

The Spectrum

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Justus von Liebig



WHEN making a brief survey of history we are surprised that so much attention was paid to art and literature and that for century after century science was enshrouded with mystery and was even considered dangerous and forbidden ground. Historians, sculptors, painters and musicians have alike been honored by each succeeding generation, but he who would dare to advance a scientific theory in refutation of some accepted tradition was in danger of being called a magician and his life was often in peril. And so on down to the beginning of the eighteenth century the science which was to do the most for civilization was smothered beneath a great blanket of ignorance and superstition.

The saying that great periods create great men has often been used to account for the wonderful achievements of some geniuses. But not so with our hero; his success can only be attributed to constant application and a never dying ambition to investigate and reveal such truths as would benefit mankind.

Justus von Liebig was born on May 12, 1803, at Darmstadt, Germany. Here his father dealt in colors. In this business young Liebig had an opportunity of performing some simple experiments in chemistry, and it is quite probable that here he received that ever increasing desire to experiment. As a school boy he was a decided failure; the rector upon one occasion told him that he was the plague of his teachers and the sorrow of his parents. In fact until he was about fifteen years of age his friends had great concern about his future.

But Liebig had, when quite a boy, decided to be a chemist. So his father took him to an apothecary. But pill-making did not please him. His time, however, was well spent.

He read all the literature on Chemistry that he had access to, and performed a large number of experiments. He was so thorough in his methods of qualitative analysis that he could invariably distinguish between substances by what he called "eye memory." In those days laboratories were unknown, but Liebig improved every opportunity by reading, attending lectures and performing such experiments as his limited means would permit.

At the age of 16 he registered at the University of Bonn, but as the course was purely theoretical he decided to enter Erlangen, from which he graduated in 1822 with the degree of Doctor of Philosophy. At Erlangen as at Bonn experimenting was hardly considered, and as Liebig says, "it was a wretched time for Chemistry."

Shortly after graduating he published a paper on fulminating mercury. This paper and the result of some analysis on coloring matter attracted much attention and splendid opportunities were now opened before him. Louis I of Bavaria provided him with sufficient means to complete his studies. He then decided to go to Paris; here he met von Humbolt and the poet Platen, both of whom afterwards proved to be most valuable friends. Through the friendship of von Humbolt, Liebig met Gay-Lussac, who was so struck with the personality of the young chemist that he invited Liebig to work in his private laboratory. Their friendship was never broken and in conjunction they completed their investigations of the fulminating compounds.

Through Humbolt's influence Liebig was appointed professor of Chemistry in the University of Giessen, Germany. And from now on until the end of his life 1873 can be traced his strength of mind and his noble character. His appreciation of the kind treatment and the benefits derived from his professors and co-workers in Paris led him to establish a school at Giessen, Germany, where he could be to his fellow-workers what Gay-Lussac had been to him.

Liebig has been appropriately called a pioneer in science. His most important works may be considered under three heads: 1st, The effect of opening the Giessen Laboratory; 2nd, the improvements introduced by him in methods of investigation; 3rd, the application of Chemistry to Physiology and Agriculture.

Liebig's broadmindedness in giving others credit for their work only added to his own reputation. His students were always anxious to carry out his ideas and to aid him in his researches. As a result the achievements in pure and applied chemistry in this little university 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."

Until the time of Liebig little had been accomplished in organic chemistry. The methods of analysis were so intricate that only exceedingly accurate chemists could get trustworthy results. He developed the method of completely oxidizing the substance and measuring the quantity of carbon dioxide and water formed. This method proved so simple and accurate that in all essential parts it is still the basis of organic analysis. But Liebig probably made his greatest contribution to the scientific world when he discovered chloroform and told of its properties. Again in 1832 he rendered mankind another great service when he made known the medicinal values of chloral and the method of its preparation.

Thruout his life Liebig showed an altruistic spirit, but probably it was no where more evident than in his work along the lines of Agricultural Chemistry. He realized the ignorant state of the masses and wrote simple papers along educational and scientific lines trying to induce the farmers to use more advanced methods in husbandry. In one of his papers he said, "Perfect agriculture is the true foundation of all trade and industry." With this in mind he worked valiantly to raise agriculture to the position it should hold among the sciences, and to show that a rational system of agriculture could not be maintained without the application of scientific principles.

It is possible that Liebig's experience with the apothecary gave him a taste for medicine. He seems to have planned entering this profession, and altho he never practiced as a physician yet he contributed some most valuable information to animal physiology and pathology. He classified organic foods as heat-producing and blood forming. Along this line of investigation he showed that

starch and sugars could not be transformed into fat in the animal body. He then stated that animal heat is caused only by oxidation of animal tissue. And in proving this statement he forever destroyed the belief in the spontaneous combustion of the human body.

It must not be supposed that Liebig had incontestable ideas. He was frequently opposed by the most skilled scientists of his time. Even his friend Berzelius upon one occasion wrote him that in time he would see that his ambition had led him to build upon a flimsy foundation. In his work on Physiological Chemistry he was pitted against the entire medical world. But he was optimistic. His courage never failed and in the face of opposition he established his famous laboratory at Giessen, which is said to have paved the way for the educational revolution, which will long be associated with the second half of the nineteenth century.

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

An Experience on the Great Lakes



IT WAS a stormy night on Lake Superior, and I pulled my cap closer, turned my collar higher, and thrust my hands deep into the pockets of my long coat as I walked up to the bow of the big lake steamer, Huronic. Before me the yellow beam of the search light flashed over the foaming waters, and beyond the circle of light, white caps dashed in the gloam. A gray fog was settling down over the waters, and as I stood facing the great wind I was startled by the blast of a fog horn coming from the darkness before us, and into the lights of the Huronic the blunt nose of a whale-back pushed. As it slowly passed our lights an answering blast of the Huronic whistle rang out over the waters, and crashed away thru the darkness, echoing down the lakes.

For half an hour I stood in the sheltered bow, crouched behind the protecting sides. On the bridge above me the captain, in leather cap and coat, paced back and forth, now in the shadow and then again in the light.

I was about to make my retreat down the wet decks to the cozy cabin, when a deck hand, who was nearby winding a coil of rope, interrupted my meditations by the exclamation, "Maiden Light shines bright tonight." And as I followed his pointing finger, I saw flickering thru the mist a yellow light, now gleaming and again disappearing. I questioned, "A lighthouse?" and in answer he told me the following:

"The light is built on a rock which jets out from a pine and bush covered peninsula. No inland communication, but twice a month supplies are sent up from Two Harbors. It's a mighty lonely place but there's quite a romance connected with it.

"An Indian lived there once. He had at one time been chief of a prosperous tribe farther down the lake. A tall fellow, they say he was. He had a daughter who was so beautiful that the whole tribe worshiped her, men, women and children, and especially the young fellows. Well, the old chief got jealous, and in the dead of night he put his daughter in a canoe and came up here to the point, and neither of them were seen again. But often as the Indians passed up and down the lakes, they heard singing, a kind of a mournful chant, which they believed was emanating from the beautiful daughter."

The coil of rope was wound, and throwing it over his shoulder, the deck hand tramped down the deck. I turned to look for the light which was just disappearing, and as I watched the last flickers, I thot of the story told by the deck hand.

My reverie was interrupted; a hand grasped the railing before me, piercing black eyes looked into mine, and a beckoning hand was reached toward me. It was purely reflex movement on my part, but over the railing I climbed, and, trusting to the unknown, I cautiously swung down the rude bark-twisted ladder which stretched down the side of the vessel. I seemed not surprised to find a long canoe, manned by broad-shouldered figures, tho I could dimly see thru the gloom. A low command and away we shot thru white capped waters and foaming waves. The spray dashed over us but the balance of the canoe was even and I felt secure in the strength of my unknown protectors. I glanced behind me, and there was our great steamer, like a fanciful ship outlined by lights from port holes and cabin windows, led by the far reaching search light.

But no regret was felt at leaving it. I was drifting into a land where my mind was relieved of all earthly cares. How long we paddled I know not. But of a sudden the paddles ceased their rythmic flash, and we seemed to be in a sheltered cave, where the sound of wind and dashing waters seemed above and beyond us, growing fainter and fainter.

Then there came thru the darkness a sound such as I never heard before but it sent such a wave of emotion as comes to the ear when certain chords of a pipe organ are struck, and yet it was but a single voice. My mind seemed a blank, past and future forgotten, and I in a world of my own.

So I lived in the dense blackness of night. I don't know how long for the voice grew fainter and fainter, until the refrain of wind and waters seemed like a hum of a thousand voices, rising and falling. I came to myself with a start.

Before me I could see the bent shoulders of my stalwart paddlers, but at a low command they started and away we flew, entering the dashing waters of the lake again.

My mind was active now and I looked for the light of my boat, and there was a grateful feeling of security when I saw the lights glimmer not far away. The refrain of wind, waves, and that single voice still rung in my ears, but suddenly a gruff voice said, "The decks must be cleared, men, it's late" and a hand grasped my shoulder. Yes, I awoke, perhaps you will say. I will admit I was cramped and stiff, and my head ached. But might not my adventure have caused these sensations? I felt much as tho I had taken a nap out in the damp and cold, and so I gathered my wraps together and crept down the deck to my cabin. I said nothing at the breakfast table about my adventure, but there still lingers in my mind an impression that I visited the rock of Maiden Light, and heard the chant of the lonely Indian girl.

M. K.

Athletic Notes



THE A. C. Basketball season has closed with the College team the state champions. Every game played with state teams resulted in victories for the A. C. One game was lost during the season, and that to the Chicago Crescents, a fast team who played here on their way back from a trip to the coast. Two games were played with them, each team winning one game. Unfortunately no game could be arranged with the U. N. D. altho Coach Dobie made every effort to bring about a meeting.

However, a comparison of scores and games puts us easily in the lead and gives us an unquestionable title to the state championship.

THE base ball season is at hand and soon the boys will again be seen on the diamond ready for business. The prospects for a winning team are good, altho we would feel much better if "Nels" were to be with us. However, both Nemzik and Eakins show good form with the "shoots and curves" and Oshwald, who has pitched good ball for the team in times past, will also be with us this spring. There are several new men who "look good," and about half of last year's team will be out, so Coach Dobie will have a pretty fair bunch to start in with. The thing most lacking is good, hearty support, and those who do come out will be assured of seeing some fast games at reasonable rates.

Mechanical Notes



THE Engineers, having yelled themselves hoarse over their appropriation, are now getting back into harness for the long pull of the Spring term, and needless to say, feel that they have an added object of encouragement in watching the progress of the new building. Already men are at work on the excavating and the brick pile grows appreciably larger every day. The contract has been let to Powers Bros., of Fargo, at \$45,000 and calls for the completion of the building by November 1st. It

is confidently expected that the department will be fully installed by the end of the next Fall term.

SINCE it is customary for the Lyceum of Engineers to elect a senior as president, it does not take a very wise man to see who will get the office this year, as Mr. Myhre happens, at present to be the only Junior Engineer out of a class of twelve. Heretofore engineers have always been well represented in the male portion of the graduating class, there being two engineers in a graduating class of five for this year.

OWING to carelessness in starting, the whole armature was burned out of a small motor, driving the air compressor in the Chemical building, and consequently the busy chemist now pumps his air blast with his foot. This is merely another instance that goes to show where the expenditure for a rheostat would have been more than counterbalanced by the saving in time, trouble and repairs. Safety devices are expensive to buy but they are much cheaper than

repair bills, and the old saying that "An ounce of prevention is worth a pound of cure" applies in engineering as elsewhere.

INSTRUCTOR TIBERT, of the wood-working department, has recently been endowed with the title of "Superintendent of Building Construction" by the College authorities, and as the duties of his new office are both manifold and arduous, Mr. Tibert is experiencing no trouble in keeping himself sufficiently busy. For instance, he has at present only the moving of two buildings, the construction of another, and the remodeling of three more to occupy his mind in the spare moments after shop period.

SEVERAL of the Engineering students left school at the end of last term in order to join one or another of the various surveying parties working in the state. Most people are apt to overlook the fact that in order to get an education, like anything else, one must keep continually at it and not take it in small doses at long intervals. To be sure the value of practical experience in one's chosen profession cannot be overrated, but experience is something which may be gained at one's convenience, while a person soon outgrows the age at which he can study hard and long and obtain the best results. In the majority of cases the students who leave before the end of the year are not compelled to do so from a financial standpoint, and it is merely a natural desire to be "doing something" which leads them to such action. If a student does good, conscientious school work for four straight years he will generally find that he has accomplished something quite "worth while" at the end of that time and that his chances for practical experience are not at all diminished; and also that his capacity to understand and appreciate the different practical applications of his profession is materially increased by the very discipline which he had been subject to. Another, and perhaps one of the strongest arguments against leaving before commencement, is the fact that many of the very subjects which the student misses during the spring term, can only be taken at that time of the school year, and consequently when the student comes to make up his standing for graduation he finds that it will take him two or even three years to get what otherwise would be only a year's credits. The best way is to register for a straight course, stick to it thru thick and thin and avoid all complications when the time comes to take your degree. After that you have plenty of time in which to gain "experience."

Science Notes



THAT Biology, the science of living beings, is no longer confined to the study of dead specimens and dry text-books, is quickly apparent upon a visit to the Zoological laboratory and aquaria. Modern investigators realize that the study of structures must be coupled with a knowledge of their functions and the activities and habits of the animal to appreciate their full interest and significance. The aquaria are being stocked as rapidly as possible with the aquatic animals of North Dakota and at present include representatives of the principal groups. Here are found fish, frogs, turtles, clams, snails, crayfish and water-fleas, beside large numbers of microscopic animals. All these may be observed and studied while exhibiting

their characteristic activities. The large number of gold-fish, most of which have been hatched from the egg and reared in the aquaria have been objects of especial interest to visitors.

THE Chemical Department has just received from Germany an instrument called a photometer, used in testing illuminating oils, and determining their burning qualities.

In order to make a determination of the candle power given by a source of light, a standard whose candle power is known must be employed. The most accurate standard, perhaps, is the Hefuer lamp. This little lamp burns Amyl Acetate and when adjusted gives just one candle power. The candle power of any light can thus be determined by comparing it with the standard. A sight box, containing a screen and a system of mirrors and prisms, situated between the standard light and the light to be tested, furnishes a very delicate means of comparison.

The photometer used by the College is one of the latest improved types of this kind of apparatus. It has the Hefuer standard lamp and a sight box which is very sensitive to changes in the intensity of light. A number of kerosene oils have already been tested with the new machine with excellent results. The College is fortunate in possessing such a fine piece of apparatus as only a few are now in use by educational institutions. By its use the testing of oils will be greatly facilitated and more practical results will be obtained.

THE Popular Science Monthly for April contains a very interesting article entitled "Pioneers of Science in America." Ten marble busts of American men of science were unveiled at the American Museum of Natural History. They were designed by Mr. William Couper and presented by Mr. Morris K. Jessup, the President of the Museum. The occasion was a significant one and in honor of the American Association for the Advancement of Science, which met in New York during the month of December. The unveiling took place on the 29th of the month and the above mentioned article contains the addresses of presentation. Each student in College should make it a point to read this article and find out the names of these ten men and learn with what branch of science each became identified.

Agricultural Department



STHE gentle breezes of the spring play upon the breast of the prairies, and the sun massages the black and crumbling sod, while the steam rises from the lengthening furrows, and the gophers burrow from their holes to meet and hear the songs of the robin and the meadowlark, while the snow banks leap for the river bottom and the Crocus pokes its intruding head thru the matted herbage; there is no time for dreaming. The alarm clock has sounded, and the farmer pulls himself together and stalks briskly out to the granary, to the machinery shed, and the harness room. The season's Ferris wheel has begun its revolutions and he must be ready to catch his car as it dips to the ground. Already we hear the murmur, the clatter, the whir and hammer stroke. Already there is starting and impatience.

They called, and in response Pres. Worst left last Friday evening for Cav-

alier county to locate for those people the sub-station granted them by the state. But he was met by a boisterous mood of Spring. The ground was covered with snow and a snow-storm was claiming the right of way. As prairie is prairie, where all is snow, he could not specify as to a definite area. It was decided, however, to locate the station at Langdon, as this was a more central point than was Hanna. With this Pres. Worst returned to watch the Red River scorn its banks.

But again comes the call. The people of Williston have scented Spring, and have sent an urgent request to Pres. Worst and Prof. Shepperd to come out there Friday and lay the corner stone for their factory of expensive experiments. We hope that Spring's face will not be hid behind a cloud there also. Spring has a happy face.

AT this time of year farmers do not have time to talk or the staff of Agricultural Experiment stations time to write—and the editor with ribs extended, forehead wrinkled, chin drooped, and hair disheveled, thrusts his head wearily around the corner in the vain hope that he may be so lucky as to engulf another fleeing bit of news.

Too late for the last issue, however, comes the news of the passage of the Nelson bill. This is indeed acknowledgment of the great work being done by the Agricultural College of the commonwealth. This bill provides that one Agricultural College in each state shall receive an additional five thousand dollar appropriation each year for five years until the appropriation amounts to \$25,000, which is equivalent to the original appropriation of \$25,000 a year provided by the Morrill fund. We are indeed greatly indebted to our friend and neighbor, Senator Knute Nelson of Minnesota, in his untiring efforts to secure the passage of this bill.

This measure brightens the outlook not only of the Colleges but of the common schools as well, for in it specification is made that the Colleges shall prepare teachers to teach Agriculture and Manual Training in the Public Schools.

RW. Clark, Professor of Animal Husbandry at the Montana Agricultural College, visited the College last Friday while on his way east to purchase stock for demonstration work. Prof. Clark was formerly a student and Assistant Plant Breeder at this College. It has been 11 years, however, since he departed for another position and he expressed himself as surprised and gratified at the progress of this station.

MR. RANDLETT has been assigned to the correspondence work for his full time and is given the title of Supt. of Correspondence Courses.

ALEX McFEE, who was assistant herdsman during the past winter, has been given charge of the horses and will conduct their care and management. From this time on an effort is going to be made to make the horse department stronger, by keeping the teams used on the farm in better condition and thus make them more efficient for class room work.

WILL this always be prairie? This, a question often asked, one not easy to answer, but a question mellow with the possibilities of speculation,—is one which really means much to the farmers and is one which the farmers alone must settle and answer. And some farmers are queer fellows. You can't always tell what they are going to do, what they are thinking about. They go their way, working but saying little. But while the farmer works, there is time

for much thinking, and when the sun beats fiercely on his head as he pursues his tasks, possibly sometimes he wishes for a shady spot to rest and breathe a moistened breath, possibly he starts to thinking how he may secure it. Have you seen him take off his hat with one hand and run the fingers of his other thru his rapidly thinning locks and look about him for a location for such trees? Well—many have done so, others will.

Results are beginning to show, and prospects to look brighter. The Edgeley sub-station recently cut down many willow hedges in order to increase the thickness of their growth. They offered to give the brush to the farmers to make cuttings from, provided they would come and gather them up. The cuttings were all gathered, farmers coming from over twenty-five miles to secure some for their use. Willows are one species of trees and—well, there are many boys and men selling shrubbery that would be glad to secure others for the farmers. They should not be scoffed at and unheeded—simply because they are canvassers. They are doing much for the State.

The Influence of Home Ornamentation

THE following is a clipping from an article entitled "The Influence of Home Ornamentation." The article, which was written by one of our Sophomores, appeared in the February issue of the Westland Educator:

Less than a half century ago North Dakota was a wild, treeless, desolate strip of country, uninhabited except by fierce Indians, who on ponies of waving manes pursued the buffaloes over the wind-swept plains and resisted with savage bravery the oncoming of civilization. Thus Dakota became known to the easterner as the "Wild and Bloody Desert of North America." Even General Custer, who was then stationed at Fort Sisseton, discouraged immigration, and spoke of Dakota as a country fit only for Indians.

North Dakota, as the Almighty gave it to us, richer in agricultural possibilities than many another state in this prosperous and great nation, has approached that time when her country homes should be ornamented, embellished and sheltered to correspond with her wide prominence.

Trees and shrubs not only serve to beautify country homes, but they also have a great influence on the climatic conditions of the state. It is an indisputable fact that the winters in this state are gradually getting milder year after year, and that the fall of snow is a great deal less now than in former years.

The high, cold, snow-laden winds that swept over the treeless prairies have become a thing of the past since the state has become studded with large groves. The groves catch the snow and also break up the force of the cold winds, and the result is that we now have mild and more even weather in the winter months.

A man is not worthy of the name of farmer if he does not make some effort to protect and beautify his home by planting trees and shrubs. No doubt some half-hearted farmer will say that this is in the nature of a luxury. But some one has said, "If you will let me have all the luxuries, I will try to get along without any of the necessities," because nine-tenths of our lives, perhaps, consist of what might be called luxuries.

The lack of means may prevent a man from expending much money in trying to make his home look cheerful, but on the other hand, there is something else lacking in a man who does not try to make his home inviting, comfortable and pleasant for his family.

Homes made bright and cheerful by trees, shrubs, and flowers will go a long way towards keeping the young boys and girls on the farm. They will love their quiet, beautiful homes and will not be restless for city life.

It has been said that we measure the civilization of a people by the homes they build. Likewise we measure the standard of a community by the condition of the school and the environment. Therefore these are more than an indication of refinement and civilization, they are the cause of these refinements. These two great influences are often overlooked by busy men and women, and the result is, that it is hard for them to appreciate the effects of these influences upon their children. But there is also a material side to the subject of home ornamentation. North Dakota is and always will be an agricultural state. She has no vast forests, or rich mines which go to build up large cities and commercial industries. Her wealth must come from the soil. Therefore the greater percentage of her people must be farmers. Such standing as our young and prosperous state is ever to merit for her material progress, or for the intelligence and enlightenment of her citizens, will result from the qualities of her rural classes. This being true, the education and surroundings of our youth should be of such a nature as to develop the highest types of men and women and to furnish such attractions as will keep them on the farm. C. G. MICHELS, '09.

After Rain

O'er the roof of tree tops wide
 That spreads toward the distant West,
 Light showers still do glide
 'Fore a summer breeze almost at rest.
 In the airy, misty splendor,
 The sun sinks flames of gold,
 And a veil of silver glitters
 O'er the hedge's dimmer mold.

But where the path its way picks forward,
 Through meadow, field, and lea,
 The sun brood beams is laying,
 O'er land and waters of the sea.
 The field sways light in wrinkles
 Still with rainy drops is filled,
 And to the eye it twinkles
 As gold with diamonds instilled.

While cozy winds are airing
 The summer evening clear,
 All trees and plants declaring
 The blessing to them most dear.
 The church stones redly glimmer,
 The cloud is lightly swept,
 And through its tears laughs Nature,
 As a child that just has wept.

(Translated from the Norwegian)

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EDITORIAL

THE two Literary Societies have, during the past year and a half, made great progress in their work. This is noticeable to anyone who has been with them and carefully noted their development. The Athenians, especially since the revision of their constitution, have done some very effective work, having had good programs which required preparation and time on the part of those who participated. Besides this, excellent drill in parliamentary practice has been afforded by the business meetings which are conducted strictly according to Robert's Rules of Order. The social life has not been neglected, altho it has by no means been overdone, only three social affairs having been given by the Athenians, two of which were for the benefit of the "Piano Fund." The Philomathian Society, too, has done some good

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work, altho, since they are constitutionally more of a social organization than the Athenians, the social side has probably been more emphasized than in the other society.

And all this without the help of the Faculty! What the societies would become, if they had more hearty cooperation of the faculty members, is of course, merely a matter of conjecture, but it is very probable that they would greatly increase in efficiency and usefulness. We have known for a long time that the Faculty was apparently dissatisfied with the progress of the societies and have even made statements to the effect that "they did no good literary work, but merely enjoyed themselves" and, again that "the programs are not up to the standard." Now, no one will deny the fact that both societies can greatly improve but

they would like credit for what they are doing. As far as we know, the Athenians have enjoyed only two Faculty-visits this school year and the Philomathians not any more. This is to be regretted, for in order to get the best results, faculty and students should work together. Of course, the societies are student affairs and should be in the hands of the students, but the more experienced faculty members should be ready with their suggestions and criticisms. And these criticisms should be of the kind which come from actual observation of the facts, not from superficial hypotheses. Because a faculty-member was present at one program that was not "up to the standard," is not sufficient reason for condemning the programs of a whole year as "meritless."

And because the faculty-members have been present only at our social-gatherings is no proof that we have only social-meetings. It is the aggregate which must be taken into consideration before just condemnation can be passed.

For these reasons, then, in order that they may not condemn us unheard, the Societies would be very pleased to have the Faculty-members at their meetings. In this way too, the Societies will be greatly benefited by the advice and suggestions of the Professors and the Faculty will be better able to give a true estimate of the efficiency of the two Literary Societies.

THE railroad magnates have at last awakened to the fact that public opinion is a thing not to be scorned. Altho they were able to seriously cripple the rate bill which passed Congress, they have now found that the state legislatures are more to be feared than the federal government, and that federal control would probably be more expedient than state control—even to the railroads.

During the last few months anti-railroad legislation has been attempted in nearly every state in the Union. Legislation similar to the two cent rate bill in Minnesota and the two and a half rate bill in North Dakota, show that the states have decided to take the matter of railroad control in their own hands. Whether or not the passing of these laws will make for the welfare of the states remains to be seen; but it is evident that unqualified legislation along this line may lead to difficulties.

The idea seems prevalent that any measure which will directly cut off the profits of the corporations must necessarily be of benefit to the general public. Such is, however, not always the case.

The action of the railroad magnates in calling upon President Roosevelt for assistance was seemingly of no avail and it is doubtful if Harriman's attack on the chief executive will further the cause of the railroads to any great extent.

THE State Oratorical Contest which was held at Grand Forks April 12, was not an entire success as far as the A. C. is concerned, as our orator, Mr. Dynes, failed to secure a place on the inter-state contest. The contest as a whole was, however, of a very high order, showing great improvement over former state contests. We feel that as "farmers" we made a creditable showing in competing with a minister and a lawyer in their special art, that of public speaking.

The winners of first and second place, Mr. O'Connor of the University, and Mr. Ford of Wesley College, had good orations, both as to thot and composition, and both speakers showed the effect of careful training in their delivery. With these two men in the Inter-state contest, North Dakota should feel confident of securing first place.

Locals

Nemzek has procured a black pup to guard the drill hall.

There is a prize offered for good Freshmen this term.

The Faculty have awoke to the fact that there are student organizations at the College.

Myhre says kindness is the outward manifestation of love. He must be inexperienced.

Student (peering anxiously into a microscope)—“Say, Prof., what am I looking for?”

Prof. (to student)—“If you say you don't know we will send you to the University.”

If you want to know anything about the Chinese or Japanese, just ask Mr. Magill; he knows all about them.

The retiring members of the Board of Trustees were banqueted at the Commercial Club room March 31.

“In the spring a Senior's fancy lightly turns to thots of love.” There seems to be no difficulty in verifying this.

Myhre and Babcock will have charge of the bookstore next year. Girls, get in line for the grand operas and oyster suppers.

Prof. (in Botany)—“The protoplasm in a cell is like a student in school, it follows the line of least resistance.”

President Worst is soon to leave on his trip of investigation in Europe. While abroad he expects to visit his relatives in Holland.

One of our professors ran half the length of the brick walk to catch a street car, and then found he had only four cents in his pockets.

We are all glad to learn that Miss Childs is rapidly improving after her operation for appendicitis and that she will soon be with us again.

The soil physics class is busy collecting soil samples. They seem to be progressing pretty well as they have already about half a car load.

Student (to Mr. B.)—“Will Miss S. be here for the Spring term?”

Mr. B.—“I hope so I, don't know what I will do without her.”

The Military Department has lately drafted Willard into the awkward squad, where he seemed to furnish much amusement for the cadets.

Prof. in History—“What are some of the requirements for the presidency?”

Student—“He has to be a man.”

Prof.—“This is an age of specialization. Some men do this, and some do that, and some do nothing. This is the highest state of civilization.”

If the size of the banner is any index as to the ability of a class, the Senior Preps will be all powerful, for they are planning on making a banner 14x20 feet.

Some of the boys are wishing that Miss Childs would return to school. They say there is no cake that tastes quite as good as the kind Miss Childs makes.

Prof. in Freshman Botany—“Did you actually find those ducts?”

Mr. W. (looking at his drawing)—“Well not, exactly, but I imagined I found them.”

Since the basket ball season is over Coach Dobie has organized a class in track work and unusual interest is manifest in base ball. Why not have a good field-day this year?

A Junior Prep.—“What does ambiguous mean?”

Prof.—“Two-sided.”

Junior Prep.—“Then, would a two-faced man be ambiguous?”

Kent Darrow and Warden Wheeler were led thru the “valley of the shadow of death” and out onto the bright and cheerful pathway of the Alpha Mu fraternity the end of last term.

An examination of the motor in the Chemical Laboratory would indicate that some of our young chemists need instruction in electricity. The motor will probably take a trip to the factory.

Mr. Dolve, of the Farm Mechanics department left school the first of the term for his home at Portland, where he will spend some time visiting, after which he will join a government surveying party in the western part of the state.

Prof. P. (entering the classroom) —“I was just looking at the clock to see what time it was, and the big hand dropped seven minutes, which indicates that the time must be going pretty fast, so I guess we had better commence reciting.”

Prof. W.—“The soil of the pine regions of Minnesota is of such a loose texture that the foxes come in and dig their holes there. After the wind blows for a few days these holes are seen sticking out of the ground four or five feet.”

Prof. (to a large student)—“Give an example of an abstract noun.”

Student—“Strength.”

Prof.—“No, you can't see or feel strength, can you?”

Student—“Well, I have felt my father's lots of times.”

1st Student—“I did not have my Botany lesson today because I had some other work to do last night.”

2d Student—“I did not have mine because my eyes bothered me.”

3d Student—“I didn't have mine because I had a sore foot.”

It is reported that one of the Junior Faculty-members is intending to take a course in Courtship at the University of Chicago during the summer vacation and that he expects to offer a course in this line next year. Two have already registered for this work.

1st Student—“There isn't any date on this card.”

2d Student—“Did you look on both sides?”

1st Student—“Yes, and I can't find any date at all.”

2d Student—“Well, look on the edges, then.”

The new board of trustees held their first meeting Tuesday, April 2. They completed the plans for the new buildings which are to be begun at once. Owing to the illness of Miss Childs, Mrs. Ash had charge of the dinner served to the board by the Domestic Science department.

The coming of the election of the Students' Organization reminds us of the fact that a revision of the constitution is absolutely necessary, if the usual confusion is to be avoided. Would it not be possible to adopt the primary election system and require the use of balloting booths?

The problem is solved at last—Some of our enterprising engineers have decided to place a hot air drum in one of the rooms in the English Department to catch some of the hot air, that blows over from the High school the third hour in the morning, to run the hot air engine in the biological department.

WHAT OTHERS SAY

Grout (after making a good guess)—“That is all I know about it, if I said more it would only be guessing.”

Rex Willard—"What does the discipline committee do to a fellow, anyway?"

Lanxon—"I'm going to wear my derby all the time after this."

Prof. Rose gave a most interesting address on Monday, April 1, on "The Effects of Invention." He spoke of a number of important inventions and showed how these had effected the social conditions of the country and shaped the destinies of the world. The invention of the steam engine, he claimed as the foremost of inventions, and one which did much in determining the civilization of today. He spoke of other inventions and of their great importance to the world as a whole.

On Friday evening, April 5, Prof. Bell gave an illustrated lecture to the members of the Philomathian Literary Society and their friends on "The Buried City." He showed views of the different buildings that have been carefully uncovered since the destruction of Pompeii in the year 79 A. D. He gave a very definite idea of the civilization and customs of the people of Pompeii and further showed the remarkable advancement that had been made in the different lines of art. After the lecture a short literary program was given by the society.

This is one of the interesting letters recently received by President Worst:
569 E. 150 St. New York.

Dear Sir: Being a subscriber to the Farm Journal of Philadelphia, I saw while reading it thru that you gave a bulletin in regard to rust. As I am a plumber by trade your Bulletin No. 86 on Rust Problems might be of help to me, so if you will forward me a copy of such you will oblige,

Yours truly, ———

Prof. Bolley is in doubt whether the formaldehyde treatment for wheat will, however, be very beneficial to the plumbers.

Tom Jensen, a former student, writes from Alaska that they have been having a regular North Dakota winter. He says he would like to give the girls a ride with his dog team, if possible.

Alumni

Miss Katie Jensen, '04, intends spending the summer and most of next winter on her claim north of Williston.

Mr. Fred Jensen, '02, has a claim in the same vicinity as his sister, and Miss Jensen will make her home there, while he keeps up his business at Westhope, N. D.

John Swensen, '06, visited the College for a few days, after the close of the legislative session. He expects to spend the next few months on his claim, but says he will be patriotic and return to the College for commencement.

On March 21st a very pretty wedding took place at the home of Mr. and Mrs. Flett, of Fargo, when their niece, Miss Pearl Mott, and Mr. Elmer May were united in marriage. Miss Mott is a former student of the College and has many friends here. Mr. May is a member of the Class of '05. Mr. and Mrs. May will be at home after April 20, at their farm near Harwood, N. D. On March 27th the bells again rang for one of our graduates, when Miss Bessie Smythe, '06, was married to Mr. John Edwards, of Ellensburg Washington. Both young couples have our congratulations and best wishes for their future prosperity and happiness.

Prof.—"What does tabular mean?"

Miss H.—"Like a table."

Prof. "What?"

Miss H.—"I mean square like a cube."

Prof.—"If you make many more mistakes like that your mark will be round like a lemon."—Ex.

Exchanges

Before us are piled College papers from all over the United States. Some are good, some are poor, and some are neither, being simply mediocre. It is hard indeed to criticise justly and in a manner that shall be helpful in some degree at least. For that is in reality the purpose of the exchange department as we see it. Still more difficult is it to find that happy medium of expression by which no one is offended but still takes the criticism—each one unto himself.

We are glad indeed to welcome *The Mercerian* back to our exchange table after a long absenec. It is one of the best balanced, most attractive, all around papers on our list. Especially interesting in the March number is the second of the series of articles entitled "Great Universities." This paper deals with Oxford and tells of the student life at that well known university. The information is obtained not thru books, but thru personal contact, as the writer is a student there. The stories also are good and different from the usual type of college story with which we are only too familiar.

One of our new exchanges is *The Industrial Normal Exponent*. This visitor from South Dakota seems to have the laudable aim of having its material as original as possible. Probably most interesting and unique we find the little narrative entitled "Fairies of Consciousness." The author has evidently studied Psychology recently and certainly received one hundred per cent on the question asked him concerning the localization of functions. The locals are the best that are found in any of our exchanges and prove interesting to everyone. By the way, the chief trouble with most of the locals is

that they are entirely too personal—no one outside the school can see the "point," and in all probability only very few even there at the school.

The Cricket, from Belmont, Cal., deserves a great deal of praise, tho we feel that the editorials and exchanges have not by any means reached the standard. The editorials, if the editor had not taken care to label them, might have passed off very nicely under the head of locals. Only one page is devoted to exchanges. Part of it is taken up by the sketch, heading the department, a great deal more by blank space, nine lines are devoted to comment on other papers, and the remaining available room is given over to jokes. Surely the "Ex"-man of *The Cricket* has an easy time of it. We sincerely hope that above criticisms will be taken in the friendly spirit in which they are offered, for the paper on the whole is entirely too good to lag in one or two respects.

Whatever else *The X-Ray* has or does not have, it very seldom forgets to don a new cover design and come out in gala array. It seems, however, that advertisements form the chief reading material in the March issue.

Full of original, refreshing things the *University of Arizona Monthly* comes to us again. This paper always contains excellent cuts—something which is very rare in most of the papers, due chiefly, we think, to the fact that they do not wish to incur additional expense. We notice much improvement in the exchanges as a great deal more space is now devoted to comment and less to jokes than formerly. We are glad indeed to note improvement.