inner margin of hind wings smoky. Expanse 2.75.

22 *Catocala Concumbens*, *Wlk.* Fore wings uniform pale drab, gray, the two transverse lines black. fine, zigzag, hind wings rosy base without black, median band wide. Expanse 2.75.

*Var. Diana*, *Hy. Edw.* A form in which the abdomen is bright rosy.

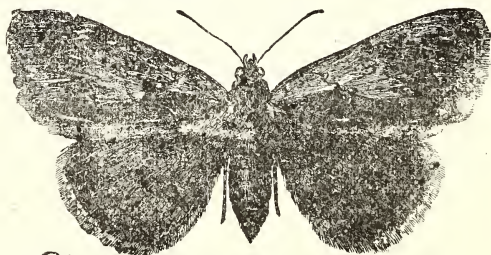
aa. Fore wings brown, or grayish brown, no gray longitudinal streaks.

23 *Catocala Amatrix*, *Hub.* Fore wings uniform dark grayish brown, oar little lighter with a broad broken shade of dark brown from the base to below the apex, base of hind wings without black. Expanse 3.50.

24 *Catocala Cara*, *Guen.* Fore wings rich deep brown, the lines black, indistinct except towards the costa, hind wings rosy red, blackish at base. Expanse 3.25.

*Var. Silvia*, *Hy. Edw.* The costal half of the fore wings largely blotched with yellowish white.

aaa. Fore wings brown with a gray streak or shade from the base outward, and along the costa.



*W.F.S.*

CATOCALA ULTRONIA, *Hub.* (after Saunders.)

25 *Catocala Ultronia*, *Hub.* Fore wings dark brown, the middle of the wing and usually some along the costa at apex suffused with gray, usually in streaks a dark cloud below apex, hind wings blackish at base. Expanse 2.25.

*Var. Adriana*, *Hy. Edw.* Fore wings fawn drab, the lines distinct but the dark clouds towards the apex and along the posterior margin wanting, hind wings with median band narrow, no black at base.

Var. *Celia*, *Hy. Edw.* Hind wings with median band very narrow, sometimes reduced to a mere line, and never reaching the inner margin.

Var. *Mopsa*, *Hy. Edw.* The whole of the fore wing brown except the reniform, a basal streak and submarginal dentate line. These are whitish.

NOTE. As this is an exceeding variable species I add descriptions of all these varieties for possibly they may occur in the State.

aaaa. Fore wings gray with either basal, posterior or subapical dashes or shades.

26 *Catocala Coccinata*, *Grote.* Fore wings pale gray, lines black, reniform small, subreniform and a spot outside the middle of t. p. line light brown, the dashes usually connected with blackish shade, hind wings bright red. Expanse 2.25.

27 *Catocala Parta*, *Guen.* Fore wings pale gray, whitish in the center, the three dashes reduced to narrow lines, hind wings dull red no black at base. Expanse 3.00.

28 *Catocala Marmorata*, *Edw.* Fore wings pale gray, slightly shaded in places with brown, a prominent dark brown curved shade from the middle of the costa to below the apex. Expanse 3.50.

AAA Hind wings orange red at least the costal half, two black bands

29 *Catocala Ilia*, *Guen.* Fore wings dark gray, sometime blackish gray, with a white or light spot in the middle and the basal third of wing quite dark, or the whole wing evenly dark gray, the subreniform pale, no light patch at the apex. Expanse 3.00.

30 *Catocala Innubens*, *Guen.* Fore wings brown sprinkled with gray, a light patch at apex. Expanse 2.50.

Var. *Flavidalis*, *Grote.* Hind wings dark yellow instead of orange red.

Var. *Hinda*, *French.* The costal half of fore wings suffused with dark brown, the apical patch as usual, the subreniform and a small spot above it white, the posterior part of wing usually a little lighter than in the first form.

31 *Catocala Scintillans* *G.-R.* The whole of the fore wings rich blackish brown except the basal half of the posterior margin and the terminal space. Expanse 2.50.

NOTE. This is regarded as an extreme variety of *Innubens*.

AAAA Hind wings yellow.

a. Hind wings with two black bands.

b. Expanse two inches or more.

32 *Catocala Delilah*, *Streck.* Fore wings gray, shaded with

brown and sprinkled with dark brown scales, lines and basal dash dark brown, marginal band of hind wing deeply notched near anal angle. Expanse 2.25.

33 *Catocala Cerogama*, *Guen.* Fore wings light gray, slightly tinged with brown, lines black brown, obscure except near costa, the merest trace of basal dash, no others present; median band of hind wings expanded in the middle. Expanse 3.25.

34 *Catocala Neogama*, *Guen.* Fore wings gray, rather strongly shaded with brown, reniform and subterminal space distinct brown, the longitudinal dashes present but not very prominent, median band of hind wings somewhat moniliform. Expanse 3.00.

35 *Catocala Subnata Grote.* Fore wings pale gray, slight tinge of brown, paler outside the t. a. line to the subreniform, the longitudinal dashes if present very slight. Expanse 3.25.

36 *Catocala Piatrix Grote.* Fore wings dark brownish gray, the lines black, paler outside the t. a. line to the subreniform, hind wings dark yellow. Expanse 3.00.

37 *Catocala Paleogama*, *Guen.* Fore wings pale brownish gray, sprinkled with dark brown atoms, reniform, subreniform and subterminal space pale brown, lines black bordered with whitish near posterior margin, only the posterior dash present and that small, hind wings dark yellow. Sometimes the reniform is black, the lines faint; at others the posterior margin and terminal space are suffused with black brown. Expanse 2.75.

Var. *Phalanga*, *Grote.* Fore wings black brown inside the t. a. line almost to the base, and between the t. p. and subterminal lines.

38 *Catocala Habilis*, *Grote.* Fore wings pale drab gray, lines faint, about five transverse pale shades, very faint posterior dash. Expanse 2.25.

Var. *Basalis*, *Grote.* Differs from the typical form in the presence of a basal black ray or dash on the fore wings reaching to the t. a. line, the posterior dash more distinct; median band of hind wings a little broader than in the typical form. Expanse 2.35.

39 *Catocala Nebulosa Edw.* Fore wings rich dark brown, more or less of the outer two thirds suffused with grayish and buff, hind wings dark yellow. Expanse 3.00.

40 *Catocala Muliercula Grote.* Fore wings deep brown, shaded with bluish over the paler median space, lines black, a pale shade before the reniform; hind wings bright deep yellow, blackish at base. Expanse 2.25.

41 *Catocala Consors*, *S.-A.* Fore wings dark gray, sparsely

sprinkled with black atoms, lines black with brown shading, subterminal line pale gray, a black shade between subreniform and t. p. line, median band of hind wings somewhat moniliform. Expanse 2.50.

42 *Catocala Serena*, *Edw.* Fore wings gray, sprinkled with black, more profuse along the costa, lines black, fine; hind wings blackish at base, median band reaching inner margin. Expanse 2.25.

43 *Catocala Amestris*, *Streck.* Fore wings clear whitish gray, paler outside the t. a. line to the subreniform, lines black, the t. a. line running obliquely to opposite the subreniform with which it is connected with black scales, the black extending up the line to the costa; hind wings deep yellow, the median band not reaching the inner margin. Expanse 2.25.

NOTE. Judith, Delilah and Amestris have been named by Mr. Grote Levettei, Adoptiva and Anna. The only means I have of judging which has priority is by the dates of the papers in which the respective names occur. Mr. Strecker's paper bears date of August 1874, Mr. Grote's October 1874.

44 *Catocala Westcottii*, *Grote.* Fore wings similar to Amestris, hind wings pale yellow. Expanse 2.00.

45 *Catocala Clintonii*, *Grote.* Fore wings pale gray, darker in the terminal space and bluish on the reniform. lines black not very prominent, basal and posterior dashes present; marginal band of hind wings usually broken before anal angle. Expanse 2.00.

46 *Catocala Illecta*, *Wlk.* Fore wings pale gray, only the fine black transverse lines present, hind wings clear light yellow, no black at base, median band not reaching inner margin. Expanse 2.50.

NOTE. This is *Catocala Magdalena*, *Streck.* Mr. Strecker writes me that he has ascertained by comparison of examples of *Magdalena* with the type of *Illecta* in the British Museum that the two are identical. As *Illecta* is the older name *Magdalena* will be used as a synonym.

47 *Catocala Nuptialis*, *Wlk.* Fore wings uniform somber gray, lines distinct only on the costa, reniform deep velvety black, median band of hind wings not reaching the inner margin. Expanse 2.00.

NOTE. I doubt this being found in the State.

bb. Expanse less than two inches.

\* Median band of hind wings not recurrent, or turning before reaching the inner margin and running to the base.

48 *Catocala Abbreviatella*, *Grote.* Fore wings smooth pale gray, but little shaded, a little darker terminally, lines black, obliterated.



ate except in the anterior part, reniform moderate, annulate, a black spot inferiorly, subterminal space faintly tinted with brown. Expanse 1.75.

49 *Catocala Whitneyi Dodge*. Fore wings greenish white, basal and terminal spaces a little dusky, reniform and a shade from this to the costa blackish, subterminal space brown; hind wings blackish at base, the median band not reaching inner margin. Expanse 1.75.

\* \* Median band of hind wings more or less distinctly recurrent.

50 *Catocala Polygama, Guen.* Fore wings dull olivaceous gray, shaded with brown inside the t. a. line and the subterminal space the same color, reniform slightly bluish, small basal and subapical dashes. Expanse 1.75.

51 *Catocala Crataegi, Saund.* Fore wings gray, suffused with brown, paler through the middle, dusky along the posterior margin, lines brown black, basal and posterior dashes present; marginal band of hind wings broken before anal angle. Expanse 1.60.

52 *Catocala Amasia, Wlk.* Fore wings white, the lines black, dusky shade inside the t. a. line, also from the reniform to costa, and less prominently so over the terminal space, subterminal shade brown, not reaching the costa. Expanse, 1.60.

53 *Catocala Grynea, Guen.* Fore wings nearly uniform dull olivaceous gray, brown along the posterior margin from near the base to the subterminal line. Expanse 1.75.

54 *Catocala Fratercula, G.-R.* Fore wings gray, suffused with brown, sometimes the terminal space pale, a dark brown curved shade from the middle of the costa to below the apex. Expanse 1.65.

Var. *Atarah, Streck.* Fore wings darker, the lines more distinct, dusky inside the t. a. line and along the posterior margin. the middle of the wing some paler. Expanse 1.75.

55 *Catocala Minuta, Edw.* Fore wings brownish gray lines not prominent, the subterminal white line broad at the costa. Expanse 1.50.

56 *Catocala Gracilis, Edw.* Fore wings uniform gray, densely sprinkled with brown scales, all the lines obscure except on the costa. Expanse 1.60.

aa. Hind wing with only one black band, broken before anal angle.

57 *Catocala Amica, Hub.* Fore wings light gray, sometimes a brown curved shade from the middle of costa below the apex. Expanse 1.50.

58 *Catocala Lineella Grote.* Fore wings whitish heavily suffus-



ed with black and sprinkled a little with brown, lines black. Expanse 1.50.

## CAPTURING CATOCALAE.

There are two methods usually adopted of catching these insects, one known as "sugaring" and the other as "whipping." By either of these methods a large mouth poison bottle is necessary for the purpose of catching and killing, and some kind of receptacle for storing after they are dead. Another poison bottle is often used for the latter but it is objectionable as the dead insects rub against each other and partially denude some portion which lessens the beauty of the specimens. After the insects are dead they are sometimes pinned and put into cigar boxes having cork in the bottom. An objection to this is if they are not spread soon after being taken they become too stiff to spread without relaxing. A tin box with a cyanide cake in the bottom and cork round the sides answers the purpose well. It should have a lid attached by hinges and a handle in the top for carrying. One 6 by 8 inches by 5 inches deep will hold thirty specimens pinned with room on the cake where a number more may be laid. These can be left in the box for twelve or twenty-four hours without danger of drying.

In sugaring, a mixture of stale ale or beer with cheap sugar or molasses or some similar preparation is painted on a number of trees, posts or other convenient objects at dusk. These places should be visited once in from fifteen to twenty minutes during the evening with a lantern, a dark lantern or "bull's eye" being best. Whatever insects are found feeding on the preparation placed on the trees can be taken by placing the wide mouth poison bottle over them. As the sugar mixture dries it should be renewed as long at least as it is desirable to continue catching. Not only Catocalae but many other kinds of insects can be taken in this way. Warm dark nights with the wind in the south will be most favorable for sugaring.

Capturing by whipping is done in the day time instead of at night. To be successful it is usually best to select a thick piece of woods in a low place, along some stream or some place where there are ledges of rocks, in caves or under bridges. A few may be taken at any time during the proper season (from June to September) but the best time will be found to be from two o'clock to four in the afternoon with the wind south or southwest. At such times they may be found on the trunks of trees near the ground, about rocks, etc. If such places be examined the insects may often be seen and captured without disturbing, but if not seen the tree or rock may be struck

with a small switch when they will fly up. By watching to see where they alight they may be approached and taken with the bottle. Some species seldom fly further than the opposite side of the same tree, while others start easily and often fly to some distance. These to be taken must be approached cautiously. At the time mentioned above most species will be found on the north or east side of trees away from the sun and wind.

I find it advantageous to use both of these methods, not alone for the other insects that may be taken at sugar that I would not find by other means. I have taken a few rare species at sugar that I have not found in the day time, and also a few in the day time that I have not found at sugar.

#### Corrigenda.

While the whole Principal's Report is going through the press I take the opportunity to make the following corrections in my synopsis:

No. 3. For Var. Evalina read Evelina.

No. 12. To this should be added between dash and expanse—t. p. line nearly straight across the wing with a series of fine teeth.

No. 14. This description applies to a form of Angusi. The description should read—Fore wings dusky or smoky gray with a pale gray subterminal shade.

Var. Lucetta is a variety of Angusi instead of Residua.

No. 16. To this should be added between dash and expanse—t. p. line more as in Residua and other species with two very prominent teeth and wide open subreniform. This species should be placed after No. 12 as the fringes are grayish white.

No. 17. For Var. Binaca read Bianca.

No. 24. After Var. Silvia should be added Var. Carissima, Hulst. The costal half of fore wings largely blotched with greenish yellow.

No. 49. The color of fore wings should have been light gray. The base is not dusky below the submedian vein.

Respectfully Submitted,

G. H. FRENCH, Curator.

ROBERT ALLYN, LL. D..

SIR:—I have the honor to submit this my first annual report for the collegiate year ending May 26, 1881.

In compliance with orders from the War Department, Washington, D. C., I reported for duty at this Institution. and on September 6, 1880, assumed charge of the Military Department. I regret to say that at the beginning of the year the military was not a popular department with either the Faculty or students, and as all male students were not then required to take the military course, they were slow to volunteer, enrollments being made in the Fall term as late as December 3rd. The Winter and Spring terms opened more favorably, and nearly all of the enrollments were made on the first few days of these terms. As soon as practicable I organized the cadets into a battalion of four companies, which I designated as the *Douglas Corps Cadets*, in honor of the late Hon. Stephen A. Douglas. I also prescribed a neat but inexpensive uniform of cadet gray for the cadets; about thirty-five of them provided themselves with it, and from this number I selected officers of the battalion.

The accompanying table has been prepared to show at a glance the status and work of the department for the year:

NUMBER OF CADETS.															
	JOINED.			INSTR'D.			DRILLED.								
	With no previous military instruction.....	Not instructed by Lieut. Reed	Total.....	For the year.....	For only two terms.....	For only one term.....	Members of the Senior Class...	Dropped.....	Perished.....	Performed Court-Martial duty.....	Revised in Upton's Tactics.....	In Reed's Signal Tactics.....	In U S Artillery Tactics.....	In Upton's Inf. Tactics.....	
															At Target Practice.....
1880-1881.															
In Fall Term.....	38	32	0	100	24	36	40	3	6	3	10	0	46	100	
In Winter Term.....	61	2	74	107	18	48	40	215	1	0	17	0	14	107	
In Spring Term.....	27	5	55	87	53	14	40	4	21	4	9	0	33	87	
During the year.....	126	39	129	165	75	50	40	5	32	8	16	17	56	165	

The hour allotted for daily military exercises has been devoted to drills and weekly dress parades of Infantry, with occasional lectures upon military subjects, while drills in Artillery, Target Practice, instruction in military Signaling and Courts-Martial, and recitations in Upton's Infantry Tactics were generally had after school hours. The Cadets as a whole have shown aptitude for drill, and while the discipline has not been perfect it has improved very considerably, the cadet officers doing much to elevate the standard. The uniformed cadets have participated in several public celebrations, and have never failed to elicit commendation for their good marching and soldierly bearing, and I am happy to state that I have reasons to believe the cadets of the Douglas Corps have the good will of the citizens of Carbondale and the hearty support of the Trustees and Faculty of the University. The position of Chaplain was tendered the Rev. J. J. W. Place of the Baptist church in this city, and he having accepted, his appointment was announced to the corps.

Cadet Thomas S. Marshall, 1st Lieutenant and Adjutant of the Douglas Corps Cadets, who graduates at the head of his class, has performed the various military duties assigned him in a very efficient manner, and having been in the military department of this institution for nearly three years I take pleasure in commending him as worthy of a cadetship at West Point.

In accordance with the precedent established by the Governor of Illinois, I respectfully recommend the following named four cadets of the graduating class, for honorary appointments as Captains on the Governor's Staff—viz:

1. Thomas S. Marshall. 2. Henry W. Karraker. 3. John W. Lorenz. 4. William F. Hughes.

I respectfully suggest the propriety of asking the Legislature to appropriate \$50,000 for an armory and improvement of the campus, in order that the Military Department at this Institution may compare favorably with that at the Illinois Industrial University at Champaign.

In conclusion I respectfully recommend that the grass on the drill ground may be kept short and the ground made more even; that a competent man be employed occasionally to clean the rifles and accoutrements; that the gun carriages be repainted and that suitable shelter be provided for the two sections of artillery used by the cadets

Very Respectfully Your Obedient Servant,

H. T. REED,

Lieut., U. S. A., Prof. Mil. Science and Tactics.