

# The Spectrum.

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## THE STRENUOUS LIFE.

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If asked to embody in a phrase what was especially characteristic of the closing nineteenth century, no better could be chosen than the one so well known: "The Strenuous Life." It is a phrase which has become firmly embedded with proverbial force in our every-day speech. Its marvelous popularity as shown in its continuous use—and one might almost say abuse—in press and speech, throughout the length and breadth of the land, shows that it is the expression of the spirit of our age. In other words, the reason for its popularity and adoption into the language of the masses is that it so admirably expresses the chief characteristic of present-day conditions.

We are living in an age of wonderful material development; there seems to be no limit to human possibilities; the spirit of inquiry is moving the world onward. Step by step the dominion of the human mind over the agencies of nature is asserting itself. Marconi from a tower overlooking the Atlantic turns electrical force, the most mysterious of all phenomena, aside from its ordinary course and uses it as a me-

dium of thought, without the aid of the electric wire. The world looks in astonishment at the inception of an air-shielded train, that will travel more than a mile a minute. The achievements of the sub-marine torpedo boat have given rise to the possibility of a sub-marine steamship. The marvelous feats of the genius of Santos-Dumont seem to harbinger a time when the airship will navigate through this vast ocean of space with more safety, perhaps, and greater rapidity than an ocean liner. Thus we are striking out new highways of progress in every possible field of science. On every hand is the teeming evidence of what has gloriously been accomplished through "The Strenuous Life."

While this awakening of interest in the material universe with its wonders and possibilities is unparalleled in the world's history, there have been, previous to our age, times of wonderful awakening not unlike our own. The most noteworthy of these, perhaps, is the one known as the age of the Renaissance or of the Revival of Learning. The causes of this revival were

the leading features of the fifteenth century. During that time the world was said to be passing through changes more momentous than any it had witnessed since the victory of Christianity, and the fall of the Roman Empire. The smouldering embers of European intellect suddenly burst into flame. The activities of the human mind were awakened as never before. The discovery of the New World gave a new impetus to European civilization. It stirred the slumbering activities of humanity. Its unrivaled possibilities instilled the spirit of life into the souls of men. The fall of Constantinople ushered in a new era in the revival of literature. For centuries this ancient city had been the abode of Grecian scholars. These were now welcomed to the shores of Italy. The Old-World spirit was born anew. As Green the historian has well said: "The poetry of Homer, the dramas of Sophocles, the philosophy of Aristotle and of Plato, woke again to life beneath the shadow of the mighty dome with which Brunelleschi had just crowned the city of Arno."

Foreigners in immense numbers crossed the Alps to study the Greek language and Greek masterpieces. There was a European awakening of intellect and soul which found expression in literary productions, destined to be the delight and wonder of the world. The crest of this tidal wave was reached in England in the age of Elizabeth. The dramas of Shakespeare show how man as never before became conscious of the immense resources and boundless powers of the human spirit.

But the age of Puritanism followed. It struck at the very heart of the Renaissance. Man awoke as from a summer's dream to find that the promise and expectations of the previous age had not been fulfilled. The Revival of

Learning which had promised to satisfy even the most capricious behests of the human mind, to unravel the secrets of nature, and to explain the phenomena of the universe—all these had proved to be but a poet's dream, a philosopher's theory. During the supremacy of Puritanism that activity and strenuousness which had been called forth in the Elizabethan age flickered and sank into ashes. There was inaugurated a new conception of life. The charms of this world seemed no more. There was a yearning for something nobler. The great problems of life and death were studied by rich and poor alike. The world beyond was made the supreme end of all effort.

In contrast with this spirit of Puritanism, and harmonizing with the spirit of the Renaissance, our age is remarkable for a revival of interest in the world here and now. Interest in the beyond is no longer supreme. Men are again feeling the immense power of the human spirit to do. We feel more than ever before, perhaps, that the powers of man are well nigh limitless. There is nothing we fear to attempt. Every new accession to our knowledge is used to apply fresh means with which to control the forces of nature. In such an age of expectancy, of consciousness of new power and new possibilities, it is not to be wondered at that the watchword on the lips of everyone is action. Our implicit faith in the doctrine of "The Strenuous Life" finds expression in every home, workshop and factory. Everywhere the call is for energy, tenacity and stubborn fixity of purpose.

This spirit of the age has found noble expression in our literature. Literature is but the echo of the feelings, hopes and ideals of an age. Thus we find Thomas Carlyle who has been called the "Censor of the Age" not only hurling with giant force the products



of his masterful mind against the "shams and trivialities" of the world, but becoming the eloquent exponent of that doctrine of unyielding, unflinching steadfastness which leads to individual and national greatness. "Be no longer a chaos," he cries, "but a world, or even worldkin. Produce! Produce! were it but the pitifullest infinitesimal fraction of a product, produce it, in God's name! 'Tis the utmost thou hast in thee! out with it then." The poetry of Rudyard Kipling strikes the same keynote of strenuousness. He does not shrink from idealizing what we may call the practical or even vulgar. The horny-handed laborer, the engineer, the cattle-keeper and the soldier—with all these we are made to sympathize. The electric cable, a steam engine, are made worthy themes of song and in the light of his imagination become touched with beauty and meaning. In him we have not the theories of life, but life itself. So also Stevenson, one of the foremost writers of the age, gives expression to the same feelings both in verse and prose. Thus in one of his essays he has nobly said: "Who would find heart enough to begin to live, if he dallied with the consideration of death? It is better to lose health like a spendthrift than to waste it like a miser. It is better to live and be done with it than to die daily in the sick-room. By all means begin your folio, even if the doctor does not give you a year, even if he hesitates about a month, make one brave push and see what can be accomplished in a week."

But let us turn from literature to life for further illustrations of what this gospel of action means. Whoever has kept in touch with the Press during the last few weeks has undoubtedly been impressed with the solemnity of the passing away of Cecil Rhodes. The keynote of this man's life was action. Hampered in his youth by that most

terrible of human maladies, consumption, he went into South Africa where he grappled with the disease which was forced to yield to the power of his will. To-day he is ranked as one of the world's great empire-builders. By strenuous effort, in a few short years he annexed a new Empire to British power, and amassed a fortune of over thirty million dollars. Upon leaving the field of action he bequeathed a bond of Anglo-Saxon unity which will last forever. The motto of his life is shown in his dying words: "So much to do, so little done."

And where, it may finally be asked, is there a more ringing affirmation of faith in "The Strenuous Life" than in this teeming vigorous America of to-day? In a few short centuries we have risen to a pre-eminent place among the nations of the globe. Whatever we have attempted to do we have done with all the powers of body, mind and soul. Colleges and universities are thronged with men and women who feel the throb of a new life. Our advance in industry, art, and invention are unparalleled in all history. From the borders of the two oceans this wave of prosperity has gone on to the islands of the Orient, and has given a new impulse to the whole world.

In him who first gave expression to the phrase, "The Strenuous Life," we find an exemplifying model of all that the phrase signifies. Among our public men of to-day, Theodore Roosevelt stands peerless. His whole career from boyhood to successful manhood shows that he rigorously lives what he so ardently preaches. Whether as Commissioner of Police, Assistant Secretary of the Navy, Chief of the Rough Riders, Governor of the State of New York, or finally as President, he has shown one animating spirit in all his words and deeds, that of "The Strenuous Life." A worthy leader of a great peo-

ple! A chief still young in years, whose breast, therefore, throbs only the more ardently with the Ulysses spirit, which takeh "with a frolic welcome—the thunder and the sunshine"—while

at the same time "Yearning in desire to follow knowledge like a sinking star beyond the utmost bound of human thought."

—J. F. JENSEN, '02.

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## LIEBIG AND HIS WORKS.

(Winner of first place and the Lavoisier gold medal in the Chemical Club contest.)

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On the 12th of May, 1803, there was born at Darmstadt, Germany, a boy who was destined to be one of the greatest of that class in whose work Mr. Balfour finds the causes which, more than any others, conduce to the movements of great civilized societies.

The name of Justus Liebig suggests an era of great importance in the history and development of chemistry. His father being a dealer in dye stuffs, spent considerable time in experimenting as how to best purify his wares. From this source young Liebig received the first incentive to pursue the work which has ranked him a peer among the scientists of all ages.

When a boy he read all the scientific books and periodicals pertaining to chemistry, while at the same time carrying on the experiments which the small means at his command would allow. Liebig never left an experiment until it had been mastered in every detail. At the age of fifteen he entered the shop of an apothecary for the purpose of studying chemistry, a few months later he entered the University of Bonn, from there he went to Erlangen. In those days laboratories were unknown, the only sources of knowledge were the library and lecture room. In 1812 Liebig completed the course at Erlangen with the Degree of Ph. D. Through the generosity of Louis I,

Grand Duke of Hesse-Darmstadt, Liebig was given an opportunity to continue his chemical studies in Paris. During this time he made the acquaintance of such men as Runge, Mitscherlich and Rose. Liebig was a regular attendant at the lectures of Gay Lussac, Thernard and Dulong and at the same time carrying on the investigation into the composition and properties of the fulminates. The result of this work was communicated to the Academy of Sciences, and it was declared to be remarkable for the precision and clearness of his language. It attracted the attention of Humboldt, who introduced Liebig to Gay-Lussac. From that day all laboratories stood wide open to receive him. Gay-Lussac became interested in this young chemist to such an extent that he invited Liebig to work in his private laboratory, which he accepted, and immediately commenced the revision of his work upon the fulminates to such a degree that before the close of the year he was rewarded by the discovery of isomerism, and was given the honor of a waltz around the laboratory with Gay-Lussac, who always celebrated his discoveries by such strange exercises.

"Here Liebig had the opportunities of learning all the mysteries of the art from one of the most skillful and ingenious of experimenters." On the



recommendation of Humbolt, Liebig was appointed extraordinary professor of chemistry at the University of Giessen, where he established a school, whose achievements in pure and applied chemistry have perhaps never been surpassed. "From the most modest beginning and the scantiest means came results which fill one of the most splendid pages in the history of chemistry."

It was but a short time after his appointment until he opened the first public laboratory for the teaching of practical chemistry in Germany. All the organized scientific investigation which has made Germany a central factor in the methods of scientific research are a direct result of Liebig's work, in his laboratory at Giessen.

Liebig has been nobly called a pioneer in science. His most important works may be considered under three heads: (1) The effect of the opening of the Giessen laboratory; (2) The improvements introduced by him in methods of investigation; (3) The application of chemistry to physiology and agriculture.

The result of the opening of the Giessen laboratory has already been treated. Among the most important improvements introduced by Liebig in methods of investigation, was that of organic analysis. It is true that long before the time of Liebig, organic substances had been analyzed with a marked degree of accuracy, but the methods employed were very cumbersome and could only be determined by chemists of extraordinary ability.

The methods of organic analysis employed by Liebig consists in completely oxidising the substance which is to be analyzed, and then collecting and measuring the carbonic acid gas and water formed. This method is noted for the accuracy of its results, and the simplicity which is involved in the de-

termination. It has been said that analysis is to the chemist what astronomical methods for determining longitudes and latitudes are to the geographical explorer. That without it many interesting and useful discoveries may be made, but it is only when complete and accurate analyses are made of all the new substances produced in the course of a research, that the research becomes fully available to the explorers. Liebig's method of analysis was a discovery of vast importance, and on it is based the foundation of modern organic chemistry.

Liebig's influence on the development of chemistry, as applied to agriculture and physiology, has never been equaled in its influence on the world's material progress. "Perfect agriculture," he says, is the foundation of all trade and industry, it is the foundation of the riches of states, but a rational system of agriculture cannot be found without the application of scientific principles, for such a system must be based on the exact acquaintance with the means of nutrition of vegetables, and with the influence of soils and actions of manure upon them. This knowledge, he says, we must derive from chemistry, which teaches the mode of investigating the composition, and of studying the character of the different substances from which plants derive their nourishment.

With these principles as a foundation for his great work Liebig set forth with all the skill of his masterful mind to create a science of agriculture. At this time he was said to have reached the zenith of his career. His methods of organic analysis had never before been equalled. Besides there were a large number of students trained under his instruction, who were anxious and well prepared to aid him in carrying his work to a successful end. Liebig's first book on chemistry in its application to

agriculture and vegetable physiology was read with remarkable interest throughout the whole land, and it was but a short time before it had passed through a large number of editions. After a thorough study of all the phases which were involved in his subject, he published the result of his researches in the "Natural Laws of Husbandry," a work of which Hofmann said was the first perfect construction of the philosophy of agriculture which had ever appeared up to that date.

In connection with his works on the principles of agriculture, Liebig was investigating with marvelous success the relations of chemistry to physiology and pathology. "It was a happy inspiration which led him to combine in his researches these two lines of work, each so important to the welfare of mankind, each so closely bearing upon the other."

Perhaps Liebig's greatest achievement in agricultural chemistry was his overthrow of the humus theory, which was based on the supposition that the vegetable mould, or humus, which abounds in enormous quantity in virgin soils when there has been a luxuriant plant growth for ages past, gave to the soil its productive value. Many physiologists claimed that the fertility of soil could be measured by its humus content, and regarded it as the essential ingredients for the food of plants. They supposed that the humus was extracted from the soil by the roots of the growing plants. Liebig struck at the very heart of this theory. Humus, he said, was of a very variable composition, and is only soluble in water when freshly precipitated. It becomes quite insoluble after drying, and after it has been exposed to a freezing temperature. Thus we see that extreme heat and cold renders humus insoluble. It will therefore be necessary to bring it into solution before it can be absorbed by the

growing plant. To test the correctness, Liebig made numerous calculations and clearly demonstrated that the amount of humus obtained by the plants on a given area was far too small to account for the vegetables produced.

At this time the importance of the mineral constituents of vegetables was not at all recognized. Liebig undertook to prove that the plant derives its nourishment both from the atmosphere and from the soil. He proved beyond a doubt that the sources of the plant's nitrogen came from the atmosphere, while the potash, soda, lime, iron, magnesia, sulphuric and phosphoric acid and silica was absorbed from the soil in a soluble state. No exhaustion can take place of the former, he says, but the soil contains only a limited amount of the latter in a soluble state, and when this is used up the soil becomes barren, and if any of the necessary constituents which gives to the soil a productive value are lacking, Liebig calls it a barren soil.

By a system of measuring, Liebig clearly demonstrates how, when the soil is lacking in some of its valuable constituents, they may be returned, and the soil again be made fertile. He further shows how when land is left fallow atmospheric agencies will eventually decompose the insoluble minerals and again return to the soil that which had been removed. He gave us conclusive evidence to the fact that plants absorb from the soil their assimilable ingredients in different properties, and explained the benefits to be derived by a system of rotation of crops.

As plants require certain quantities of certain ingredients to promote a full development, it occurred to Liebig that animals, to produce a healthy organism, must likewise be supplied with the right proportion of mineral and organic food. He classifies the kinds of organic food into heat-producing and blood-forming.



He then first found it necessary to determine whether the carbohydrates, starch, sugar, etc., were in any way connected with fat. But after a thorough investigation he arrived at the conclusion that the transformation from starch or sugar into fat could not take place in the animal body. Liebig's investigations into the relations of organic chemistry to physiology assured him beyond a reasonable doubt that the only source of animal heat is that produced by the oxidation of the tissues. This belief he had to defend against the arguments of the whole medical world. The belief in the spontaneous combustion of the human body, he succeeded in destroying forever.

The part Liebig has played in the development of human knowledge will go down the annals of history forever. It

is said that he paved the way for the educational revolution, which will be long associated with the second half of the nineteenth century, by establishing in 1825 at Giessen his famous laboratory for giving instruction to all comers in practical chemistry. By his work in organic analysis he laid the foundation for modern organic chemistry. By creating a new science of agriculture the world's productiveness has been enriched a thousand fold. Liebig's whole career from boyhood to successful manhood was that of a deep thinker and a strenuous worker, whether as a student, professor or lecturer he was accurate in his work and exact in his language. As a scientific investigator he may be truly ranked among the great men of all nations.

—J. F. J.

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## COMMENCEMENT.

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### '06'S PROGRAM.

The doings of commencement week were begun in the college chapel on the evening of June 7th, on which date the Senior Preps. gave their program before a large and seemingly much pleased audience. After musical selections by Miss Bessie Olson and the College Choir, both of which were heartily encored, the class entertained the audience with a farce comedy entitled, "The Man With Wheels," which proved highly amusing. All of the participants deserve much credit for the commendable manner in which they conducted themselves and for the complete success of the evening's entertainment. Mrs. C. M. Hall, in a vocal solo, was heartily encored and was obliged to render another selection.

### INTER-SOCIETY BANQUET.

After the Prep. program on June 7th, the members and guests of the Literary Societies repaired to Francis Hall, where the seventh annual inter-society banquet was held. After a sumptuous spread, the toast-mistress, Miss Ward, announced a piano solo by Miss Bessie L. Olson, which met the approval of all present. Ruth L. Phelan then responded to a call for a toast on athletics, and said in part:

"I have always been slow to say anything of my Puritan grandmother because it is so annoying to admit that my dear dead ancestors neither came over in the Mayflower nor in the furniture boats that followed it, but of late years I am quite content that this honor was denied me. You may surely judge

something of the passengers on that famous boat by the furniture that has lived after them, and in all my researches I have not found the trophies looked for. Cradles, clocks, chairs, spinning-wheels, warming pans, etc., are numerous enough to stock the Waldorf Astoria, but not a foot-ball, baseball, bat, mask, basket-ball or other emblem to show there was an athlete among the people.

Let us imagine the scene if this school could be moved back to those olden times. Take for instance, the first Thanksgiving day which the small boy said was decreed so they could have a foot-ball game. We can imagine our foot-ball heroes, Manns, French, Greene, Wicks, Birch, Wilde, Spelliscy, McGuigan and Jensen in the midst of a crowd of Puritan fathers, very dubois as to the propriety of the game, but curious enough to overcome their qualms of conscience. We can see Jensen wearing his laurels meekly (as becomes a Senior). Imagine Schmidt looking about anxiously lest perchance there be one girl present contrary to the order of the authorities, who commanded all maidens to remain at home to sweep and bake, lest in the excitement they should raise their voices in an unseemly manner; we can see Osgood surrounded by a crowd of savages, led perhaps by Massasoit himself, begging to be taught the new and blood-curdling war-whoop which they heard him give so often during the game. And where would Miss Ward be all this time do you suppose? Without a doubt we would find her arguing with some of the Puritan men, stoutly protesting against the outrage of keeping the girls at home instead of letting them join in the crowd about the foot-ball field and declaring that, in spite of everything she would have a girls basket-ball team and that all the wampum the girls earned they would spend

to suit themselves, regardless of what the deacons wished.

"And so the fall and winter might pass away, the Puritans allowing football and basket-ball, but with spring imagine the looks of sorrow and indignation if they could see the faculty in base-ball attire contending with the students. They would have been shocked to even think of a Professor so far forgetting his dignity as to indulge in such a sport, and as for watching them—it is too much to even imagine, the picture fades away, leaving us more thankful than ever that we live in an age when athletics are supreme. I pledge the athletes."

This extract of Miss Phelan's talk speaks for itself and needs no commentation.

After a hearty applause, Elmer May recalled the sensations of the year, enumerating the many events of the college year, all of which were of much interest and many that were highly amusing.

L. B. Greene spoke in behalf of the Alumni in responding to the toast, "Our Dear Departed." Mr. Greene also felt it his duty to give the Seniors a little fatherly advice, which was timely and good and which might prove of much benefit to others than the Seniors if carefully heeded. By way of illustration, Mr. Greene referred to that historic steamboat, whose construction was such that every time she blew her whistle she stopped for want of steam. He then warned the Seniors against any such mishap.

After the advice of this worthy Alumnus had percolated into the brains of the Seniors, the toast-mistress called on Maria A. Calley for a review of class scraps. This Miss Calley did in a very commendable manner, portraying the heroic spirit of her class, that of '05, and showing the inferiority of all the other classes that had been



subjugated and now bowed their heads in reverence to the mighty Freshman class. Miss Ward now remarked that although the Seniors had already blown their whistle considerably, they still had enough steam left for another tute, and announced that Tom W. Osgood, '02, would then deliver the hatchet to the Junior class. It appeared that the Juniors had refused to accept the hatchet so, as Mr. Osgood, stated in his speech, he had substituted something corresponding as nearly as possible to the state of the Junior class, and when he drew a curtain aside and revealed Old Jerry, the college skeleton, a general laughter resounded through the hall. He then proceeded to address Jerry in a confidential way, informing him as to the significance and use of the hatchet and finally presenting him the hatchet, instructed him to present it to the succeeding Junior class when his allotted term shall have expired.

The concluding number of the program was a piano solo by Miss Pauline Pederson, which was of high excellence.

Miss Ward, as toast-mistress, presided over the meeting in a manner which reflects credit on her ability and upholds the high standard of the Senior class of which she is the only lady member.

#### BACCALAUREATE EXERCISES.

On Sunday afternoon, June 8th, a large audience gathered in the college chapel to listen to the Baccalaureate address by J. H. Worst, LL. D., and the accompanying exercises. President Worst had as the subject of his address, "Reciprocal Social Service," and dealt with this subject with more than the usual eloquence which characterizes his efforts and make it a pleasure to listen to him.

#### '04's PROGRAM.

The Sophomore class may well be

proud of the program which they rendered so commendably on the evening of June 9th before a large and appreciating audience in the college chapel. The program opened with a piano solo by Miss Pauline Pederson, the number receiving hearty applause. Elmer May, the class president, delivered an excellent address, which was much appreciated by the audience. Miss Agnes Scott rendered a very pleasing vocal solo and was obliged to respond to an encore. In the rendition of "The Death Bed of Benedict Arnold," Miss Sophia Thomas scored one of the successes of the evening. Miss Mary Darrow did herself proud in her paper entitled, "William Morris as a Craftsman." Her paper was full of interest throughout and the delivery was excellent. The audience were much pleased with the vocal selection by Miss Elita Olson and Professor McArde, and showed their appreciation by insisting on having another song. The remainder of the evening was taken up by the production of a farce comedy, "Frank Glynn's Wife." After many perplexing ordeals, Mr. Glynn, with the assistance of several female friends, succeeded in satisfying his friend that he had but one wife.

Elmer May, Sophia Thomas, Katie Jensen, Edith Fowler, Dora Jensen, Mary Darrow and Albert Scott made up the cast of characters and their efforts found special favor with the audience.

#### '05's PROGRAM.

Next in the course of events came the Freshman exercises and they, too, have reason to be proud of their class. The college choir entertained with several selections and received merited applause. Arthur L. Peterson, as president of the class, delivered an address which was par excellence. Miss Maria A. Calley held the attention of the audience with her recitation of "A Little Stowaway," and acquitted her-

self with exceptional merit. The audience showed a deep interest in the essay entitled "Primary Election System," which Robert Dolve gave with such a display of tact. J. D. Hanson gave an eloquent oration on "The Victories of Peace," and Arthur Nickles rendered a pleasing vocal solo. An essay on "North Dakota Scenery" was ably handled by Carl Hulberg. A. Mikkleson's original story entitled, "A Backwoods Wooing," touched the funny spot of the listeners. Wm. Kennedy roused his Irish and gave an appeal in behalf of Ireland that was the essence of interest. J. A. McGlynn concluded the evening's entertainment with a clever little burlesque and the audience departed much pleased.

#### GRADUATING EXERCISES.

The grand finale was held in the Fargo Opera House on the evening of June 11th, and attracted a large number of people. A class of four, Miss Aldyth Ward, Tom W. Osgood, H. B. Schmidt and J. F. Jensen, graduated and received the degree of bachelor of science.

The program was opened by a selection by the college choir, who were obliged to respond to an encore. After the invocation by Reverend C. H. Dickinson, Dr. Putnam rendered a cornet solo, "The Holy City," which was heartily applauded and encored. President J. H. Worst of the college in a

short address presented the speaker of the evening, Hon. Joseph B. Cotton, of Duluth, who is a graduate of the Michigan Agricultural College and a prominent member of the Minnesota bar. In his eloquent address, "The Golden Age Again," Mr. Cotton held the attention of the audience as only those can who are gifted with that rare oratorical ability and attractive stage presence. At the close of his speech, Mr. Cotton emphasized the fact that the present era is one that is fraught with great opportunities and that the golden age of the present excels in opportunities all past periods, and that it demands from the student in particular the exercise of his every talent for the advancement of the age.

A solo by Mrs. Grace Lincoln Burnam comprised the next number, "Spring Tide," called forth the hearty ovation of the audience.

President Worst then conferred the degrees upon the members of the class and addressed them with a few appropriate words of valedictory.

The college choir closed the program with another pleasing selection, and thus the eighth commencement exercises of the North Dakota Agricultural College passed into history. The future of our college looms up with unresplendent glory. Watch her growth and cherish an undying love for her, and ever interest yourself in her welfare.

The Senior Preps. can play ball. They challenged the Freshmen and on June 1st defeated them by a score of 12 to 7.

June 6th, just another little class row. The Preps. raise their flag and the Freshmen took it down. Outside of a few black eyes and some knock-outs, nothing very sensational occurred.

Thursday, June 12, was the scene of a general shaking of hands, etc., as the students bid one another farewell and departed for their respective homes. Some will not return, while others will and bring with them many new students and thus the student-body changes from year to year and things proceed as serenely as before.



## Question Box.

The Spectrum's "Question Box" bids fair to become a popular and reliable advisor to those who are in doubt.

We herewith submit answers to the questions recently received through that medium and trust that they will tend to put these doubtful ones on the right track.

S—t.

It is not proper to hang on the gate for more than four hours.

M—g.

It isn't wrong for a young gentleman to call on a very particular lady friend after 9 p. m. But he should be sure that she is not one who retires early.

Freshman.

It was real mean of those Preps. to tie you up, for two reasons:

1. It did not show a proper regard for your years and station.
2. It made you, a dignified freshman, appear ridiculous.

How can you avenge yourself? Be cautious on two points. Do not use brute force, for that is a relic of barbarism, and do not debase the high moral standing of your class.

G-h-e.

Your question is a very delicate one and the reply has received our grave consideration. After much deep thought and profound study, we present the following: Fix both eyes firmly on the fellow whose brother you wish to become. At first smile at him and never forget to greet him with a pleasant nod. Then speak to him in a jovial manner, a slap on the back or something of that sort would not be amiss. As your friendship becomes stronger, linger so as to walk home with him from college, carry his books, work his examples for him, laugh at his jokes, take him to shows and occasionally treat him to a stick of gum. Recollect that this must all

come about gradually and with proper tact on your part. You must yield to his every whim and do his every wish until finally you will be so entwined about his very heartcords that to live without you will be but to perish.

Mc.

To prevent such mishaps, use the patent cuff-holder. It is harmless and absolutely sure in its working.

M—k—n.

What rules the world? At first thought we would say, woman, but before answering definitely will have to give the question more consideration.

H—m—n.

Why should you marry? Many have thought of this before you. For good strong arguments in the affirmative, see Dr. Heath's little book, entitled: "Guide to Matrimony" or "Rough Ways Made Easy."

C. G. S.

My boy, beware, she is fooling thee. Listen and meditate.

"The dressmaker knows how to fashion  
Women's forms to enchant the eye;  
And yet there are cranky old fogies  
Who insist that figures can't lie."

Our advice is that you carry a hat-pin with you on calling night.

Pres. of '06.

No, there is no doubt that your class was very brave, and showed a very reckless spirit when they captured the freshmen, but next time bind them with rope, binder-twine is not quite strong enough to hold mighty Fresh.

F—l—s.

We cannot send our book on etiquette to you just now, as some of the freshmen, wishing to learn how to behave in the future, are perusing it. However, we will try to accommodate you as soon as possible.

## The Spectrum.

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J. F. Jensen '01, . . . . . Gen'l Science  
T. F. Manns, '01, . . . . . Athletic

### COLLEGE DIRECTORY.

#### PHIOMATHIAN LITERARY SOCIETY

Aldyth Ward, . . . . . President  
Miss Teresa Fields, . . . . . Secretary  
Meetings alternate Saturday evenings at 8 o'clock in Francis Hall.

#### ATHENIAN LITERARY SOCIETY

Emily May, . . . . . President  
A. Mikelson, . . . . . Secretary  
Meetings every Saturday night at 8 o'clock, in College Chapel.

#### STUDENTS' ORGANIZATION

E. M. May, . . . . . President  
Clement Gamble, . . . . . Secretary

#### ORATORICAL LEAGUE

M. H. Fallis, . . . . . President  
F. G. Birch, . . . . . Secretary

#### ATHLETIC ASSOCIATION.

I. F. Jensen, . . . . . President  
W. E. Treat, . . . . . Secretary

#### AGRICULTURAL CLUB:

M. H. Fallis, . . . . . President  
W. O. Perry, . . . . . Secretary  
N. D. A. C. Y. M. C. A.

M. H. Fallis, . . . . . President  
C. O. Hulberg, . . . . . Secretary

#### ENGINEERS' CLUB:

Louis Larson, . . . . . President  
. . . . . Secretary

The High School graduating exercises were of unusual interest this year.

Class spirit has been running at high tide during the past year. Keep it up, fellows, that's what makes good college spirit.

Of all the crooked work and highway robberies, Minneapolis seems, at present, to be the seat of the worst. These robbers are being brought to justice, however.

With this issue the old editorial staff make their exit and the new staff will resume their duties with the opening of the Fall term. As Editor for the past year, I wish to tender my hearty thanks to the staff and members of the student body for the unceasing support they have given and for the interest they have taken in the publication of our college paper. No doubt some members of this year's staff will be connected with THE SPECTRUM another year and I trust that all, new and old, will put forth their utmost endeavors to make ours the leader among college papers. Bear in mind that one person or even a chosen few cannot do all and that with the assistance of the entire student body a more satisfactory paper can be published than by the efforts of the staff alone. Therefore, contribute your share throughout the ensuing year and your debt to our college oracle will be paid.

Paul C. Gorder, '01, visited the college for a few days about May 3. He informs us of his good fortune in being appointed city engineer at Devils Lake. We always knew that P. C. was a hustler. The Spectrum extends congratulations.

## Editorial.

It rather does our hearts good to see the Fargo base-ball team win five consecutive games from Grand Forks. But then, that's easy; consider who we are.



At the Senior banquet, on May 12th, lamb was served with one of the courses. On the morning of May 13th a \$125 ram was missing from the college stable. Any connection?

Plunge baths, or who fell into the ditch full of water on Tenth Street north?

Ans.—Professor Northrup, Miss McArdle, Miss Phelan and H. B. Schmidt.

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## Exchanges.

"The *Blue and Gold* should be content to rest on the laurels which her institution won at the state oratorical contest, without casting any slurs on other contestants."—*Normal Oracle*.

THE SPECTRUM and the *Student* seem to have buried the hatchet—they are saying good things about each other nowadays. We are afraid it is only a calm before the storm. Wait until foot-ball season!—Ex.

THE SPECTRUM wishes to acknowledge with thanks the receipt of an invitation by the *Student* to the thirteenth annual commencement of the University.

"This is how one editor looks at it: Fifty years ago when a business man took his pen in hand to write he made mention of that fact, and now when he takes his typewriter in his arms he says nothing about it."—Ex.

The school year has closed. Our students, going to their homes or spending their vacations where they may, will be unable to enjoy the exchanges which will echo the doings of the last month of school at the various institutions. We read with the keenest interest the numerous exchanges which come to us from institutions widely distributed throughout the country, and trust that we may welcome them with the beginning of another school year. Till then, we wish you a most joyous and profitable vacation.

"The lips that touch liquor shall never touch mine,"

So snarled a maiden with features divine;

Then, retorted the man with wicked glee:

"The girls who kiss puddles shall never kiss me." —Ex.

The *Walking Leaf* contains a good article on "Ancient and Modern Athletics as Factors in Their Country's Welfare." We quote the following extract:

"The men in our colleges to-day are the men who in a few years will be holding the reins of government, and the training which they get upon the athletic field will influence their every action in after life.

"The clear-eyed, steady, strong, reliable athlete will be the man who can be trusted with responsibility, and who can be relied upon to think quickly and to judge coolly and accurately in a crisis.

"For nowhere does a man have to think more quickly and judge more coolly than in a hard fought foot-ball game. The man who would be a first-class foot-ball player must have the nerve and pluck to fight against overwhelming odds and to never say die until the game was ended.

"The man who would succeed in life must have the same requisite, and if he has been trained on his college grid-iron or diamond, to bring into play the qualities of pluck, coolness and good judgment, his success is assured."



**EDWARD B. COCHEMS**  
who will assume the duties of Athletic Director at the  
N. D. A. C. this fall.



## Athletics.

Never before in the history of our College was there a brighter outlook for winning athletics than there now is.

Arrangements have been made and with the opening of the Fall term we will have with us Edward B. Cochems, who is to act in the capacity of athletic director. Mr. Cochems is a graduate of the University of Wisconsin, where

For two years he played left end on the University foot-ball team and during his last two years he filled the position of left half-back. He also held the hand-ball championship of the U. for two years prior to graduation and has won points for his institution at inter-collegiate meets in shot-put, discus throw and broad jump.

All this signifies that we are to have



FOOT BALL TEAM—CHAMPIONS OF NORTH DAKOTA, SEASON OF 1901-

he held an enviable position as a scholar and an athlete. He is a member of the Delta Upsilon Fraternity and won highest honors in the joint debates. During the past year he was President of the University Republican Club.

He is the possessor of three W.'s, signifying that he has been a success in foot-ball, base-ball and track athletics.

among us a man who is capable of putting our athletics on a firm basis, but remember, he can not do all. He must have the hearty support of every student and more particularly of those who take active parts. Foot-ball will be the first branch of athletics with which he will have to deal on his arrival; so let it be hoped that every student who is a candidate for the

team will be on hand the day college opens—September 15th, 1902.

The Gymnasium and bath rooms are undergoing some very desirable improvements and every effort is being made to get everything in the best condition to facilitate coping with the several branches of athletics.

Finally: Boys, throughout the state, take advantage of the excellent opportunities offered at the North Dakota Agricultural College in athletics, as well as in the Scientific, Literary and Mechanical researches.

Summary of the past year in athletics:

FOOT-BALL.

- Sept. 21—A. C. 17, Fargo H. S. 0.  
 Sept. 28—A. C. 65, Moorhead Normal 0.  
 Oct. 5—A. C. 60, R. R. V. Univ. 0.  
 Oct. 12—A. C. 34, Hamline U. 6.  
 Oct. 18—A. C. 17, U. of Minn, 2nd, 0.  
 Oct. 29—A. C. 53, Fargo College 0.  
 Nov. 2—A. C. 17, U. of N. Dak. 11.  
 Total, A. C. 263 to 17.

BASKET-BALL.

- Mar 24—A. C. 28, Fargo Y. M. C. A. 12.  
 Feb. 1—A. C. 28, Fargo Y. M. C. A. 30.  
 Feb. 7—A. C. 14, Minneapolis "Y" 30.  
 Feb. 8—A. C. 9, Minn. U. 60.  
 Feb. 10—A. C. 11, Minn A. C. 59.  
 Feb. 22—A. C. 29, Fargo H. S. 12.  
 Mar. 4—A. C. 18, Fargo College 14.  
 Mar. 8—A. C. 56, Valley City Normal 18.  
 Mar. 17—A. C. 19, Fargo Y. M. C. A. 20.  
 Mar. 22—A. C. 29, Fargo Y. M. C. A. 30.  
 April 12—A. C. (Ladies) 5, Valley City (Ladies) 8.

BASE-BALL.

- May 8—A. C. 2, Lisbon 0.  
 May 9—A. C. 8, Sheldon 2.

May 23—A. C. 12, Valley City 5.

May 24—A. C. 8, Cooperstown 17.

The past year has been a very successful one in athletics at our institution. In foot-ball, basket-ball and base-ball we hold the reputation of having not once been defeated in the past year in any of these lines of athletics by any collegiate team of this state.

In foot-ball we have had but seventeen scores placed to our debit column, while to our credit we have a total of two hundred sixty-three. The teams we have encountered in this national college game are some of high standing in this sport—the following may be mentioned without bringing any derogatory reflection upon the American game, viz.: University of Minn. second team, Hamline University, and the University of North Dakota.

In basket-ball we have met some of the best teams in the United States. And although we suffered defeats from some, yet the scores indicate that the playing ability of our athletes on basket ball is but little behind that of older institutions.

In base-ball, the schedule was greatly shortened owing to the very disagreeable weather. The four games we have played, however, were very successful to our team.

Yes, the Senior Preps. are regular devils at playing ball. Not satisfied with defeating the Freshmen, they went after the Junior Preps. on June 3d and won from them by a score of 13 to 10.

The Athletic Association refused to back up the girls' basket-ball team in the game with Valley City. That game payed \$80 over expenses. Now, girls, blow in the proceeds to your own satisfaction. The boys will, no doubt, have more confidence in your business ability hereafter.



## Local Happenings.

The Seniors looked very swell, in full-dress, on graduation night.

Miss Irma Cook visited the college for a few days during Commencement week.

Miss Josie Larson was a visitor at the College during Commencement week.

Senior advice: If you can't solve the problem, go over to the chemical laboratory—you can always get some kind of a solution there.

Miss Eva Ramsden, a student of last year, was recently married in Minneapolis to Mr. W. H. Shure. THE SPECTRUM extends congratulations.

Chapel exercises were conducted by Mr. Fallis May 6. We all hope that he will deliver some more of his interesting ? lectures before the close of the spring term.

We notice by the Call that Mable Spencer is at Green River, six miles from Dickinson. We further notice that Chas. Phelan has a new wheel. But then, that signifies nothing—to some people.

Tom W. Osgood, '02, was recently appointed city engineer of Fargo. This is indeed a compliment to Mr. Osgood's ability and a handsome recognition of the work done at the Agricultural College.

Thursday evening, May 12th, was the date of the annual Senior banquet, at which Miss Ward presided as hostess. Miss Senn sat at the foot of the table, and besides the Seniors Miss Darrow and Miss Ruth Phelan were guests.

We mention with the utmost regret that J. E. Phelan and family have moved from Fargo to Dickinson, where they will make their future home. This de-

prives the College of one of its most popular and brightest students, Miss Ruth L. Phelan. Mr. Phelan's business is centered at Dickinson and Charley is connected with the bank there; hence, our loss.

Since the Freshman-Prep. scrap, both classes have developed considerable artistic talent, and each takes every opportunity of drawing pictures showing how inferior the other class is.

On May 23, Professor and Mrs. Keene gave the Senior class and a few intimate friends a swell spread and a right royal time. We will remember these social features with much pleasure when we are far away.

On Tuesday, May 20th, Professor and Mrs. Bolley entertained the Seniors at dinner. Professor Hult, Miss Ione Senn, Mr. Manns and Miss Phelan also were guests. During the evening Miss Senn favored the party with several highly appreciated violin solos.

Professor, handing a bottle of red ink to a student, who had failed to recognize several chemicals: "Well, perhaps you can tell me what this is."

Student: "Yes, sir, that is an acid."

Prof.: "How do you make that out?"

Student: "It turns blue Pitmus paper red, doesn't it?"

The class of 1902 donated to the College their beautiful class flag. This, we trust, is the beginning of a custom which, if continued, will put the institution in possession of a rare collection of class emblems, and when at future dates, old students visit the institution, they can hoist the old class flag and perhaps beat up some lower classman—just to recall old times.

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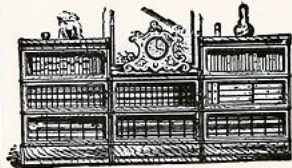
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