The Spectrum.

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Aspiration.

A little drop of water lay
And yearned for purity one day.

But one desire its longing knew;
To be transfigured into dew;

To leave the gutter and the mart
And twinkle in a blossom's heart.

Ere long the wind came dancing up,
And bore aloft the dreaming drop;

And from the vernal sky of blue
The sunbeams lent their succor too.

At last as dew it found repose
Within the bosom of a rose. . . .

A soul would be immaculate —
Creator, what will be its fate?

Gottfried Hult.

Lessing's Place in German Literature.

In view of the approaching anniversary of Lessing's birthday on the twenty-second of January, it may be of interest to the readers of THE SPECTRUM to learn something of the importance of this great German poet and critic.

About the middle of the eighteenth century there arose the man to whom the world is indebted in at least two ways; first, for freeing German literature from the bondage of French and pseudo-classical tradition, and second, for spreading the gospel of religious tolerance, which, up to his time though recognized as a principle, had certainly not become operative. This man was Lessing.

He precipitated the first storm of opposition by pointing out in the preface of his newly founded magazine (1750) that, if the German would follow his natural bent in matters dramatic, his stage would be more like the English than the French; and that as editor he would give as much space to criticisms on Shakespeare as to those on the much lauded French poets. Such a declaration was both novel and bold, for at that time French literature and French criticism, especially as typified in Voltaire, was dominant everywhere. And if we recall Voltaire's estimate of Shakespears, we may be able to realize the momentous importance of Lessing's words.

Some twenty years later he became deeply interested in theological questions and was soon recognized as the stout defender of what was then called liberal religion. His intolerant opponents, not few in number, could not cope with a mind of such trenchant power and such limpid clearness as was that of Lessing. After they had been worsted time and again they finally succeeded in inducing the government to withdraw the immunity from censorship which he had enjoyed for many years. In consequence of this the poet was again forced to make poetry the vehicle of his thought; his masterpiece, *Nathan the Wise,* contains a full exposition of his ideas on toleration. Before discussing this let us turn for a moment to another of his dramas.

It was the Seven Years' War that inspired Lessing to write *Minna von Barnhelm,* a comedy, considered by some of the foremost critics of today the greatest in German literature. For the first time a dramatist of the highest rank had chosen a contemporary and a Prussian setting, and had thus broken with all traditions. The principles that he himself had so carefully laid down in his critical writings he had applied to this play and thereby proved that he was a creative artist as well as a critic

A few years before the publication of this drama Lessing's interest was centered on Greek art. The results of his studies are embodied in *Laokoon.* Here for the first time a master mind clearly set forth the limitations of poetry and painting by stating that the former has to deal with series of events succeeding each other in time, the latter with objects not extended in time but in space.

And now a word or two in regard to *Nathan the Wise.* The core of it is, of course, the parable of the three rings,

several versions of which are found in the literatures of Spain and Italy. To the polemic against intolerance, as expressed in Baccaccio's story, Lessing joined a most significant element: love for humanity. This, however, is the key-note not only of this drama, but of the thought at the end of the eighteenth century. It is here that our present ideas on philanthrophy have taken rise; and thus we are justified in saying that consciously or unconsciously we all have been affected by Lessing's powerful utterances.

This, in brief, is Lessing's importance to German literature. He was, as we have seen, a pioneer in more than one field; he was an acknowledged master in criticism and the drama. It behooves, therefore, all friends of literature to cherish his memory. M. B.

Visiting on a United States Battleship.

One of the United States naval stations is located at Bremerton, Washington, a very small town about an hour's ride, by boat, from Seattle. On certain days only are visitors allowed to go on the battleships; consequently they are thronged on those days.

On one of these visiting days last summer a party of us left the Seattle dock one morning at eight o'clock, arriving at Bremerton at about nine, where we were informed that we could not go on board either of the two boats then in until twelve o'clock. So we strolled about town for a time; but, as it was an intensely hot day, we were glad to go to a hotel and sit down and wait.

After an early dinner we set out for the dock. Soon we found ourselves with hundreds of others waiting our turn to walk across the gang-plank onto the deck of a real battleship. The two then in for repairs were the "Oregon" and the "Wisconsin." The former was in such a state of confusion, owing to the still unfinished repairs, that visitors were allowed only on the decks, and were not very welcome even there; so we put in our whole time on the "Wisconsin," which was to leave port next day.

It is beyond my knowledge to give a technical description of a battleship; I am only going to tell of a few things I noticed.

The first thing that impressed me was the extreme cleanliness everywhere. Everything, from stem to stern, was freshly painted, and the sailors, who appeared to be having a holiday, were all dressed in spotless white duck suits. Some of them were writing letters—each on his own locker—while groups here and there were entertaining themselves and their guests with gramophones, and various other musical instruments; still others, utterly oblivious of the gaping crowd, sat in obscure corners with "treasure-boxes" unlocked looking over old letters and keepsakes. I noticed one young man in particular, who had taken his precious "box" and climbed way up into one of the small boats which hung on the davits over the water. There he sat, away from all praying eyes—as he supposed—with such an absorbed look on his face that he held my attention for some minutes. He took several photographs from the

box and looked long and intently at each; then he took out a little packet of letters and began reading, while I passed on. Poor lad! Who knows whether the reading of them brought pleasure or pain? My heart ached for him almost unconsciously, while I wondered how many months, or years, had passed since last he saw the originals of those photographs. Another young sailor turned his spare time into money by employing these visiting afternoons in embroidering red and white silk stars on squares of navy blue flannel, and selling them to the visitors as souvenirs. He had his work-box and sewing utensils, and went at his work as dexteriously as any woman. In one of the lower rooms we came upon a tailor cutting and making clothes for the men on board, as Uncle Sam does not want his men to be off duty long enough to attend to having clothes made. A great many of the sailors were detailed to show visitors about, and answer questions; and even though through ignorance there were a good many foolish questions asked, these guides were very patient and good-natured.

In the kitchen, with their backs together, each about twelve feet long, were set two great ranges, which were presided over by a swarthy little "Jap" with a long shining queue hanging down his back. After watching the "flunkeys" peel and slice about two bushels of cold boiled potatoes ready for frying, I asked one of them how many men there were on board, and he told me about four hundred. Upon looking around for a dining room large enough to accommodate such a number, I was very much surprised to find none at all. The men's meals are dished up in the kitchen and lowered to them on a dumb-waiter, from which they help themselves—two men eating together from off their locker. Above each locker is a sort of wire cupboard containing tin dishes necessary for two. These are washed and taken care of by the men using them, and put back in the cupboard until the next meal.

I learned also, by asking, that the sailors sleep in hammocks, which are concealed around the ship's rail by day, and hung up any place they may choose to have them at night.

At one end of the ship we saw a live badger in a very nice, comfortable cage, or box, and I immediately displayed my ignorance by inquiring of our guide why they carried that animal around with them? He very considerately concealed a smile and answered: "That is the State Emblem of Wisconsin."

Although we spent several hours on ship-board, I doubt whether we found all the different compartments even then; yet we were privileged to go anywhere except in the Captain's office. The last thing we did was to register our names in a large book kept on purpose for visitors, which is, in itself, an interesting thing. I saw names from all parts of the world, and I assure you I feel quite proud to know that my name is on record as having visited one of our great battleships.

My last sight of the "Wisconsin" I shall not soon forget. It was during the "Elks' Carnival" in the city of Seattle, as she lay at anchor in the harbor, and on two or three evenings was brilliantly illuminated by electricity, for the pleasure and admiration of the city and its thousands of guests. My view was obtained from the top of a "Ferris wheel" in the Carnival grounds, and words fail to describe the beauty and grandeur of the scene from that view. The Seattle harbor is always alive with boats of greater or less importance, which, with their twinkling lights, appear at night like a swarm of fireflies;

while among them, and yet distant against the back-ground of darkness, her stern outlines illuminated by hundreds of incandescent lights, lay the proud "Wisconsin." S. B. A.

Scientific.

HOW BACTERIOLOGY DEVELOPED.

The bacteria are among the lowest of living organisms. They are just upon the lower limit of the vegetable kingdom. Sternberg says: "They are cells deprived of chlorophyll, of globular or cylindrical form, sometimes sinuous or twisted, reproducing themselves almost exclusively by transverse division, living isolated or in cellular families and having affinities which approach them to algae."

The microscope discovered by Hook and improved upon by A. van Leeuwenhoek in 1775 cast a new light upon the science of bacteriology. By this discovery people were given a chance for the first time to study the morphology of these plants. Although infusions were in use, where bacteria could be seen, there was, however, not much research done along this line until the beginning of the nineteenth century. Ideas were present but nothing was done.

We know from history that the ancient Greeks and Romans had a knowledge of fermentation. The Bible speaks of leavened and unleavened bread. The Pyramids of Egypt have pictures on them which represent ancient brewing processes. A philosopher who lived before the birth of Christ spoke of small animals which live in ponds, etc., as having power to cause disease. These scraps show how crude our knowledge of bacteriological phenomena was prior to the last century.

In 1837 two noted scientists, Latour and Schwann, studied the germs of putrefaction, calling them plants. About 1860 one of the greatest scientists the world has known began work. This man was L. Pasteur, an assistant and student in the laboratory at Clermond-Ferrand in France. Beginning with the study of the germs of the air, Pasteur divided his work into many lines. He was the founder of laboratory methods in bacteriology. For he made his own working utensils and media.

Fermentation and innoculation for immunity were the greatest studies of L. Pasteur. The great breweries of today owe their presence to the work of this great man. Medicine owes much of its importance to Pasteur for his wonderful discoveries along the line of modern surgery, and the study of the cause of septicemia.

In immunity he worked upon anthrax and hydrophobia. Under immunity fall our modern studies of antitoxines. His study on hydrophobia gave rise to the Pasteur Institutes. He found that the disease when contracted by man from lower animals developed in fourteen days. Pasteur reasoned that if the spinal cords of dogs or rabbits which have had the disease be ground up and placed in a bouillon media a culture of germs will be produced, which, if inoculated in due time into the serum of a hydrophobia patient will work against the disease. The weakest of several strengths of the culture are used first. The longer the cord dries the weaker it becomes. By this process

of inoculation thousands of lives have been saved. Very few cases which are attended to in time die from the disease.

The same is true of others like tetanus, diphtheria, smallpox, etc. There are perhaps at present many antitoxines of which we are ignorant. However, the discoveries are most important.

Tyndall, a co-worker with Pasteur, worked on atmospheric germs until 1873, when O. Bermeier noticed motile, flexible germs in the blood of a fever patient. This led to the germ theory of disease originated by Klebs. Doctors objected to Kleb's idea that the germs of blood poisoning came from outside of the body; for previous to Klebs students believed that these germs were spontaneously developed within the body.

Lister established the germ theory more firmly when he applied it in antiseptic surgery. All his theories led to the carefulness with which the modern doctor guards himself and his patients. The surgeon sterilizes all instruments before and after using them. Lister's discovery led to the profession of nursing and the establishment of the hospitals where surgery is made possible.

About the time when the germ theory of disease was being introduced, Latour and Schwann discovered the work of the yeast plant. At the same time Pasteur discovered a yeast which was very destructive to the silk worms in France. This discovery led to the belief that miasmic, infectious and contagious diseases were due to fungi. This fact, however—since the laboratory methods of that day were poor—was not proved until later Cohn and Henle, in 1840, had to give up their work on diseases on account of poor methods; but Koch and Pasteur next worked and found some organisms causing diseases.

Liebig was the first to study the bacteria of the soil. It is really due to the work of Liebig that agriculture became a science. Prof. Conn, an American of today, has also done very much on the study of bacteria of the soil. He has shown that the preparing of humus is chiefly due to soil bacteria.

Since Lister's time much has been done along the pathogenic line. In 1879 Hanson discovered the germ of leprosy. In 1880 Koch and Eberth discovered the germ of typhoid fever. In 1882 Dr. Koch discovered the bacillus of tuberculosis, the cause of consumption.

The United States Army Surgeon, Sternberg, contemporaneously with Saranelli, discovered what he called the yellow fever germ. Since he has called it a protozoan. His work consisted chiefly of the classification of germs on which he is now a standard authority in America.

The pneumonia organism was discovered by Dr. Fraenkel, who called it a pneumococcus. Friedlander also discovered it, but called it a bacillus. Kitasto claims the discovery of the germ of bubonic plague, the dreaded disease of the East. Canon and Loffler discovered the cause of influenza, and Canon and Pielicke that of measles.

In our modern laboratory methods, we are careful because of Lister. We may thank Dr. Koch for pure cultures; Pasteur for utensils, and Sternberg and DeBary for methods of classification. At present our methods are constantly being improved by men who are devoting their time to this growing science.

Although the science of bacteriology is comparatively new, its importance was never felt so much as today. For it more than any other science relates to the life and health of the race.

ANNA HELEN STAPLETON.

Professor Rood, the distinguished physicest, died at his home in New York November 12.

M. H. Hassano has recently noted several facts that go to show that the aurora borealis is of terrestrial origin.

Dr. Albert Ludwig claims that diamonds may be made directly from carbon in an atmosphere of hydrogen and under high temperature and pressure.

Dr. E. A. Wilder has recently been appointed state geologist of North Dakota, and also professor of geology at the University.

Pasteur, the great French biologist, thought he had proven fermentation to be the result of life. Now his theory seems to be reversed, and modern biologists say that the life processes are controlled and directed by fermentation.

There has lately been put upon the market an electrical invention for sheep shearing. The clippers are carried over the sheep by hand, but the power for operating them is furnished by the electricity. This machine, it is said, enables sixteen men to perform the work of a hundred.

Emperor William in the farewell audience of Ambassador White, presented him with the Gold Medal of the empire for science and art, which is given once a year to a person, either German or a foreigner, who, in the opinion of the government, is best entitled to it.

Scientists have been having some little dispute lately as to the exact meaning of Nature Study. Some limit it exclusively to a study of botany and zoology, while others give it a much broader definition, saying it is a study of nature in whatever form found, and is for the purpose of keeping us in sympathy with all her varying moods.

Mr. O. A. Peterson discovered in 1900 on Sheep Creek, Wyoming, a number of vertebrate fossils; among them the skull of an Ichthyosaurian reptile of the Jurassic period. The peculiar thing about this reptile is that it is reported to have had teeth, while up to this time all species found in America have been toothless.

President Harper of the University of Chicago, at convocation exercises, announced the gift by John D. Rockefeller of another million dollars to that institution. Gifts were also announced swelling the total to $1,526,000. President Harper advocated the pensioning of retired professors and officers of the university, but said that the details of the plan would have to be considered further before any steps could be taken. —*Ex.*

Mr. A. W. Schmidt has recently proven to the entire satisfaction of the girls that the fair sex are at liberty to propose. Schmidt is now an idealized hero.

Mr. Jaberg: "Say, Scott, have you got your physics lesson?"

Scott: "No, what's the use of studying? I don't know what Professor Keene and Miss Darrow are going to talk about tomorrow."

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Editorial.

Since the fall term is now a thing of the past our attention is directed toward new subjects for the coming three months. Some are satisfied with past work, but many of us feel that we might have done better. Here is an opportunity to make a good New Year resolution.

Professor Ladd is in trouble again. He has been compelled to install new shelves and desks in his already crowded laboratory. What is to be done? Must the Registrar cease to enroll students in the chemical course, or will the dream of the much needed chemical laboratory become a reality? Let us hope that before another school year begins the difficulty will be remedied.

Within the past two weeks the students of this institution have had the pleasure of reading interesting accounts of the A. C. football record in both Minneapolis and St. Paul papers. The Minneapolis *Journal* recognizes our aggregation as the undisputed champions of North and South Dakota, and Minnesota outside of the University, while a St. Paul paper brands us as a pack of wind-jammers who play football on paper. This article, which was written by the St. Thomas coach, indicates a decided case of sore head in that it insinuates that our games with Hamline and Carleton should stand for naught in the claim for championship.

One night not long ago a student for some reason did not take his wheel home, but left it in the rack at the college. The next morning he found that both rims had been broken in such a manner as to indicate intentional destruction. What the motive may have been no one can say positively, but undoubtedly it was only because the simple fellow who did it took delight in destroying. Such wanton destruction of property is an indication that the fool is

not altogether extinct. There are still a few rare specimens left to deface buildings, destroy property, and do all manner of contemptible tricks for their own amusement.

During the first week of December Chicago was aroused by two serious accidents, each of which caused the death of several human beings. This loss of life, which was marvelously small under the circumstances, was due to inexcusable carelessness on the part of the proprietors.

The Swift disaster, in which ten persons were killed, was due partly to incompetent boiler tenders (who by the way were seriously overworked) and partly to faulty construction in the batteries. That tnese defects were known to the management is certain, for one of the engineers had made complaint, but apparently to no avail.

Another employee was heard to say, shortly before the explosion, that he expected to be carried out of the building on a stretcher. His prophecy was fulfilled.

What will be the legal result of this awful affair? Will other establishments profit by it, or rather will they be compelled to insure the safety of their employees? Does it not seem that here at least the old saying applies: "An ounce of prevention is worth a pound of cure"?

The fire in the Lincoln Hotel is a second example of death resulting from foolish, or even criminal, economy. A fire which started on the third floor trapped the people on the floors above, and because of inadequate fire-escapes fourteen were smothered. With any sort of fire-escapes no lives need have been lost, for the fire was brought under control by the firemen.

LADY MACBETH.

As an example of great will power that can steel its possessor to deeds of cruelty utterly foreign to her nature, of powerful intellect, of a faculty for successfully carrying out her schemes in spite of her not being devoid of the tenderness and love of a woman, Shakespeare's heroine, Lady Macbeth, stands without a peer. In her character are commingled the terrible and the pathetic, a character that at one moment makes us shudder at the fearful crimes which she stands ready to commit, and at the next fills us with infinite pity and compassion for the noble soul within.

Some critics have portrayed Lady Macbeth as a large woman of the Amazon type, a monster who could look upon the shedding of blood as unmoved as though she had no heart or feeling. She has been described as spurring her husband on to more and more terrible deeds of cruelty, simply to gratify her own ambition and love of glory. She cannot, however, have been such a woman. She did not glory in the taking of life. She had to conquer by sheer willpower her frail sense that revolted against the shedding of blood. If she had been cruel by nature she would not have called out on receiving the news of Duncan's coming:

"Come you spirits
That tend on mortal thought, unsex me here,

And fill me from the crown to the toe top-full
Of direst cruelty! Make thick my blood;
Stop up the access and passage to remorse,
That no compunctious visitings of nature
Shake my fell purpose, nor keep peace between
The effect and it!"

And it was not only her senses but her brain as well that rebelled against the deed. When Macbeth has murdered Duncan and is trembling with fear at what he has done, she says: "These deeds must not be thought after these ways; so it will drive us mad."

Lady Macbeth does not herself decide upon the murder of Duncan, but after she has found out what is in her husband's mind she, because of her superior intellect, takes the lead. Macbeth, being devoid of the moral and physical sensibility of his wife, becomes the man of action while Lady Macbeth is, figuratively speaking, "the power behind the throne." Her clear and active mind does the plotting for both. Having once decided upon the course of action she is ashamed to show any weakening, even when her mind is giving way. Only once does she hesitate and then we get a glimpse of her true inner nature:

"Had he not resembled my father as he slept, I had done it."

She is not thinking of herself but of her husband when she plans the murder of Duncan. She does not say: "All that impedes me," but, "All that impedes him from the golden round." Even afterwards it is only when her husband's weaker mind bends under the strain that she steps in and supports him. In the banquet scene she tries by all the arts at her command to call Macbeth back to reality. She tries sarcasm; she taunts him with cowardice; and yet, as soon as the danger is over, not a word of reproach or anger does she utter.

Perhaps the real keynote of Lady Macbeth's character is the sentence:

"My hands are of your color; but I shame
To wear a heart so white."

Macbeth spends his time in contriving new murders and lamenting his fate. Lady Macbeth, on the other hand, though heartily sick of the life she is leading, as is shown by these lines:

"Nought's had, all's spent,
Where our desire is got without content,"

does not complain. She is, in a sense, a fatalist, though she does not seem to regard her position as caused by anything but her own deeds. She has done the sowing, and she does not try to shirk the reaping. Alone, without a murmur, she carries her burden to the end. It is only in sleep, when her senses are beyond the control of her will, that we get a glimpse of the moral hell within.

And thus, alone, friendless, losing even the love of her husband, with a burning fever consuming her brain, tortured by conscience through the day and by terrible dreams at night, she passes the declining days of her life. She does not live; she merely exists till merciful death, self-sought, brings her relief.

ORPHEUS.

Our basket-ball teams are practicing daily for the winter season. We hope to be able to land the pennant this year.

Wanted, by the President of the Athenian Society, a copy of "Roberts' Rules of Order." Also a prompter.

Several new teachers have been engaged to help with the rush of students during the winter term.

A COLLEGE JOKE.

Grace Brown brought her trap and horse from home when she came down to College. The town was a small one and a trap was rather a novelty. Grace was very popular among the girls because of the trap and her genial nature. Few of the students had many opportunities to drive, so when Grace invited them to go with her they thought themselves fortunate. None were more eager to keep in the good graces of the fair co-ed than the boys, who were profuse in their offers to help her in and out.

One day as a large number of the College boys were assembled at the drug store, exchanging gossip, Grace happened to ride by, and Charley then and there made a wager of a cigar all around that in less than twenty minutes he would be driving with her. All of the boys took him up, for he was not a favorite with Grace. He gathered up all the books he could lay his hands on and went out into the street. Just as he reached the cross-walk, in sight of all the boys, he met Grace on her return trip down the street.

He bowed profusely and said: "Good afternoon, Miss Brown. Pardon me for not removing my hat, but you see my arms are full of books."

"Most certainly. Can't I give you a life? You are going my way, aren't you?"

"Well, thank you, I don't care if you do. I don't know when I have been so fortunate."

Feeling very triumphant, he chatted along in the pleasantest fashion, but man that he was, he was unable to keep the joke to himself. He told Grace of the wagers that had been made and how he had beaten the boys and would now have enough cigars to last a week. How the two did laugh.

When Grace reached home she left her parcel and then told Charley they would go for a short drive in the country. It was a beautiful spring day, one of the kind that gets into the blood and makes you glad that you are alive. They had a very jolly time and talked and laughed, enjoying the beautiful scenery and the good brisk trot of the horse. When they were about five miles out in the country they came to a clump of wild plum trees, white with blossoms.

"I must have some of those lovely blossoms to take home with me," said Grace.

"It will more than please me to get you a bunch," said Charley, jumping out of the trap.

"Then I'll just turn around, for we must go back now."

While he was behind one of the bushes Grace carefully let all his books down to the ground and started for home.

"Grace, Grace! Where are you going?"

No answer.

"I say Grace, you don't intend to leave a fellow out here in the country, do you?"

No answer.

"Don't go. Wait a minute," said Charles, running towards her. "Where are you going anyway?"

Grace turned her head and shouted back between her burst of laughter, "I'm going to tell my roommate that good joke."

THE LIFE-HISTORY OF WHEAT RUST.

Among the many enemies that the wheat-grower has to encounter, one of the most common ones is rust. It may also be said to be one of the most powerful ones, for under favorable circumstances it may destroy as much as fifteen or twenty per cent. of the crop. Even if the average damage done is set as low as one per cent. this involves an annual loss considerably over $5,000,000 to the wheat growers of the United States.

Rust is caused by a very minute plant which is botanically classified as a fungus. The most common of the species that infest wheat, are *Puccinia graminis* and *Puccinia rubrigo-vera*. In every-day language no distinction is made between the different species, but they are simply called rust. The so-called "red" and "black" rusts are not in reality different species, but are different stages in the development of the same species. In all there are three distinct stages of growth, the form of each of which differs very materially from the other stages.

Perhaps, the best stage at which to start in to describe the life history of rust, is the one which is found on the mature wheat straw, for that is in reality the starting-point of its cycle of growth the following year.

If the straw from an infested wheat-field is examined it will be found to have large numbers of dark brown or black spots which exist not only on the surface but also extend some distance into the cellular tissue of the straw. If one of these spots is scraped off and examined under the miscoscope it will be found to be made up of a large number of minute indian-club-shaped, double-celled spores. At their smaller end they are attached to the straw by means of small root-like filaments called the mycelial threads. Their cell wall is very heavy, so as to enable them to withstand the inclement weather of fall and winter. These are the "resting spores" (teleutospores) of the plant. These do not usually germinate the same year they are formed.

In the spring, as soon as mild, damp weather sets in, these spores begin to grow. Each cell sends out a branch called a promycelium, which in turn produces numerous small round or oval spores (sporidia). As soon as these come in contact with sufficient moisture they germinate and send out a tube which penetrates the cell tissue of the plant on which it has lodged. It now gives rise to the so-called aecidium stage of the rust. This stage has never been found upon the wheat plant, but is found in some other plants than the wheat. In the case of *Puccinia graminis* this plant is the barberry. The belief is common among plant pathologists that this stage of growth is not absolutely necessary to the life of the plant, but it probably makes the plant more vigorous and its life more certain. It is possible that it has other unknown uses in the life of the parasite.

When the spores from the barberry germinate, they blow about until they lodge on the leaves of the growing wheatplant. Here they germinate and send filaments down into the leaf. After a while, these send up small stems or branches (sporophores) which bear at the top small one-celled spores (uredospores). These are the summer spores of the rust parasite, and all taken together constitute the red rust which so readily dusts off upon one's clothes at

this season of the year. These mature, germinate and in turn produce new uredospores capable of infecting other wheat plants. Thus it keeps on during the spring and summer. Towards fall the teleutospores are again formed and the plant is ready to start its life cycle anew the following spring. Very much of the life of this type of parasitic plant is unknown to science, which it is thought that careful research might yet reveal. Whoever adds much to the present knowledge will, however, we think, have to spend much time, some means, and exercise considerable scientific ingenuity.

A. M. MIKKELSON, '05.

Athletics.

Under the efficient coaching of Miss Gastman, the young ladies' basket-ball team is developing very rapidly. The first team and substitutes are planning for a trip to Valley City, where they will play the Normal girls' team. We are unable to tell as yet whether or not they will take a special train.

The Normal team has been in hard practice all fall and our girls expect a close, exciting game.

The election of officers of the Athletic Association last Friday afternoon—the 5th—was a regular comedy, in which the chief attraction was the display of knowledge of parliamentary rules by different members of the company.

Though the nominations and elections of president and vice-president were carried through all right, when the election of treasurer came before the body trouble began to brew. Several members of the association felt that they alone were competent to take care of the money, and had their constituents nominate them as candidates for treasurer.

The ballot stood—19 for Mr. Scott, 17 for Mr. Mikkelson, and 5 for Mr. Fallis. Our member, with the gold fever, raised an objection to the fact that the election was unconstitutional. This made the election a question. By the constitution all questions shall be decided by a plurality. After a large amount of vaudeville parliamentary ruling by different members of the troupe, the house was brought down by the hit Mr. Fallis made in retiring from the stage and leaving the main parts to Mr. Scott and Mikkelson. The curtain was finally rung down with Mr. Mikkelson playing the star part as chief money-holder.

The third act of this electoral comedy was slow compared with the second act, in which the newly elected treasurer, playing star, was upheld by a troupe of would-be parliamentarians.

In the fourth act, because a great number of the troupe could not spell Oshwald, Schmidt was elected to the office of custodian.

In the fifth act, after some very fine specialty work in parliamentary ruling and juggling, Mr. Hanson and Mr. Worst were elected as Board of Control. The specialties in this act were very good, and kept the house interested.

The last act was the election of general manager. Secretary Nugent was elected to fill that position.

Although the play was carried through fairly well, there were several hitches in the program, and it is hoped that next fall when the company returns with a few changes in the cast, there will be fewer blunders and no cases of stage fright.

Former Students.

Albert Harris is teaching school at Walcott.

Caroline Moe is clerking at the Waldorf Pharmacy.

P. H. Flewell is doing well at farming, near Grandin.

Mr. Meinecke was a pleasant visitor at the college on Dec. 7th.

C. J. Phelan, banker, Dickinson, recently called on friends at the college.

C. M. Hall is becoming an extensive land owner, having recently purchased a fine residence on Tenth street north.

Otto Frederick, Davenport, evidently has become weary of single blessedness and has secured his marriage license.

Tom Heath expects to spend his holidays in Kansas, then return with his bride to Everett, Washington, where he is still employed on the dredge boat.

W. W. Paulson is a successful farmer near Cando, N. D. He owns a section of land and thinks the principles which he learned at the college are very valuable. "Stub" expects to spend some time with his wife visiting in the west and then return to the farm.

Local Happenings.

Learn the college songs.

The fall term closes Dec. 19.

The Misses Nichol and Gastman are now keeping house on Twelfth Avenue North.

The Soph's are rejoicing over the fact that their shining light, Clem Gamble, is again to return.

Fred Jensen is a frequent visitor to the college—and vicinity. He is an enthusiast in real estate work.

T. F. Manns is now able to return to work, after being confined to his room with an attack of pneumonia.

Tom Jensen has returned from Klondike and will attend college until June, when he hopes to return to the land of gold.

Professor Shepperd and forty students attended the annual stock show at Chicago. Many applicants had to be refused, as only the above number could be accommodated. President Worst went as far as St. Paul with the boys.

Professor Waldron to student in astronomy: "Which end of the day is the shortest?" Miss Rose: "The north end."

Dr. Van Es has accepted the chair of veterinary science, and will assume his duties with the opening of the winter term.

According to latest reports, a member of the arithmetic class has determined that the diameter of a circle is equal to two radiators.

Miss McArdle: "Mr. Murphy, how would you look out of the window two and one-half times?"

Mr. M.—"I'd shut one eye."

Every available room will be used for large classes next term, and some of the elective subjects cannot be offered because there are no rooms in which the classes may meet.

Professor Hult to student in literature; "Here, Mac, 'The Fool.'" McGlynn: "When shall we three meet again?"

The first game of basket-ball between the girls' two teams was held in the drill hall Saturday evening, Dec. 6th. The "White Sweaters" were victorious.

It is reported that Mr. McGlynn is willing to bet one thousand dollars that a candle will not burn in chlorine gas. Mr. McGlymn is right here with the goods (?).

The Philomathian Society held its regular meeting in Science Hall Saturday evening, Dec. 6th. A study of Hawthorne was the principal feature of the program.

How did it happen?
Did the old man set the dog on him? Anyway—J-b-g is minus the base of his trouser leg. (Never mind, "Jabbers," lay for—the dog).

Professor in Analytic Geometry: What is the equation of an ellipse? Miss Jensen: It is-er-um-I can draw it. Professor: Yes by making a chalk line around the model.

In chapel, Nov. 24th, the students were treated to a musical programme by the Misses Bryant. It is needless to say that all hope they will repeat the entertainment soon.

Gus Dahlgren has resigned his position as janitor and will make a trip to his old home in Sweden in search of better health. John Anderson, formerly janitor here, will fill the vacancy.

The football boys were hosts to a dance in the drill hall Friday evening, Dec. 5th. After dancing until 12 o'clock the young people departed, voting the boys the best of entertainers.

Professor in chemistry: Mr. Treat, what is the Periodic Law? Mr. Treat: The properties of an element one periodic functions of the atomic weight. Professor: What does that mean? Mr. Treat: I don't know.

The college board held a meeting at the college on Tuesday. After the transaction of business they were entertained at a seven-course dinner given by a number of the young ladies in household economics.

The students in attendance this term will enroll before leaving for the holidays. This will relieve the rush at the opening of the winter term and give the old students a longer time at home. Classes will meet January 5.

Student in Geometry: Professor, if I could turn that blackboard up side down I would be able to explain that figure.
Professor: I am sorry we have not the conveniences to accommodate you with, but what do you say to standing on your head?

A skating rink is going to be made by the boys this winter. This will give everyone an opportunity to get all the exercise one needs. The boys, in order that they will not have to skate alone, hope that the girls will avail themselves of the opportunity.

Secretary Wilson of the Department of Agriculture refers to the farmers as "The creators of wealth, the foundation on which society rests; the conservative class that work in the sunlight through long days, keep level heads when others are excited, pay taxes, and reinforce all other classes when they wear out."

Professor Ladd read a paper on "Nature Study and Primary Agriculture for the Rural Schools" before the Educational Association which met in Valley

City, Nov. 21 and 22. The paper was printed in the November issue of *The Westland Educator*. Professor McArdle was chairman of the committee on resolutions, and was elected President of the Association for the ensuing term.

A certain Sophomore has been asked by our chemical laboratory instructor to bring a certain product of her culinary skill, generally known as the "staff of life," to the laboratory for analysis. We wonder if he is investigating with a view to setting up housekeeping. It looks suspicious.

At the meeting of the Chemical club last Friday evening, Mr. Hugh McGuigan gave a very interesting talk on "School Life at Ann Arbor." The most pleasing fact mentioned was that at that institution there was a possibility of buying someone to write your examinations for you, and of doing that thing without being caught.

Last month a fat stock show was held at the college and some of the finest animals in the state were on exhibition. The sales were very satisfactory, and as a result of this show a "Breeders' Association" was formed. J. B. Power, ex-president of the college, was chosen President of the Association, and the fat stock show will probably become an annual affair.

Chapel hour on the 8th of December was made exceedingly interesting by a talk given by President Weld of the Moorhead Normal, on "Literature." It is a subject probably not appreciated by the majority of the world as much as some of the more practical sciences. Mr. Weld, however, clearly brought out the indespensible influence of literature as a refining and enobling power in life. Mr. Weld gave the different characteristics of the writings of our greatest authors and also their influence on the world. It is seldom that the students have had an opportunity to listen to such an intelligent talk as Mr. Weld gave.

The meeting of the Athletic Association was a lively affair. There were several sharp tilts in parliamentary practice. At one time it looked as though something mightier than words would be brought into play. Every place was hotly contested. The combination was busted and the dark horse won, as often happens. A vote of sympathy was extended to the defeated candidates.

Saturday evening, Dec. 13th, the Philomathians met in Francis Hall for the purpose of electing officers for the winter term. The following were elected:

President—Bert Corbett.
Vice-President—William Perry.
Secretary—Ethel Bowers.
Sergeant-at-Arms—Wyman Paige.

After the transaction of business the members enjoyed a social time.

On the 1st of December all students had the pleasure of listening to a talk in the chapel on "Manhood" by Rev. Hayward of the Baptist church. The thoughts given were full of force, and applicable to practical every-day life. Rev. Hayward clearly showed courtesy, honesty, faith in mankind, and purity were most important of the traits necessary for true manhood. The student body of growing men and women could not but be greatly benefited.

The *Student* shows the proper spirit when it speaks of the past football season. It has no excuses to make, but says the "U" will win next fall.

Exchanges.

Should *The Carletonia* enlarge its literary department we think the paper would be improved.

We are glad to know that Fargo College appreciated our rooting at their most important game.

Although *The Sioux* has an exchange editor on its staff, the exchanges for October and November are missing.

"A Heathen Wedding" in the *Blue and Gold* for November is a very interesting description of a Chinese wedding.

The Cynosure is one of the best of our High School exchanges. The whole paper shows care on the part of the editors.

The *Tennessee U. Magazine* is always welcome. This month the most interesting article, perhaps, is "Goin' Back to Georgy."

The pen sketches in *The World* add much to its attractiveness. We wish other papers, our own included, might follow the suggestion.

The Comenian has a number of well-written exchanges this month. These criticisms given in a kindly way, should give the students many hints for improving their publications.

We have received the second number of *The Student,* U. N. D. We were sorry not to get the first issue, but hope it was only an oversight on the part of the business manager.

We are pleased to know that *The Yankton Student* approves of public basket-ball games for the girls. We should like to hear from other institutions on this subject, which, at present, is so much discussed.

As this is only *The Flickertail's* second year, we think they are well up to the average. The exchanges would be greatly improved if they were composed of comments on other papers or good thoughts instead of jokes.

"Who was the first man?" said a Chicago teacher. "Washington," promptly answered the young American. "No," said the teacher, "Adam was the first man." "Oh! well, I suppose you are right," said the undaunted patriot, "if you refer to furriners."—*The Sioux.*