

The Spectrum.

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J. H. Worst.

President J. H. Worst, the subject of this sketch, comes from a distinctively pioneer family; his great grandfather having emigrated from Holland to America about the year 1715, and having settled in Pennsylvania, where he died at the age of 106 years.

His grandfather cleared two different farms in Pennsylvania, and about the year 1820 removed to Ohio, where he settled with his family on the banks of the Mohickon, then a wilderness infested by Indians and wild animals. Here he made still another farm, and lived upon it until his death, at the age of 97 years.

His father, George Worst, was born upon this latter farm, and began his life work clearing land for farming purposes in the northern part of Ashland County, that being included in the Western Reserve.

This part of Ohio was a dense forest long after most other portions of the state were under cultivation.

And here President Worst was born, Dec. 23, 1850, in a primitive log cabin, roofed over with rough clap-boards held in place by weight-poles according to the backwoods carpentry of the early days. The one room of this cabin was heated from a huge fire-place, into

which heavy logs were piled high in winter, while the tallow-dip furnished what light was needed. Here Mr. Worst was reared, and here he attended the common schools each winter until he was 16 years of age, when he took a course of study at Smithville Academy (Ohio), and several years later at Ashland University. The interruption in the work of his education was caused by the destruction of the family home by fire in 1868.

He taught thirteen terms of school in all, filling in his vacations with manual labor, usually upon the farm.

School teaching thirty years ago was quite different from what it is at the present. To teach school successfully at that time required brawn as well as brain, for the rod was the only means of enforcing discipline, and was used unsparingly; nor were the pupils without power of defence, for it was no uncommon occurrence for a teacher to be "run out" of school.

The more improved methods of pedagogy were, however, just beginning to be agitated, and Mr. Worst took a prominent part in the transition from the stormy reign of "King Birch" to the tranquil councils of moral suasion for the government of unruly boys and girls.

On Oct. 10, 1872, President and Mrs. Worst were married and began life on a farm in Wayne County, Ohio.

Several years later, his health failing, they spent the summer of '76 on the banks of the Chesapeake Bay, where his health was partly restored.

After returning to Ohio from the Centennial Exhibition, he taught several terms of school; then engaged for a time in mercantile pursuits, and, later, took a position as clerk on the staff of a religious newspaper, from which he worked his way to the position of editor-in-chief, which position he held for about two years. He removed to Emmons County, North Dakota, where he arrived in September, 1883, and was followed by his family the following spring.

When Emmons County was organized in the autumn of 1883, Mr. Worst was appointed county superintendent of schools, which position he held by election until the fall of 1889, when he resigned after being elected to the state senate from the Twenty-sixth Legislative District. He was re-elected to the senate in 1890, and after serving a full term of four years was elected lieutenant-governor in 1894.

In the spring of 1895 he was appointed President of the Agricultural College and Director of the Experiment Station, which positions he now holds.

As a politician, President Worst is an uncompromising Republican, but believes in according to all men full liberty of opinion, and gives them credit for the honesty of their motives, whichever ticket they may decide to vote.

Always interested in educational work, he has lectured in almost every county, and, as a campaigner, has spoken in almost every town in the State of North Dakota.

Correctly interpreting the issues and needs that gave rise to the Agricultural Colleges of our country, he sees in them a special and important mission that should in no way be compromised or neglected. His dominant idea in matters of education is this: that the man of highest culture is the one who most readily meets and solves the problems upon which the welfare of himself and society depends, hence subjects having an undoubted value to this end are the ones that should occupy the prominent places in an educational pursuit, particularly in the four brief years of a college course.

The ability with which he advocates and puts into practice this and other principles along the same line not only insures to him a prominent position among the educators of the state, but warrants the statement that the North Dakota Agricultural College, under his direction, cannot fail to become the successful exponent and example of all that is progressive and useful in modern education.

The Value of Books.

We, who are taking educational training, are apt to imagine we have not time to read. Time or no time, we do accomplish some general reading; and this is right. Otherwise we would become very "dull boys," indeed. The great variety of literature, or, more accurately, perhaps, of writings, renders the question—what to read—a puzzle, especially to new students.

Some people fancy that if they are reading something rich in facts, as an encyclopedia, or a cook book, they are improving their minds. This belief gives them a feeling of satisfaction only possible to persons who think themselves virtuously employed. At the same time, most of us find this process of enlightenment painful, and only to be undergone for our good, as one eats graham bread and oatmeal on principle.

There is this difference, however, between the oatmeal diet and the supposed useful literature, the oatmeal serves its purpose, while the brain is only injured by an attempt to make of it a general storehouse.

Books also, there are, which strengthen reason and make us more fit for the society of bright, well informed men and women. Some of these are a little difficult for most of us, but let us get what we can. Philosophy, matters of general interest among intelligent people, these are improving and afford pleasure as well. To have read every great man's ideas of men and things is to become less narrow; to be less narrow is to be more in touch with great minds, to judge less by our own poor standard.

Who reads John Burroughs gains an idea of nature to be obtained in no other way. Botany is part of our course, so is zoology, entomology, etc. There is information and pleasure to be gained from studying organisms, plant or animal, through the microscope. These things can, however, hardly be put together in such a way as to give the full, delightful knowl-

edge of nature, her grandeur, yet her minutest details, as we get it from one like John Burroughs.

To read the best fiction, either new or old, is to become acquainted with life, with living types of our fellow creatures, with the great world. This acquaintance will rub off greenness, give something to say, and fit us for the society of real people.

We acquire wonders of morals and manners in this way.

Perhaps we have not the time to sit down to a novel. The short story writers have admirably supplied our wants in this case, and these short stories are sometimes gems of the first water.

The stories which adorn the pages of most weekly papers do not come under the head of fiction, or, indeed, of any branch of literature. What is so utterly crude in language and untrue in life and manners of living will hinder and not help the student who is in need of knowledge of the ways of this world, the language of the refined and educated. Yet one often reads stuff of this sort because it lies before one, while something better could be got with small effort.

What a luxury, what a delight is a well filled, properly organized library. A subject of interest comes up, good and full discussion of the subject is desired at once. The library cards are consulted, and a choice of several reliable articles appears. In this way it becomes possible to choose deliberately what is read, not read what is stumbled upon.

Speaking of the use of our mother language, who can form such stirring, clear, fine sentences as Daniel Webster? Read Webster's speeches and see if this is not true. You will become really excited over that which perhaps seemed dull in your U. S. History.

Mr. Edward Eggleston's "Hoosier Schoolmaster" draws pictures of a past or passing phase of school life that are striking and not wholly overdrawn.

We Westerners recognize, with a

feeling of kinship, the freshness, the wholesome life untrammeled by conventionalities in all writings of Octave Thanet. An invaluable acquaintance is Harry Lossing in "Stories of a Western Town."

"The Complete Angler" has a fly on his hook to which any boy will rise. Who traverses "Main Travelled Roads" with Garland will never regret the trip.

The stay-at-home will never compete with the cosmopolitan. Shakespere is the man of many countries and times, the man who depicts all sorts and condition of men. A course of Shakespere is better than a trip around the world.

George Cable takes us through the Sunny South among the Creoles and our hot-blooded Southern cousins.

With Lew Wallace we visit Mexico in "The Fair God;" Asia, in "The Prince of India;" or the Holy Land in "Ben Hur." Fiske's "Destiny of Man," and Sumner's "True Grandeur of Nations." What young man would miss them if he knew what they contained? They uplift you, hold your attention closer than any fairy tale.

Sometimes we like to compare our ideas with those of others. What greater pleasure than to get pointers from great critics, as we can from Brander Matthews in "Aspects of Fiction," or Scudder's "Men and Letters," or "Familiar Talks on English Literature," by Richardson?

Poetry is the music of literature.

The songs of ancient bards are sung by Walter Scott or by Tennyson in his "Idylls of the King."

The war songs are Whittier's. Longfellow's poems are sweet ballads or smoothly running recitatives. Riley's are the catch songs of the time; one cannot resist whistling the air for weeks after hearing them, and they are pretty enough to whistle, too.

Get acquainted with these books and their authors, and many more, as time permits, not simply because educated people are supposed to read such and such books, but because by so doing you acquire that insight and understanding that make life a pleasure and give you a feeling of ease among all classes of men.

Influence of Gravity on Plant Growth.

From a physiological point of view, the influence of gravity refers to one of the external influences under the general head of irritability. Irritability is a property of plants by which they respond to certain influences, either external or internal, called stimuli.

The influence of gravity acts as an external force, and is noticeable in the change of positions and parts of its organs. The effects of this directive action of gravity are designated by the general term geotropism, which refers to the position an organ takes with respect to the source of gravity. This stimulus may occur in three ways. Any organ, as, for example, the normal roots of most plants acting towards the source of gravity is said to be progeotropic. An organ which naturally grows away from

the source of gravity, such as the shoots of most plants, is apogeotropic in action. An organ, assuming a horizontal position to the source of gravity is diogeotropic. Experimental proof of this subject is generally carried out upon a machine so arranged as to expose plants to the action of centrifugal force either with or opposed to, the influence of gravity. For the purpose of demonstrating this directive action of centrifugal force, five bean seedlings which had just begun to germinate were pinned upon the surface of the revolving cork of an Arthur centrifugal machine revolving horizontally. These were covered by a bell jar and the atmosphere within kept in a saturated condition by the continual dropping of water from a siphon tube. Motion to

the machine was supplied by a two-celled potash battery. This battery, however, which is not a constant one, was not strong enough to keep the machine continually in motion. For this reason the experiment was not entirely successful. The motion being intermittent the direction of growth was not continuous. If the machine had been kept in constant motion, according to Prof. Vines, the plant would not grow vertical, as would be the case under the influence of gravity alone, but obliquely, showing that the position or direction of growth of both root and shoot has been affected by centrifugal force. Another method of illustrating this and by which the influence of gravity is entirely overcome is by means of a machine termed the clinostat. This machine is arranged so that the plants are made to rotate very slowly and in a vertical direction. By this method each part of the plant in one rotation is influenced by gravity in two opposite directions, so that the directive action is neutralized. If the plants are placed in a horizontal position and rotated on this wheel they will grow perfectly straight out horizontally, provided other influences, such as light, heat, moisture, etc., are normal. It has been shown that geotropic curvature influences growth. (Physiological Botany, Goodale, page 392, section 1026.) Experiments have been carried out in plants which have practically ceased growing, and placed in a horizontal position they soon begin to grow at the nodes with remarkable activity. The growth is dependent upon turgescence, and as the property of turgescence is only present in active living cells, so growth only takes place in active living cells, therefore it must be by such cells that curvature takes place. The question concerning the point in the plant at which geotropic irritability is located has been largely discussed. Until recently the generally accepted theory was that the point of greatest curvature was the position or seat of greatest irritability. This idea has been gradually changed of late from the fact

that experiments with roots of plants do not correspond to this theory. Experiments have been performed (Darwin and Acton, Physiology of Plants,) which show that roots which had their tips cut off and were placed in a horizontal position did not curve geotropically, but after being left in that position for a few days a new growing point was started and curvature at once began. From these experiments the growing tip seems to be the seat of geotropic irritability, receiving the stimulus and transmitting it to the growing zones in which curvature takes place. In general it may be said that geotropic curvature is not an expression of a change in cell walls whereby growth on one side is retarded and on the other increased, but that it is no more nor less than a force which acts upon the organ as a whole, causing it to take a definite position regulated by the direction in which the force acts.

C. O. FOLLETT.

At a recent meeting of the faculty a resolution was adopted to take effect Jan. 1 making military drill compulsory for all male students, except seniors. This is only one of the several steps taken by the faculty since the arrival of Lieut. French to place the military department on an equal basis with the others. This action is no more than right, both to the students and to the College. It is hardly just that certain classes of students should be compelled to take drill while others who have no laboratory work should be exempt. If certain students are to be excused there should be good reasons for such excuse—such reasons, for instance as the seniors are supposed to have. The College, as a whole, also, is helped by this action, as half the value of the drill depends upon a full company. A class of ten in regular college work may accomplish more than a class of fifty, but a company of fifty will do better work and with a better spirit than a company of half the number.

The ceiling of the drill hall is nearly completed.

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We wish to say a word in regard to what those who advertise with us have a right to expect from the students. The amount received by this paper from subscriptions is small compared with that received from our advertisers. If the merchants and business men of Fargo are willing to aid us by advertising in THE SPECTRUM, it is the duty of the students to give their patronage as far as possible to these advertisers. Let every student bear this in mind,

and in this way help establish the success of the paper.

Along this same line we wish to impress upon the students the importance of giving our business manager the money value of a year's subscription. No doubt all of the students could get a chance to read the paper if but half of them subscribed, yet what would be our opinion of the loyalty of the half that did not subscribe. We hope to double the subscription list this term, and in order to do this we ask the active co-operation of all loyal students.

It is an open question in the minds of many whether the pursuit of the sciences further than their apparent application to the every-day arts is not closely akin to a luxury only to be indulged in by a selected few. This doubt exists in the minds of many of the College students as well as in the minds of the general public.

Many students pursuing a college course object to taking some special science because they think it has no bearing on what they expect to do in after life. Many parents, also, are still more certain that no benefit is to be derived by their sons and daughters from the pursuit of chemistry or zoology. The farmer, whose whole life work bears directly upon the natural sciences, is willing to have his son study botany long enough to be able to identify and find means of eradicating a few common weeds. When the study goes beyond this the farmer concludes that time and money are being wasted, and removes his son from college. Indeed, many persons are of the opinion that the pursuit of the advanced portions of the different sciences results in no practical value, but serves merely as a culture study.

To show the intimate relations existing between the different sciences and the every day arts and industries, and especially agriculture, it is necessary to cite only a few of the many instances where the diligent study of a science has brought forth great good to humanity in general.

It is estimated that blights, rusts, smuts and mildews destroy annually about 40 per cent of the crops of the United States. A close study of the life history and habits of these parasitic plants has disclosed certain methods by which they may be, as a rule, easily and certainly killed. The yearly saving to the farmers and to the fruit growers of the United States in this one thing is far more than enough to endow as many agricultural colleges as now exist. A very similar case is the following well known one: The loss to the silk-worm industry in France by an unknown disease of the larva within the year 1856, amounted to \$600,000,000. M. Pasteur, by a series of careful scientific investigations, found out the cause of the disease, and also effectual means of combating it. The results speak for themselves.

While it cannot be said that these gains are the direct product of any one science or one college, yet they certainly are a result of the scientific inquiry of the age. Again, studies in bacteriology have, within the last few years, almost revolutionized some branches of medicine. In chemistry, for example, the most recondite researches into organic compounds, bear directly upon a most important question—food.

And so, after going over the whole list of scientific studies, we find that in every one the most difficult investigations bring forth some discovery which, after its application, seems almost indispensable.

We find, then, that the scientist, instead of being the so often termed unpractical, theoretical person, is, in truth, pre-eminently practical. It is due him in a great degree that the "world moves." A discovery like that of Roentgen helps along the civilization of the world more than fifty years of the most ardent application to Latin or Greek. Civilization can only be advanced by man's greatest efforts, and these efforts should be centered where they will do the greatest good to the greatest number.

Just how far the state should go in the matter of furnishing free education for its citizens, and at the same time not infringe upon the rights of the tax payer, is a question by no means settled, and it surely demands candid consideration.

No one will question the advantage of maintaining the common schools. The instruction imparted there may be considered absolutely necessary for good citizenship. In the matter of college instruction, however, the proposition is a very different one, and while we favor a liberal policy toward public institutions, there is no doubt that the commonwealth stretches points of justice when it provides instruction that is of no special value to the state, if, indeed, to the individual obtaining such instruction. It is a fair proposition that any community should be taxed for only such enterprises and institutions as are, on the whole, of direct benefit to that community, such advantages to be commensurate with the expenditure.

We do not take the ground that the returns should be directly in dollars and cents, but it should be in some form directly available and unquestionably useful. A person wishing some special line of mental training cannot in justice ask all the tax payers in the state to fall to and help him, unless his training is to be of such a nature that the state will profit by it. Since the common schools are an admitted necessity, no state can afford to supply these schools with poor teachers, and for that reason the normal school should receive the most generous support of its citizens.

It is practically impossible for the normal schools, with their present equipment, to do the work demanded of them, and more especially the work that the faculties of these schools see the need of doing.

It is a lamentable fact that the opinion of a teacher is not greatly sought after by those wishing information outside of school room studies. Not only that, but anything he does say regarding industries or investments or like subjects, is good-naturedly put

aside on the ground that he is only a teacher, and not supposed to know about such things, so what he says can't be of any harm.

The system of education under which such a state of affairs exists must be weak in a vital spot. The teacher should be the leading man of the community. How can this be accomplished? In this way: If it be a farming neighborhood, let him be the best farmer there, or at least have such thorough knowledge in some practical lines as to make him of public benefit. To know the different weeds and grasses, with their good and bad qualities, how to ornament the yard, grow small fruits, treat diseased plants and animals, and all that, would give a teacher such an influence in a rural community as he never dreamed of, and would do away with the grumbling by those obliged to support state institutions. Of course the normal schools cannot be expected to do all this, but they should be sufficiently equipped to do their share, leaving the special lines perhaps to colleges like our own, whose duty it is to give instruction along useful lines.

To promote such lines the State can afford to be generous, for it will get its reward, and means should also be provided for extending such knowledge to our common schools, so that they may bring the pupils into intelligent communication with those things upon which their very existence depends.

Why college training is so far removed from the things that men must know in order to live, we attempted to explain in our last issue, and for a state like our own, having but limited funds, to attempt to maintain a system of education that is of benefit only to the one receiving it, and very little indeed to him, is surely an unwarrantable proceeding. In the beginning nature decreed that properties or habits not useful must disappear, or the species itself would perish, and our admiration for nature now is chiefly because everything is so well adapted to its own end.

So truly is utility the only measure of excellence that the few apparently accidental exceptions to this rule are called monstrosities. By that same law any expensive practice or custom adopted by society must have utility or such a society cannot compete in the struggle for existence.

However ornamental a knowledge of Greek may seem to be, for instance, no community can afford to tax itself to give a favored few such a knowledge when it will be admitted that it does not directly or indirectly feed or clothe or shelter any of the hard working citizens that foot the bills when they pay their taxes. If a man hungers for ornamental acquirements of any kind let him pay for them, especially in a new and struggling state, where we all have desires of many kinds that can be gratified only by toil and privation.

In older and wealthier communities chairs are endowed in most of the colleges by wealthy persons to furnish education in many special lines that may or may not be of general interest or usefulness. Any young man or woman in our state can take advantage of these opportunities and not ask the tax payers to foot the bills for an education that can in no way benefit them. Our educational system from the common schools up should be made to get closer to the needs of the people and to furnish them some real return for money expended, and until such a state of affairs is brought about our public institutions deserve all the censure they get and no more funds than they now receive.

"A Study of Methods of Cultivation" is the title of a bulletin recently published by the Experiment Station.

We will say at the outset that these bulletins, which are issued from time to time, are for free distribution to citizens of the State, and that the authorities will be pleased to send them to you and to any of your friends who may be interested in them. To obtain these bulletins you have only to hand your name, or that of your friend, to Mrs. Evans, the post mistress, with a request that

the same be placed on the Experiment Station mailing list.

The recent bulletin is the twenty-ninth one issued by our Station. It was written by Professors Shepperd and Jeffery, and constitutes a report of their past season's work. In an extended introduction they give the results of the experiments carried on at other Experiment Stations in the United States, and, as each state in the Union has one, and a few of them two Experiment Stations, this gives all of the information which can be obtained from a wide field, and from the very best authorities. The summary also contains the results published by some of the European Stations, and facts from text books and other sources. From this portion of the bulletin we glean some very interesting facts which show the basis upon which the work may be done, and also show the possibilities of improvement. The result of a very careful experiment by Prof. King of the Wisconsin Experiment Station shows the amount of water required by a crop of wheat where none was lost except that which escaped by ordinary evaporation from the soil. On this basis it is found that a crop of wheat requires nine inches of water to make its growth, and we are informed by the bulletin that the average annual rain and snowfall for North Dakota is about eighteen inches or just enough to produce two wheat crops. In the Red River Valley the amount of water from this source is nearly if not quite sufficient to produce three wheat crops, if it can be held and fed to the plants as they require it.

People are quite generally interested in the results which our Station has obtained from the test of this system, and which is reported upon very fully in the bulletin. One of our recent visitors from Carleton College asked ye editor what our station had learned of the merits of this new method. It will thus be seen that students need to post themselves in order that our institution may be fairly represented by them, and we do not doubt that this young man from a college in another state knows more

of this matter than do many of our own students.

The bulletin gives the results obtained, in very careful detail, and includes tests of the percentage of moisture which was found in the different layers of soil to a depth of three feet at different times during the growing season.

The experiment was designed to test the different systems of cultivation put forward for the combatting of drought. The test includes the Campbell System of Cultivation, subsoiling at different depths, plowing at different depths, following the plow with the peg-toothed harrow, the work of the new secretary disc plow as compared with the common mould-board plow, together with many combinations of these different methods. The above system of tests was carried on in duplicate on both fall and spring plowed lands. The past season has been an extremely wet one, and has made these methods, which are calculated to combat drought, give their results under the extreme opposite condition.

The Campbell System was tested in comparison with the ordinary method at a number of other points in the State. Different classes and conditions of soil and different amounts of moisture were thus made features of the test, which add greatly to the value of the experiment. While no definite conclusions are warranted from the data of any single season, perhaps, and especially from so unusual a season as the past one has been, we note that the results were favorable to fall plowing, slightly favorable to shallow plowing, and show good results from subsoiling. The Campbell System of Culture gave poorer returns on the Station farm at Fargo, but gave a very much greater yield of wheat upon the farm at Glen Ullin in Stark County, where a test was made. Glen Ullin is one of the most westerly points where the method was tested, and is in one of the driest sections of the State where wheat growing is attempted.

How do you like our new dress?

Local Happenings.

The uniforms are very natty.

President Worst was in Grand Forks Nov. 6.

They came, we saw, and were conquered.

Arthur Neyhart, with '97, visited the College Nov. 8.

Oct. 26, A. C. vs. High School; 30 to 0 in favor of A. C.

Dr. Hinebauch rode in on his wheel from Tower City last week.

All male students, except seniors, take military drill after Jan. 1.

Misses Bronson and Spencer spent Sunday, Nov. 7, in Mapleton.

Thanksgiving vacation from Wednesday night to Monday morning.

The palms and flowers placed in the President's office add to its cheerfulness.

Wilbur Walker, with '01, visited us Nov. 8, and witnessed the football game with Carleton.

The walks and drives on the campus have been graded and put in good condition for winter.

The young ladies of the domestic science class enjoyed a "chafing dish" party a few days ago.

The class in free hand drawing is having a vacation, while the heating plant is being completed.

Mr. Norby's voice seems to have changed from tenor to bass since his accident on the gridiron.

Buy from those who advertise in THE SPECTRUM. Suggest that you read their "ad." in the college paper.

Each member of the domestic science class is now supplied with a table and a complete set of cooking utensils.

The young ladies of the senior class in chemistry have taken up the analysis of foods. They are now working on flour.

P. B. Woodworth, professor of physics in the Michigan Agricultural College, visited this College Oct. 29 and 30,

and saw the football game with the University.

The Wahpetonian announces the marriage of Mr. W. A. Pringle. THE SPECTRUM joins in extending congratulations.

The domestic science class served a luncheon to the "State Federation of Woman's Clubs" Friday afternoon, Oct. 22.

Prof. Bottenfield will soon be a resident of the North Side. He will occupy Mrs. Ash's new house on Tenth Avenue north.

J. A. Power, with '95, accompanied by his wife and sister, visited the College Thursday, Oct. 21, and saw the football game with Moorhead.

During the football game with Moorhead, Mr. O. P. Nordby was hit in the throat by some one's elbow and seriously injured. He was treated by Dr. Thams, and was able to return to his work after about a week's confinement.

Rev. Mr. Mooney, of the Episcopal Church, gave a very interesting and valuable talk to the students Nov. 4. His subject, "The Three H's," was very suggestive, and he showed the necessity of a pure heart, a clear head, and willing hands for a successful life in any calling. We hope Mr. Mooney will come often.

We desire to make THE SPECTRUM a welcome guest to all former students, and shall consider it a favor if those who have attended here, though only for a short time, will write us. Tell us where you are, what you are doing, and what is your success. Your acquaintances wish to hear from you.

The amount of mail handled at the College is so large that the P. O. department at Washington has established a regular office here. Mrs. Evans has been duly appointed "post master." Mail should now be addressed Agricultural College, N. D., instead of Fargo.

Carl Lee, '97, is again at the college.

Sophomore: What is a preposition?

Senior: A preposition is a—a—oh, you fool, you know what that is.

Rev. Mr. Rood, of Moorhead, gave a spicy talk to the students Nov. 18.

Miss Bessie Swift, with 'or, was married Nov. 3, to Mr. R. Hyslop, of Blanchard.

Why can't M—ke enjoy himself at the farm house? Because F—t acts as chaperon.

President Worst has delivered some very instructive and inspiring talks in chapel on the subject of "Patriotism."

Peter Nordby is busily engaged in articulating the skeleton of the alligator, which was formerly one of the college pets.

Gordon wanted to bet two to one the other night that he could tell who threw those two pails of cold water on him while in bathing.

Prof. McArdle attended a meeting of the South Eastern North Dakota Educational Association, held in Wahpeton Nov. 12 and 13.

The genial countenance of Ferdinand G. Benn illuminates the senior class this year, and his oratorical proclivities augment the dignity of that august body.

Renew your subscription to THE SPECTRUM, and make the Business Manager happy by sending in two or three new subscribers at the same time.

The football team missed the excellent playing of McBain in the Carleton game. Mr. M. was nursing a sprained ankle, but is able to be out again.

It certainly seems as though there were enough musicians in the dormitory to form a capable orchestra. Can we not have something of that kind started?

Herbert Brand had his lip deeply cut in the football game with Carleton College. Dr. Campbell took several stitches in it, which was an aid to its rapid healing.

Rev. Mr. Ainsworth, of Mapleton, delivered a short address in chapel, Nov. 17. His six-year old son drew forth

continued applause by his clever recitations.

The Athenian Literary Society presented a farce, "A Trip to Bosting," the evening of Nov. 6, which was well appreciated by the fair audience in attendance.

"The best buss—kissing a pretty girl. Best rebus—kissing her again. A terrible blunderbuss—kissing the wrong girl. An omnibus—kissing all the girls in the room."

On Nov. 10 the morning classes in domestic science prepared a dinner and served it to the Board of Trustees. Miss Edith Hill presided as hostess, and was assisted by Misses Olive Worst and Etta Halverson.

Mr. Fowler, who was with us last year, writes from Valparaiso, Ind., asking for a catalogue. He wishes to take the studies there that will enable him to keep up with his class here, as he wishes to return next year. He is of the opinion that this is the better school.

An article by Prof. Bolley appears in the November issue of the Inland Educator, published at Terra Haute, Ind. It is part of the lecture he delivered before the students last winter, entitled, "The Aims and Purposes of Education." The second part will appear in the December issue.

Lieut. French has announced the following appointments of cadet officers: Captain, Lawrence Waldron; first lieutenant, Fred Olsen; second lieutenant, Peter Nordby, all of '99. Color sergeant, O. A. Thomson; first, second and third sergeant, Paul Gorder, W. W. Paulson and Charles Folev, respectively, all of '00. Bugler, Frank Newman, '00. Corporals, Lee Greene and Melvin Henry, '01.

The botanical department has recently received a collection of plants from the vicinity of Jamestown, sent in by Prof Schmidt, of that place. He will soon send enough more to make the number over two hundred. This is a good addition to the growing herbarium, and will aid materially in getting out the list of plants of this state.

which is to be prepared in manuscript form by Dec. 20.

Misses Small, Spencer and Worst went to Grand Forks Monday, Nov. 15, to attend the football game.

A chemistry club has been organized in the college, with the senior class as charter members, to meet once a month to discuss the latest questions in chemistry.

The election of officers for this term for the Athenian Literary Society resulted as follows: President, Mr. Lawrence Waldron; vice-president, Mr. E. Schollander; secretary, Miss Annie Small; member-at-large, Miss Jessie Taylor; critic, Mr. F. J. Newman.

Franklin's maxim: "If you want anything done do it yourself," was never more aptly illustrated than it was the other day when two of the seniors in chemistry wished a liter or so of fresh lacteal fluid for analysis. Finding no one handy whom they could send they started out with a grim expression and a couple of flasks. After returning they said the cows stood very still for them. Our kodak was out of order.

The time for our local oratorical contest is approaching, and the attetion of the students should be drawn to the subject of oratory. It may well receive attention, as it affords pleasure and profit to the performer as well as to the listener. The printing press can never entirely exert all the influence that comes from the art of persuasion. Beecher has said—"Truth is an arrow, but man is the bow that sends it home."

Special work is being done by the botanical department in bacteriology. It consists in determining, if possible, whether the germs of typhoid fever, when once present, will grow in butter and milk. The work is being done by careful inoculation and culture methods. The germs are put directly into milk and butter of all ages, the butter being subjected to all types of salting. The investigation will be continued for a long time, and already some interesting features have been developed.

ATHLETICS.

The football season at our college has closed, and though we have not carried off the honors, yet the discipline we have received has been excellent.

The first game of any note was that with the University of this state. It was a hard fought game, and the score, 39 to 0, does not indicate poor play. Nine out of the eleven of our players had never participated in a championship game, while most of their opponents were well trained in the art of football.

McBain and Schollander, of the home team, played their ends well, and deserve credit for the manner in which they stopped end plays.

The fine play of the day was Flanagan's successful drop-kick for a goal from the 30-yard line.

Mr. Ogelyv acted as referee, Mr. Goode as umpire, and Hector Barnes as lineman and timekeeper.

The second game was with the well known team of Carleton College. Our team had no hopes or winning, but they did intend to score. Luck was against us in regard to the kick-off, and by the carelessness of some of our team a touchdown was scored in two minutes. Captain Donovan failed to kick goal.

The A. C. boys finally secured possession of the ball. They held their opponents on downs, and secured the ball only one foot from their goalline. From there they forced the Carleton team to within their 20-yard line, where the ball was lost in a scrimmage.

During the rest of the game Carleton made four more touchdowns, and kicked all goals. Score, 32 to 0.

The Carleton captain informed our team that they considered it the hardest won victory of this year. In consideration of the Carleton's team's standing, our boys can be highly commended for their showing.

Mr. Ogelyv acted as referee, and Mr. Woods as umpire. G. F. Wright and Prof. Kaufman acted as timekeepers.

The second game with the University was played at Grand Forks on Nov. 15, and in this, as in two previous

games, we were again defeated, the score being 20 to 0.

From our kick-off, Schollander secured the ball on opponents' 15-yard line, and we quickly brought the ball to within four yards of the goal line, when, in a scrimmage, Flanagan stole the ball from us, and in a clear field made the first touchdown for the U. For the rest of the half our boys played fiercely and well, and no more scores were made.

During the second half the U. secured two touchdowns on criss-cross plays, for which our boys were not looking, and another by a series of rushes and tackle plays. Two goals were kicked out of the four. The U. team had strengthened their line and was equal to ours in every respect; they were always ahead of us on end running previously, but this time very little of that was permitted by our boys. Another disadvantage of ours was the illness of Tucker, and poor condition of Worst, nevertheless they played a good game.

EXCHANGES.

"The Benefits of a Scientific Education," from the pen of Prof. Todd appears in one of the late issues of the Volanite (University of South Dakota.) Prof. Todd thinks a scientific education cultivates the powers of observation, teaches us how to interrogate nature, enables us properly to appreciate the conclusions of science, inculcates a profound respect for the truth, teaches humility by impressing us with the imperfection and incompleteness of our own knowledge, and by impressing us with the limitations of our powers and with the vastness of the universe about us, prepares one for more thorough critical work in the historical and metaphysical sciences, and tends to protect us from superstitions of all kinds.

The October number of the Phrenocosmian, Mitchell, S. D., contains a meritorious literary article on the "Power of the Imagination," by Jessie M. Brown.

The past summer Mrs. Knox received

the degree of Ph. D. from her Alma Mater, Alleghany College.—The Wahpetonian.

There are eight thousand students at the University of Berlin, of whom one-fourth are Americans.

Chicago University is planning the construction of a new gymnasium. Its dimensions will be 100 by 800 feet, and it is proposed to make it the finest building of its kind in the world.

Red River Valley U. reports an attendance of 60.

Professor Victor Meyer, whose death occurred Aug. 7, devoted his life to the problems of human progress. As the president of the German Chemical Society, and as professor of chemical science in the University of Heidelberg, he was highly honored as a man of science.

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