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## June 1895

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[June 1895]

# THE STUDENT

Vol. VIII

UNIVERSITY, NORTH DAKOTA.

No. 8

## Commencement Week.

The exercises during the week occurred as follows:

Baccalaureate sermon at Presbyterian church, Sunday evening, June 9th.

Class night exercises at Ladies' Hall, Tuesday evening, June 11th.

Junior reception at Ladies' Hall, Wednesday evening, June 12th.

Commencement at Metropolitan Opera House, Thursday morning, June 13th.

Sunday morning the Baccalaureate sermon was to have been preached by Prof. Woodworth, owing to his illness, Rev. W. H. Spence was called on to take his place. The text taken from Jeremiah, IX-39, was "Dwell deep, dwell without care, dwell alone."

The congregation was a large one, including, besides the students and friends of the graduates, a good number of those in the city interested in the University. The discourse was eloquent and impressive, and was received with the utmost attention by all in the congregation.

The class night exercises were even more interesting than is usually the case. On such occasions, as a rule, of course, the productions containing as they generally do, things of interest to the student body, alike exercises may be tiresome to the outsider. Such, however, we are

certain has not been the case this time. The parts showed unusual skill in their preparation and delivery. Reproductions of those we were able to obtain, are given further on.

The junior reception was as all Junior receptions are—the pleasantest—and yet most painful event of the week. There we bid good bye to one another for the months—in some cases years to come. The evening passed pleasantly in conversation, varied by a musical program. The refreshments were delicious. All left at a late hour to meet on the morrow at Commencement.

## History of Class of '95, N. D. U.

Turn Backward, turn backward. O Time, in thy flight make me a Freshie again, just for tonight. Not, of course, that a grave and reverend senior would exchange his proud position for the proverbial process of initiation and head reducing, considered a necessary part of his training. But simply that, with more accuracy might be made the record of the early days of this reverend and talented body—the class of '95.

October 31st, in the year of our Lord, 1891, the 'Varsity reopened after summer vacation. The Freshmen class then numbered fourteen. The first class to which we went was English history. After a few well chosen remarks on



the dignity of our position, made by Professor W. in his pleasing manner, our lessons were assigned. "Class in history take for tomorrow, Macaulay—six volumes." One of our number exclaimed—"What a snap! That class will be more fun than drilling Preps in Company A.

Solid geometry was our "pons asinorum." There was not enough architectural ability in the class as a whole to make the construction of angles and pyramids on shingles a popular pastime, but I must say that those who were masters of the art of cutting bog oranges into oblique prisms and fastening them together with tooth picks, always kindly consented to lend their assistance to those less favored. Then our instructor with most unequalled inconsideration for our tender feelings would ask such questions as "how many halves in a whole?" Never telling us the size of the hole, or the whole of what it was, to which he referred.

Our Freshman year slipped past almost before we realized that it had commenced; its happiness marred only by the deaths of two who had become very dear to us. Though passed from our number, we will always cherish their memory and strive to imitate their beautiful example. One more of our members left us at the close of the year, never again to be a member of our class, but who is one of the two members of the Normal 95's who are united with us in the exercises of this week.

During the next year, we made the acquaintance of Messrs. Homer and Livy and amused ourselves by trying to estimate the amount of gold in a certain quantity of iron pyrites, and by similar occupations, until called upon to pay weeping farewell to two young braves of our number, who went forth from our halls to do and to dare. This vacancy was partly filled by the arrival of a youth who proved to be a second Hercules in Greek and Latin, but a trifle bash-

ful about airing his ability, so that full justice was never given to his marvelous powers. Notwithstanding this, the story of his fame became noised abroad. They were "after him," and a short time ago we lost the hero of our many translations.

The class of '94 then claimed one of our number, and, though we rejoiced at her success, we were loth to lose her.

Another who left us then, is now endeavoring to prove that  $\sin 2$  a husband who is an  $\text{EXUND}$ — $-\cos 2$  an  $\text{ND}$  farm double blessedness.

Our next blow was a terrible one, and coming, as it did, wholly unexpectedly, it is small wonder that we have now scarcely recovered from it. Nor was it only the force of the blow that threatened to overwhelm us, but after we had recovered from the first shock of surprise the magnificence of the ingratitude which the deed betrayed was revealed to us in startling plainness. Little did we think, when we bade him adieu, that he was concealing the already matured plan. Well—for I can delay the truth no longer—he came back, a full fledged Junior—and, never having asked our advice, mind you, a full fledged Benedict. "O Judgment thou art pled to brutish beasts, and men have lost their reason."

But our Junior year was an eventful one! During this year it was, that three of our number met an equal representation from our sister university to contest for the interstate laurals—"You know the rest in the accounts you have read," etc.

The South Dakota boys "fired" no oratory to compare with that they received. The decision of the judges was unanimous.

We never do anything by halves—even though it be an initiative ceremony. You are inclined to doubt this? For verification and further



particulars, I must refer you to a certain Freshman.

This year also saw the organization of that glorious class of "girls in bloo"—mers and that exhibition which thoroughly captivated the town.

For the honor of the class, be it told that one member at least has proved that the days of chivalry are not a thing of the dull dead past, and that true bravery may show itself in other ways beside bucking the centre of the opposing line. The night was dark—the girl, petite and interesting. He might have posed for Ajax defying the lightning. Suddenly, from beside the walk sprung a large—pig—six inches in length and with all the ferocity known to be peculiar to such animals at the age of a few weeks. As the situation demanded, the young lady uttered a piercing shriek. But all unmoved, placing himself between the fair one and her foe, the gallant Junior reassuringly cried, "Don't be afraid—I'll kill it!" It is much to be regretted that we have been unable to obtain "its" skin for the museum.

You are doubtless familiar with the wonderful work done by the classic students of this body in the line of elucidating (?) obscure and difficult Greek works. This certainly, is the department, in which, we have shown with unrivalled brilliancy, unrivalled save by that Junior who is so far in advance of Plato and the Greeks that we don't need to consider him, save as an exception.

Now, we hope you will all miss us a little, but we *know* that from this department, we shall be not only missed, but mourned. How do we know? Dr. Thomas said so, and he meant it too. In days to come, when some exceptionally brilliant student completes a translation, fearfully and wonderfully made, we imagine him gazing through a "mist of tears"

as he says—"how like the old class of '95."

Before closing I would burden you with a few statistics—compiled with great labor and care—and guaranteed.

NAME	AGE	FAVORITE DRINK	FUTURE OCCUPATION	MATRIMONIAL PROSPECTS
Miss Kellogg . . . . .	Our Baby . . . . .	Lemon Soda . . . . .	Bicycle Riding . . . . .	Waiting for her Right . . . . .
Miss Howland . . . . .	Interesting . . . . .	Strictly Temperate . . . . .	Being Pleasant . . . . .	Numerous . . . . .
Mr. Skulason . . . . .	Age of Discretion . . . . .	Sociabilities . . . . .	Prof. Metaphysics . . . . .	Ask her . . . . .
Mr. Bennan . . . . .	Minus Chaperonage . . . . .	Pink Lemonade . . . . .	Prof. Conology . . . . .	Has not the courage to ask . . . . .
Mr. Radcliff . . . . .	Sweet Sixteen . . . . .	Hoods Sarsaparilla . . . . .	Making Taffy in laundries . . . . .	Don't know—She didn't seem to think favorably of it . . . . .
Mr. Hathorne . . . . .	Any age at all . . . . .	H <sub>2</sub> O . . . . .	Dancing Master to Pejees . . . . .	Settled . . . . .
Mr. Hempstead . . . . .	Young . . . . .	Midnight Oil . . . . .	Pugilist . . . . .	Wait 'till the clouds, etc . . . . .
Mr. Engerbreetsen . . . . .	I'll ask Prexy . . . . .	Milk . . . . .	Chaplain of a small boys union . . . . .	While there's life, etc. . . . .
Miss Greene . . . . .	Young enough to be still green . . . . .	Red River Water . . . . .	Lecturer on Woman's Rights . . . . .	Poor . . . . .



## Class Poem.

The rustling wheat sang to my ears,  
A song of school and college years ;  
And through it all ran this refrain,  
"School life is like a field of grain."

Under the winter's sun,  
Radiant with its glow,  
Glittering white and clear,  
Lieth the sparkling snow,  
Far as the eye can reach,  
Pasture and lawn the same,  
Meadow and field and swamp,  
Differing but in name.  
What will the summer bring ?  
What will the future show ?  
Who of the wisest yet can tell,  
What lies hidden beneath the snow ?

No crowd of children playing in the street,  
But mind their happy numbers will be found,  
Those whom in future all the world will bless,  
Those who will scatter woe and death around  
But what the future brings is all unknown  
Knave, hero, prophet, teacher, sinner, saint.  
Are there, the love of parents and of friends  
Illumine those lives, yet free from all complaint;  
Troubles nor cares assail their present lot,  
To live is happiness, to breathe is joy,  
And thoughts of future duties, future storms,  
They trouble not each happy girl and boy.

Now the fields are riven and torn  
By the merciless iron plow  
Their glitter and beauty is gone,  
They are bare and ugly now.  
But the present loss is the future's gain,  
No springtime plowing, no golden grain.

Soon ; ah, too soon, is happy childhood past,  
Its gleams and glitter is to bright to last  
Boyhood comes on, and childish sports and plays  
Must stand aside for sterner works and ways.  
School life begins ; with labor long and hard  
The primer first is conquered, word for word.  
The hand accustomed to the bat and ball  
Now learns with pencil on the slate to scrawl,  
At mysteries such as "two plus two" he toils,  
Attempts at play the teacher sternly foils.  
Instead of boisterous shout and romp and race  
He's forced to learn a quiet tone and pace.  
Four walls confine him who was wont to roam,  
O'er lawn and meadow, field and wood and home.

Over the mellow fields,  
Into the fertile soil ;  
The sower scatters the seeds  
With seemingly fruitless toil.  
His hope is free from fears,  
He does the work of the present hour  
Nor into the future peers.

All honor to the teacher, who with care  
And much painstaking efforts sows the seeds  
Of a new life within the mind of youth.

And toiling on through sunshine and the storm,  
Line upon line, precept upon precept adds.  
He knows not this work shall be in vain,  
Or if a glorious harvest thence shall spring.  
Patient he does his duty day by day  
And trusts to future years for other things.

The sun and the rain of spring  
Fell in the desolate fields,  
The sprouts pushed up from below  
'Till at length the hard clod yields  
Instead of the bare brown earth,  
The sprouting blade is seen.  
Instead of the desert soil  
Behold ! a sea of green.

Who does not well remember, as he first  
Assayed a study hard, untried and new ;  
How that at first it bare and black appeared  
And gave no promise of a future yield ?

Day after day a weary task it seemed,  
Hopeless to plod along the desert way,  
Until at length, behold ! a sudden light  
Breaks on the vision ; all is plain as day.  
Things heretofore unseen come into view,  
Things learned and soon forgot, return anew.  
Things dimly understood, now seem to lie  
Pregnant with meaning, plain before the eye.  
What seems as lifeless as the barren field  
Now promises abundant fruit to yield ;  
And as the subject grows upon the mind,  
New beauties, new relationships we find,  
New applications to the work of life,  
New vantage points, of use in future strife.

The summer wind is blowing,  
The grain waves to and fro ;  
Now flashing back the sunlight,  
Now sadly bending low.  
Over the broad fair acres  
The heaving billows flow ;  
The stalks now lean to the northward,  
Now back to the south they go.  
So shifts the mind of youth with every breeze.  
Our days in college are with changes rife,  
For not until our college days are past  
Dare we begin to shape beliefs for life.  
One another bends our minds a certain way,  
Another proves the first in error quite  
And ere we finish recitations hour,  
The teachers make us think neither's right.  
Prof. A. explains the branches taught  
As only "parts" of one stupendous whole  
And satisfies *himself*, at least, by proofs,  
That *his* branch is the essence of it all.  
"All other things," Professor B. will preach,  
"Are subdivisions of the things I teach."

But autumn days approach,  
The summer's growth is done ;  
The grass in every field  
Stands ripening in the sun.  
Soon shall the harvest home  
Praise or condemn the land,



Tell if its yield is good or ill  
Under the farmers' hand.  
Happy the farmer, when the soil  
Has yielded its fruit to his summers toil.

Classmate, now prepare to harvest  
Educations' golden grain,  
Have our fields been tended truly;  
Faithfully in joy and pain.  
Good the seed that has been scattered  
In our Alma Maters halls.  
Good the rain and good the sunshine  
She has freely given to all.  
Shall the crop be worth the harvest?  
Shall it be a blessing sweet?  
Shall the training gained at college  
Give us strength the world to meet?  
If well done our daily duties,  
Need we for the future fear?  
Shall the crop that now we harvest,  
Make our future prospects clear?  
May the colors on our bosom  
Symbolize the ripened corn.  
May the green thereon remind us,  
That from seed new life is born.  
Let us sow the seed here ripened,  
By the river, by the turn;  
Freely we've received from others,  
Freely give we in our turn.

WARREN C. HAWTHORN.

### A University Education.

[CONDENSED.]

The Senior, having completed his college education, will be expected, by those still on the way, to give an account of some of the wonderful things which now lie within his widened mental horizon. Those who have already climbed a few heights will not be surprised when told that the outlook from the mountain top is not so enrapturing in its grandure and beauty as the imagination of the traveler standing at the foot painted it. And, again, those who have just now or long ago finished the four years of college life will confess, to themselves at least, that their wild young hopes of all-embracing knowledge, and all-penetrating insight have fallen far short of being realized.

The field is far too broad for any one to cover it intelligently in the few years called a University course. Human knowledge, though infinitesimally small when compared with the great

unexplored, is yet too varied and multifarious for one mind fully to comprehend it all. The only human being who is said to have a ready opinion on all things from skipping drill to Potential Energy is the Sophomore. But no sooner does he pass into the Junior year than he begins to answer questions evasively and try to look wise, while he avoids committing himself, when pressed for an opinion. In the Senior year he has given up all hope of reforming the world by an oration delivered in chapel and is willing to stand aside and let the old top spin on.

But is that really the only result of a liberal education, to make the college man like Socrates, know that he knows nothing? Perhaps not; yet, if it brought no other, the time spent would still be well repaid. In these days when almost every man—and woman, too—thinks he knows enough to run the solar system and pretends to an opinion on every conceivable topic, it is a genuine comfort to find a man who once in a while will say, "I don't know." But perhaps a Senior has learned something after all. Cardinal Newman says the aim of a University is to make the *gentleman*, meaning thereby one who has a "cultivated intellect, a delicate taste, a candid, equitable dispassionate mind, a noble, courteous bearing in the conduct of life." If a liberal education gives a boy most if not all of these qualities the greatest pains and sacrifices are surly a thousand times repaid.

The aim of liberal education is not the training of the intellect merely; like that of all true education it is the symmetrical development or evolution of all the powers of the human being.  
\* \* \* \* Will it be saying too much if you assert that a college or university education is capable of moulding any ordinary character into a certain specific form, and that its influences, brought to bear upon the student during this



formative period, are all-powerful in shaping his nature? \* \* \* \* The first duty of a university undoubtedly is to disseminate knowledge. Its province is to introduce the student to the past, acquaint him with the customs, struggles, defeats, and triumph of nations long since vanished; and correlate this recorded experience with the present so as to enable him to anticipate the future. In this way it gives to him a comprehensive view of life and all its relations. All history becomes an object lesson; its repetitions become strikingly significant showing clearly that the theories propounded today as brand new are really the old apparitions and illusions which for ages has haunted the brain of man.

The ability to estimate correctly the relative value of human efforts; the ability to comprehend clearly the independence of all human knowledge; the ability to survey the whole field of that knowledge and distinguish the known from the uncertain and unknown, by discerning the limits, these are among the powers contained by a liberal education. It discovers to man his place in nature, and his relation to mankind and the universe. It breeds in him the clear, calm, and moderate spirit of the philosopher. But it does still more. Not only does it give him the best preparation possible for a distinguished career in any intellectual pursuit, but by holding up before him the loftiest ideals of moral excellence, it lays the foundation of a noble character. It infuses into him the spirit which makes men great in literature and in the state. It draws him away from the sordid, the mean and the ephemeral and attracts him to the pure, the noble, and the lasting.

We have found the public schools and universities of England and Germany the centers of civilization there. Were we to examine the higher educational system in the United States,

we would find the same true of it though to a less extent. How far does the University of North Dakota deserve to be called a center of the purest and noblest life and a source of inspiration to its students!

President Porter says that every college has a *genius loci*. What is the *genius loci* of this University? Perhaps we are still too young to have one. Our customs have not yet become fixed; we have no traditions of past glory, nor have we any illustrious names to point to, no careers of famous alumni to inspire us to further efforts when we falter. Moreover our numbers are not large, and, as an institution and a student body we certainly lack the prestige conferred by wealth. And yet, have we not a distinct college spirit, an *esprit de corps* a *genius loci*, call it what you will? Does not this university set a certain stamp on its students? Is it not moulding a certain specific form of character? There can be but one answer to these questions. Ours is an American university in the true sense. The impressions received within these walls shall never be erased, the direction given to our energies here will hold through life. If we ever amount to anything, if any of us ever become renowned, we will be able to trace to this university our noblest impulses; we will confess that we found here the "springs of action and seeds of thought."

Time is at hand when the influence of this university in the state will be all-powerful and all-pervading. Wisdom and virtue must flourish in our rich soil. And as the embodiment and exponent of these, the University of North Dakota will live and grow and continuously increase in power and in usefulness.

John Macnie, '93, now of New York City, is expected here to participate in the festivities of Commencement.



# THE STUDENT

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WITH this number, the present board of editors commence their work. What the results of their efforts will be, depends, in a great measure, not on them, but on you who read these lines. THE STUDENT has, in the past, attained a high standard among college journals. This has been accomplished largely through the efforts and interest of the students themselves. The board of editors, alone, cannot make a paper. We must, in the beginning, then, appeal to you for aid. We need your encouragement, both in the matter of subscriptions and interest manifested. We want you to bear in mind that this is your paper, and being your paper should occasionally receive some contributions from

your hands. If you bear these things in mind, and act up to them, we have no fear for the future.

WHEN you peruse these pages, the class of ninety-five will no longer be numbered among the student body. The departure of a class from among the undergraduates always leaves some spaces in the ranks—spaces that are hard to fill. This year it is especially true. We all know that the progress made by an institution depends largely on the *personelle* of the student body. The class of ninety-five includes in its numbers, those whose influence has been felt in many ways. To them, we can truly say, we owe much of our development, during the past few years; and above all much of the *esprit du corps*, which we, as a student body, now possess. In parting with them, we lose those on whose leadership we have depended, and by whose friendship and pleasant associations, our ideals have been raised and our path made much more pleasant.

WE would like, in this issue, to say a word to the Alumni. It is the best time, perhaps, we could choose in which to do so. The Alumni Department is now under the supervision of the associate editor, It has in the past proven a success. It can, however, in the future, be made much more successful by your attention. The uses and advantages of this department do not need mention. They are obvious to all. It only needs your support and attention in the way of contribution to make the Alumni column an agent that will bring you more closely in touch with each other and your *Alma Mater*.

DURING a part of July and August, a teachers training school is to be held at the University. It may be well to say a word about this school, for although such institutions have flourished



about us for some years during the summer months, the coming one is to be our first. Summer schools are supported by the states in which they are held, for the purpose of giving the teachers of the state a chance to "brush up" in the various subjects with which they have to deal. Such an institution will be of especial value in North Dakota. The great number of our teachers have not high school

They are, most of them, working their own way toward the end they desire to reach, and have but little time and few opportunities to enlarge their mental field of vision. To such, the summer school will prove an aid of no little consequence. During its session, they come in contact with our best educators under whose supervision he must work. Partially forgotten subjects are made clear again, and, best of all, many hints such as can only be gotten from those whom long experience has taught are obtained. No better place for a training school could have been selected within the borders of the state than the University. With the equipment of apparatus at hand, and the library, the best in the state, for reference, beside the central location of the City of Grand Forks as regards railroad facilities, there is no reason why the coming summer school should not be one successful forerunner of a series of annual teachers training schools.

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ATHLETICS today occupy a very prominent position in the college curriculum. The attitude of all institutions toward this important factor in the development of man is being changed toward the better. Athletics are becoming more a part of the college course. The importance of physical training is obtaining its deserved recognition. This is markedly true in the east—in spite of the fact that some of the more important institutions have abolished

college foot ball. With this increase of interest in the college world, we find a similar change in the world about us. Amateur sport is daily becoming more popular. All about us, cycling, golf, foot ball, lacrosse, tennis, and the multitude of other existing modes of exercise are coming into vogue—not as fads, but as genuine, healthy modes of amusement and pleasure. With this development of amateur sport, another phenomenon may be noticed. Professionalism is dying out. Prize fighting is in its death agonies. Professional base ball no longer pays. Paid athletes no longer command the admiration of gathered thousands. The "sporting" and betting public may be as numerous, but today, they turn their attention to horses and dogs. The race track commands their admiration—and it really seems as though the day of hiring men to exhibit their brawn and skill were past. The change is for the better. Professionalism in athletics is a mere prostitution of strength and talents. The man who exhibits himself for the filthy lucre that is offered as a prize, and not for the love of the sport, is lowering himself morally—by putting himself on a level with a trained brute, while he who is, in all senses of the word, an amateur is being benefitted, physically, mentally and morally. It may possibly be that the time is coming—would it were a certainty—when athletics will be raised to a still higher level, and occupy the position they did in ancient Greece. Let us hope that when the proposed revival of the Olympic games transpires, it will be the beginning of another golden age for amateur athletics.

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Germany has an active professor ninety-six years of age. For sixty-six years he has been teaching continuously on physics and mineralogy.—*Student Life*.



## Science

### Development of Sex in the Algae.

The Algae represent plants of the simplest structure. They live in water and on damp surfaces such as walls, rocks, and bark of trees, in the form of blue-green, green brown, or reddish, filaments or masses of cells. In most cases they can be studied only by the aid of a microscope. The Algae are divided into four sub-classes according to their respective colors. *Cyanophyceae* represent the blues, *Chlorophyceae*, the greens; *Phaeophyceae*, the browns, and *Rhodophyceae*, the reds. This classification also represents their progressive development in structure and function; i. e., the *Cyanophyceae* are the lowest and the *Rhodophyceae* the highest of these. Because of limited space, we shall only make a few remarks on the various forms of reproduction as it has been observed in the two lowest of these groups; the *Cyanophyceae* and the *Chlorophyceae*. Sexual reproduction is said to take place, when the contents or part of the contents of two individual cells unite to form a third cell which, directly or indirectly, develops into the parental type. When no such union takes place, the reproduction is said to be *asexual*. The greatest characteristics of *Cyanophyceae* is, that their cell structure consists in a uniform mass of protoplasm, destitute of nucleus; and, also, that we have in these forms no trace of sexuality. The three general methods of asexual reproduction, common among lower plants, are, however, present. The simplest of these methods is reproduction by *simple fission*, sometimes called *vegetative multiplication*. It may be observed in all unicellular plants and animals (plants and animals consisting of only one cell) and those only. It consists in the division of the cell into two equal parts and thus gives rise to two new cells. In fact, this is

essentially the same process which takes place in the building up of fibers and tissues in higher animals and plants. The second mode of asexual reproduction is by *hormogonia*. This is present only in filamentous forms and is formed by the breaking up of the filaments into a number of portions each of which constitutes a free-swimming hormogonia that finally develops into a new adult form. The highest mode of asexual brought about by the breaking up of the cell protoplasm into an indefinite number of little ciliated, free-swimming bodies, called *zoospores*, which on germination develops into new individuals. In all unicellular plants in which zoospores are formed, and in some multicellular ones, any cell may become a *sporangia* (spore-producing cell); but in others this function has been limited to specialized cells or groups of cells.

If we now consider the *Desmids*, of the next higher sub-class, the *Chlorophyceae*, we shall find a method of reproduction opposite to that of *simple fission*. In place of one cell dividing to form two, we have here the contents of two cells uniting to form one, called *zygospore*, which surrounds itself with a thick wall of cellulose. After a longer or shorter period of rest it germinates and a new individual, in every respect like the parents, is finally set free. This mode of reproduction is called *conjugation*, and must be regarded as the first indication of sexuality, though, differentiation of the sex cannot be distinguished. In multicellular filaments, of *Spirogyra*, conjugation takes place between two adjacent cells of the same filament, or between two cells of parallel filaments. A similar process occurs also among *Diatoms* (*Phaeophyceae*).

In considering the various modes of asexual reproduction, we observed in many forms, in place of multiplication by simple fission, that certain cells would break up into an indefinite



number of zoospores with power of independent germination. The same process we find repeating itself in the formation of *gametes* (conjugating spores). Instead of the whole cell taking part in conjugation, we find in many forms (*Volvox*) the protoplasm of any cell, or in other forms (*Oedogonium*) the protoplasm of some specialized cell, breaking up into a specific or indefinite number of gametes, two of which will unite to form a *zygospore* or, in higher forms, *oospore*. (When both the gametes are extruded, their product is called a *zygospore*. When the *oosphere*, or female gamete, is fertilized within the female organ, the *oogonium*, the product is an oospore). The zygospore or oospore develops, directly or indirectly, into the adult form. It is the structure and mode of conjugation of these gametes which are of special interest to us and which represent an almost complete series of changes in the evolution of sex.

That the conjugating gametes are simply modified zoospores which have gradually lost the power of independent germination as they have adapted themselves to the higher mode of reproduction, namely, that of conjugation, is strongly supported by their mode of formation and by their peculiar behavior in such forms as *Hydrodictyon*, *Ulothrix* and *Ectocarpus*. In all these forms there are two kinds of spores formed; i. e., *microspores* which are very small, and *macrospores* which are larger. The latter in all cases they germinate independently and do not conjugate. The former on the other hand germinate in *Hydrodictyon*, but occasionally conjugate; in *Ulothrix* they generally conjugate; but if conjugation does not take place, they germinate independently; and in *Ectocarpus* the independent germination of microspores hardly ever occurs. Here, then, we have represented what seems to be transformation stages between asexual and sexual reproduction. But to carry on our

scheme and trace the evolution of sex, we will start with the gametes of the *Hydrodictyon* and follow it through its various stages of advancement, as it has worked its way in the various forms of Chlorophyceae and Phaeophyceae.

In *Hydrodictyon* the conjugating microspores are planogametes (free-swimming gametes), identical in structure and size, both taking the same part in conjugation, and both may be developed in the same gametangium (gamete-producing cell.) In *Ulothrix*, we have exactly the same thing, except that the conjugating gametes are developed in different gametangia, but may or may not be from the same individual. In other species of *Ulothrix*, it has been found that the gametes must develop in different individuals, also, in order to conjugate. In *Ectocarpus* we have a union of two planogametes of equal size, but one of the gametes has been found to lose its cilia and come to rest before fertilization takes place. As the conjugation of two undifferentiated cells has been regarded as the first instance of sexuality, so in *Ectocarpus*, we have the first step in the differentiation of sex. Here the gamete which comes to rest is regarded as the female and the other one as the male. This is supported by the fact that in all higher forms, where sexes are better known, the female cell is always the larger and more inactive of the two. In *Cutleria*, we have the next stage of development. Here we have the union of two planogametes, but the female, the one that comes to rest before fertilization occurs, is the larger. In *Fucus* the progress has advanced, still, a little farther and in place of the conjugation of two planogametes we have, in this case, an aplanogamete (non-ciliated spore) fertilized by a planogamete. In *Vaucheria*, we reach the highest degree of sexuality and differentiation of sex in *Chlorophyceae*. In place of both male and female being shed into the water before the



act of fertilization, we have here a case where the oosphere is fertilized within the oogonium, the female's reproductive organ, and only the male is set free. This last process, in many respects, analogous to that which takes place in many of the higher forms.

HANS URDAHL, '96.

The students in the science department ought to carry their scientific spirit and training with them during vacation and make use of it for the benefit of the State and the University. Those who are interested in biology might collect and classify some of the rarer flora of the State and bring their specimens with them next fall for the use of the biological laboratory. In this way a herbarium composed of the plants of all parts of the State might be collected.

Those interested in chemistry and geology might collect mineralogical and geological specimens peculiar to their localities. North Dakota has within her borders much mineral wealth which is only waiting for some one to develop it. Besides, if we carry our laboratory methods with us as we go into the presence of nature and apply them to what we can find about us, we will acquire a skill in observation, classification and inductive reasoning which will be of inestimable value to us in after life.

Every college study is useful somewhere; it may not visibly appear in life, but it has left mental strength and culture. Bluing goes through the cloth, but leaves it white. Every student is accountable to the future for his wise use of opportunities.—*College Palladium*.

The young ladies of Wellesley college have ordered an eight-oared barge, and are going to row this year. The barge is to be forty-five feet long, three feet beam and made of Spanish cedar. The plan was submitted last February and was approved by the faculty.—*Exchange*.

## • Athletics •

### The Year's Work in Athletics.

The interest taken in athletics by the students is increasing every year. This year the increase in athletic spirit has been a marked one, extending to nearly every student in the institution. Many adverse circumstances, especially the proposed closing of the University, have operated to weaken our athletic standing, but the general enthusiasm has been encouraging, and promises better results in the future.

The interest taken in foot ball during the fall term was greater than it has ever been before. A strong team was organized and two games were played with Grand Forks and two with the North Dakota Agricultural College. The former were easy victories, the latter hard-fought defeats. The first game with the Agricultural College, played at the Y. M. C. A. Park in Grand Forks, was characterized by heavy line rushing on the part of the A. C., and combined end playing and line rushing on the part of the "U." The heavy rush line of the Agricultural College won the day for them by a score of 20-4. In the return game at Fargo, the fast end playing on which the University had placed its dependence was made almost useless by the slippery ground, a heavy rain having fallen a short time before the game commenced. Here again the A. C. was victorious with a score of 24-4. The team that played at Fargo lined up as follows: Radcliffe, center rush; Arnegaard, right guard; Engebretson, left guard; O'Hara, right tackle; Wright, left tackle; Bickford, right end; Maloney, left end; Brennan, quarter back; Hempstead, right half back; Bechdolt, full back, and captain of the team.

During the winter, very little was done in the line of athletics. A skating rink was main-



tained on the campus, and a game of hockey with a Grand Forks team was talked of but never materialized. The only event of importance was the formation at Fargo, of the State Inter-collegiate Athletic Association by the representatives of the State University, State Agricultural college, and the Red River Valley University. On account of the proposed closing of the University, it was thought best, near the end of the winter term, to withdraw from the Association.

During the spring term, a strong base ball team, under the captaincy of Max Upson, has been kept in the field, and has played the following games: April 29, at the Y. M. C. A. Park in Grand Forks, University, 33; Y. M. C. A., 11. April 26, at the University, University, 14; Grand Forks, 16. May 6, at Y. M. C. A. Park, University, 21; Company F, 15. May 27, at Grand Forks, University, 27; Crookston, 41.

Tennis has been played steadily through the spring term, and several very good players are coming to the front. For some time there has been talk of having a tournament between the University and Grand Forks, but for some unknown reason it never took place.

Taking all in all, the work done in athletics during the past year has been very encouraging, and the advantage gained should not be lost. The foot ball team should be organized as early in the fall as possible, and active steps taken to put into the field the strongest team in this part of the country.

#### Base Ball.

Tuesday, May 27, the University played a game of base ball against the Crookston team. During the first part of the game, the University played well, whitewashing their opponents twice, and driving the ball all over the field. The fielding of the Crookston team was very poor, and it is partially owing to this fact, that

the University made so large a score in the first few innings. In the fourth inning, Ray had to leave the box on account of his finger, and from that time on the University played a losing game. Wright pitched one inning, then Ray went into the box again but had to give it up, and Adams pitched the rest of the game. The playing from the fifth inning to the end was uninteresting. Easy hitting and bad fielding on both sides combined to run up a big score, and the game ended 41-27 in Crookston's favor.

College athletics have many critics. The amount of knowledge displayed by him who writes the following is about equal to that of the average traducer of foot ball:

We went to see a gentlemanly game of foot ball recently, and were delighted with the innocent, childish amusement. We screamed in childish glee when the quarter-back jumped on the broad back of the half-back and the full-back tackled the head end of the left end and broke his Grecian nose. Then the left-tackle tackled the right-tackle and knocked the right end on the wrong end and broke his ankle. It was just too sweet for anything.—*Fraternal News*.

The Co. F. games and the "footrace" on the Y. M. C. A. diamond between Crookston and the "U" were, most of them, rather rank exhibitions of ball playing. However, the "U" team can play good ball, as was manifested on at least two different occasions. On May 24, at Mayville, the Varsity team met the Mayville Normal boys. Both teams, according to previous agreement, were packed, but the Normal boys seemed to have called in the most outside talent. Nevertheless the "U" beat—score 14 to 10. Hutton and Knudson, as battery, did excellent work. O'Connor, Wright and Turner played their usually strong game. The contest was close and interesting. The umpire was decidedly rank in several of his decisions. The team spoke highly of their treatment at the hands of the Normal boys, and came home in a very much encouraged frame of mind.



## The Alumni

Graduates are requested to communicate items of interest to this column.

Corrections of any errors made in this column will be thankfully received.

Matter for publication should be sent in before the twentieth of each month.

Address all letters to

MISS N. EMERSON JONES,  
GRAND FORKS, N. D.

John D. Campbell, '90, has resigned the principalship of the Park River schools. Mr. Campbell has been doing most excellent work, and ranks high as an educator, being among the best in the state.

Walter J. Marcley, '91, is a full-fledged M. D. He graduated June 5, from the Boston University School of Medicine, and had the high honor of being elected class speaker.

Miss Henrietta Paulson, '94, has received a position in the Hillsboro schools.

Will Cowper, '94, has returned from his southern trip. There is a shadowy something on his upper lip of which he is very proud.

Myron W. Smith, '90, graduated from the Boston University School of Medicine, June 5, and will spend his summer at Camp Asguam, at the foot of the White Mountains, New Hampshire.

Miss Mattie R. Glass, '93, will spend her summer at Glasston, N. D., with possible trips to Minnetonka, Devils Lake, and Walhalla.

The Alumni banquet Thursday evening, June 13, at Hotel Northern, promises to be a great success. The committee on arrangements are doing their best to have a pleasant re-union.

Miss Mary B. Crans, '90, will take her degree in Dental Surgery, June 28, at the Michigan University at Ann Arbor.

The following letter will prove of interest to the many friends of Mr. Fiset:

ITHACA, N. Y., May 25, 1895.

To the Editor of the Student:

In the Alumni department of THE STUDENT for May, a slight error crept in regarding the position I hold here. It is not in Cornell University that I teach but in the Ithaca Conservatory of Music. There is a slight affiliation between these, it is true, the Conservatory supplying all regular University music and musical instruction. But the institutions are entirely distinct.

The Conservatory has some twenty instructors with three hundred registered students. I am highly pleased to see that the people of North Dakota are too clearheaded to allow the University to close. With regards to the Faculty and students I remain,

Yours truly,  
C. F. E. Fiset, '93.

## Among the Colleges

President Eliot, of Harvard, suggests that the students day should have ten hours for work, eight for sleep, three for meals, two for out door exercise and one for minor details.

Chicago University according to the latest statistics, has a larger graduating enrollment than Harvard and University of Pennsylvania together, and twice as large as that of Yale.

The University of Minnesota has the largest percentage of honor students this year, that it has ever graduated from one class. There is a class of 113; twenty-seven of these standing over 90 per cent.

Miss Francis Willard is the third woman upon whom a degree of L. L. D. has been conferred, the other two being Maria Mitchell and Amelia B. Edwards.—*Pennsylvania*.

Ohio ranks first in the number of colleges, Illinois next.—*Exchange*.

The oldest college in the world is said to be the Mohammedan college, Cairo, Egypt, which was 2800 years old when Oxford was founded.—*Cynic*.



♦ ♦ Local ♦ ♦

President Merrifield delivered the Commencement address at the exercises of the Grafton High School, May 31.

Frank Douglas, '96, made a bicycle trip to his home in Grafton, May 28, returning next day.

Roll call has been resorted to in chapel.

First Student.—What is the subject matter of the latest romance?

Second Student.—Oh! Two students fall in love with a "Fisher" maid, and you can guess the rest.

Prof. Kennedy has been conducting institutes for some time past. Messrs. Brennan and Skulason, both '95, have charge of his classes.

Mr. and Mrs. W. A. Gordon, of Grand Forks, were the guests of Professor and Mrs. Brannon, May 18.

Several members of the class of '95 have already obtained excellent positions as principals of schools for the ensuing year. George Brennan goes to Bathgate, B. G. Skulason to Tower City, and Sam'l Radcliffe to Arvilla.

Mr. Bostwick, of Bathgate, stopped off at the "U" May 21, to visit his daughter Neva, '96.

M. N. Johnson, of Petersburg and brother L. L., of Fargo, visited Misses Edith and Nellie, May 29.

The Tennis club is larger this year than usual, and on pleasant evenings the "love" game works to perfection.

Professor Woodworth preached in the parlor Sunday evening, May 19.

A croquet set has been added to the amusements at the "U."

On Tuesday evening, May 21, Prof. Macnic treated the young ladies at the dormitory to a spread consisting of all the choicest delicacies of the season. The spread was given in honor of the birthday of his son, John '93, who is now in New York City. Prof. Macnic has ever been the great friend of the U. N. D. girls, and they all join in wishing him many long and happy years.

Rev. Witham, pastor of the M. E. church of Grand Forks, preached in the parlor one Sabbath in May.

Mrs. Woodworth was the guest of Mrs. Davis at the "U," May 18.

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Program for Commencement week:

- Baccalaureate Sermon . . . . Sunday, May 9, 3:00 P. M.  
PROF. WOODWORTH.
- Class Night Exercises . . . . Tuesday, May 11, 8:00 P. M.
- Junior Reception . . . . Wednesday, May 12, 8:00 P. M.
- Commencement Exercises, Thursday, May 13, 10:00 A. M.
- Alumni Banquet . . . . Thursday, May 13, 8:00 P. M.

The final examinations, the most important of the year, have been in progress the past week.

The University Batallion participated in the Grand Forks parade Memorial Day.

The University fund is steadily increasing and the prospects for the next two years are much brighter.

The Baccalaureate Sermon will be preached by Prof. Woodworth in the Presbyterian church in Grand Forks, Sunday, May 9, at 3:00 P. M.

On June 13th a match was shot against Company C. of Grafton. Grafton possesses a fine rifle range, within a few blocks of the business portion of the town. Under such favorable circumstances, she has developed the best shooting company in the state. The boys were in poor condition to shoot coming out from examinations, and being, consequently, nervous. Nevertheless the score was a tie, each team having 136 points to its credit.

The class night exercises passed off very pleasantly. The rooms were beautifully decorated—flowers, ferns, and the school colors making the parlors beautiful to the eye. As to the programme, it was excellent. There were some 200 people present, a very large number coming out from town.

Several incipient runaways were nipped in the bud on class night. One, however, went through the campus fence, leaving a part of toe buggy behind as a reminder.

Commencement week is always bright. It had to stop running even this year for us.

The regents paid a visit to the Varisty grounds on the day before Commencement. Judging from the opinions expressed it is a pretty sure thing that we are going to run for the next two years.

Among the visitors at the "U" during Commencement week, we noticed Mr. E. H. Wallace, class of '97, Hamline, who is at present the guest of Herbert Kingslaud, Mesdames Bostwick of Bathgate, and Kellogg of Grafton, who are visiting their daughters.

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## THOMAS BEARE



The union meeting of the Y. M. C. A. and Y. W. C. A., of the University, was one of the most interesting of the season. It was held in the parlor Sunday, June 2. Order of meeting was as follows: Paper prepared by Mrs. Babcock, the out-going president of the Y. W. C. A., read by Miss Bisbee. Then followed short addresses by Mrs. Brannon; Messrs. Radcliffe, Fairchild, Clifford, and Pres. Merrifield and Prof. Woodworth. The program was inter-

persed with music, those deserving special mention being the solos of Miss Ragsdale and Mr. Clifford, of Grand Forks. The meeting throughout was enthusiastic and interesting and one could not help feeling that these societies are a power for good in the University.

Henry Clark, who is professor of botany at Chicago University, is not twenty-one years of age.—*Rambler*.

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