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THE COLLEGE SPECULUM.

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LANSING, MICH., OCT. 1, 1883.

WHOLE No. 10.

Co-education at Lansing.

CONCLUDED.

At Wolf Creek Debating School, Jan. 1, 1887.

BY JAMES Y. CLARK, ECLECTIC SOCIETY.

The suns of four summers have witnessed the growth of the young and the old,
Who attended the Debating School meeting, when the Sophomore teacher made bold,
To argue for Co-education; but by verdict, was left in the cold.
And again the old school house is lighted by the bright argumentative lamp,
And the eloquent, keen cutting speeches induce the loud cheer and the stamp.
As before, the crude tillers are toasting on the seats by the loud roaring fire,
While the rough room is rendered resplendant by the "Pride of the deestric's" attire.
A jury of six grave old farmers is seated along the front row,
While the judge is a stately old patron, whose hair is as white as the snow.
The question is one of importance, because it affects their finance,
For who are more willing, than farmers, to hear the co'ns chink in their pants?
It is, "Is it advisable to build a spacious hall
At M. A. C. that girls, like boys, may there be taught and room be found for all."
The "yeas" had labored hard indeed, in fact could almost prove,
That money, given for such a cause, would send them straight above.
But then, alas for human hopes, dread darkness haunts the brightest morn,
And those who gra-p the glittering pearls, the soonest of their gems are shorn;
And though at last the speaker took his seat with much applause,
And when the Asses or rose to speak, 'twas mostly hems and haws,
He showed by his wrinkled, grinning face, he thought to win his cause.
Full soon his rustic modesty with speaking was worn out,
He, like an engine starting up, began to puff and shout.
His voice was of conviction, his figure of despair,
His arms were like a wind-mill's, high swinging in the air.
"Religine! Religine!" the Assessor wildly shrieked, "come thou and rescue wretched man,
Come thou, and give thy son relief, remove him from dread woman's ban,
Come thou, stern Fate, an' teach ter her that her place haint ter go ter school,
Thet larin' n a woman's pate wud make 'er but a cussed fool,
Except enough ter make good pies, an' bake up brown an' han'sum bread;
Our only safety is 'er work, fur noble mankind must be fed."
And with this introduction brief, he took a lower, calmer tone,
And, taking his opponents' points, prepared to hack them to the bone;
And when at last the hero sat, the school-room shook with cheering,
And those who took the negative, with confidence were leering,
For not in all his life before had the Assessor shown such knowledge,
His eloquence, unheard of yore, was proof against the College.
And when the Chair stood up, and called the affirmative to close,
The Assessor's logic stood the test, for not a district father rose.
The negative had clearly shown that crops were light and taxes heavy;
And that to tax for such a thing was more than they, by right, could levy;
That 'twas against all reasoning to let their daughters go to school,

And in these grand, enlightened times, the man must surely be a fool,
Who'd load himself with taxes down, to build his girls fine halls,
Where they may go and waste the'r time in fancy dress and balls.
Oh no! Far better keep the money in your purse,
And save it for the evil day, when bad shall change to worse.
But when at last a manly voice disturbed the stillness of the room,
All eyes were strained to see the form that loomed majestic in the gloom;
And a flicker of the lamp light displayed the bearded, care-worn face
Of him, who four short years ago, the master's chair in front did grace.
But now his shoulders broad and strong, his fair brow stored with useful lore,
His honest hands grown rough and brown, declared his college days were o'er.
"Dear Friends," says he, "it seems to me you're quite behind the times,
Why does our College merit this; has it committed crimes?
Has Hades' horrid host come down to make you stint your hard won cash,
And in the treatment of your girls, to make you're judgment harsh and rash?
Forbid! But friends, excuse me, but perhaps you did not know
The hall you're thinking not to build was built two years ago.
Of course you could'nt expect to be conversant with the happy fact,
For men who take a paper here are thought to be half 'cracked.'
And so, to take the paper's place, I'll tell you how the hall appears,
And also that its cost is paid, to quiet your financial fears.
I saw it, when the dew drops shone, as the sun began to rise,
Like jewels on the slated roof, like miniature fire-flies,
And as the light became more bright, a scene, surprising, met my eyes,
All was so gay and beautiful, it seemed a very paradise.
The new brick walls, streaked through with gray, above me rose four stories high,
While o'er the roof and sun-lit dome, there waved the Flag of Liberty.
In fact, a fitting temple here, with graceful curves defined,
Is built to fit our women to rule, with grace, mank'nd.
The boys no more are rough and rude, their actions have a manlier tone,
Than when, as in the days of yore, we fellows 'ruled the roost' alone.
And now kind friends, advice to you, I'm sure you'll take quite kindly,
Look at this matter, fair and square, not as before, so blindly.
Do you not see, your daughters can, with only half the meagre chance
You give your lazy, worthless sons, the broad domain of Truth advance;
And so, to give the State's fair school the honor that is due,
You'd better send your sons out there, and send your daughters too."
The teacher bowed, and with a smile resumed his humble seat,
While painful silence filled the room, unbroken save by sounds of feet.
At last the jury foreman spake, "Mr. Cheerman, I hev riz, Sposin that ye cowkulate fur me to report fiz:
Wal naow, I 'low I need'nt tell, us fellers aint termengus smart,
An' got the pints commuddled up, like shoe strings, ner the very start,
An' when the 'Sesser's whack come on, it war no use nor tryin',
Fur his big words an' high flown ways wus ruther wuss nor dyin';
So we jest let the matter slip till the Master riz to speak,
An' his'n war the on'y speech, wharin the jury missed a leak.
An' we hev jest concluded up, thet us backwoodsmen, up in 'ere,

Is jest ez fur back'ard the times, ez cider is nor lager beer;
An' like to men with colors true, thet knows their wrongs, an' so,
We own we did an evil thing, nigh on ter four long years ago,
When the big school, out ter Lansing, wanted larnin' long with
'Co.'

Fur not er' one among us here, but what then voted No.
An' so we've got the verdict up, 'come clouds, 'er sunshine, weal,
er woe,
The sturdy men of old Wolf Crick 'ull see our blessed College
through."

At this the lyceum broke up, and the fathers, in a band,
Crowded round the favorite teacher, and in silence, wrung his
hand;

And as he clasped each horny palm, through his mind would
come and go,

Happy thoughts, for he had won the fight begun four years ago.
Not a girl, in all the district, but was happier in his joy,
And his bright example helghtened the ambition of each boy.

Upward, onward, now, forever, is the pass-word of the race,
And the sluggards in its progress in the end must join its
pace.

And the action of the fathers, at Wolf Creek Debating School,
Was wise Nature's laws' enforcement, that the fit at last shall
rule;

And we now behold, enthroned! the True Queen of Mankind,
In her royal robes of purple, gentle, loving, cha-te, refined,
All the Universe here worships, Woman s Holluess enshrined.

The Habit of Observation.

BY E. T. GARDNER, PHI DELTA THETA.

"Habits make the man." Yes man is a structure in which his habits are as blocks of stone, some granite and some limestone, some large and some small, yet each has its place, each forms a part of the whole. But the polished granite is of more value than the soft limestone, both for endurance and for beauty. In the structure, man, the stone that is of greatest value for endurance and for beauty, and one that might well have a place in both foundation and superstructure is the habit of close observation.

This habit has a money value. All over the world are trained observers who are paid for using their powers of observation in certain directions. Some observe the phenomena attending the variations of temperature and the storms of electricity, rain, hail, and snow. Some study the geological formation of the land. Others observe the growth and habits of plants and animals. Gould and Vanderbilt have succeeded in their speculations because they have observed closely the changes in the money market and the effects that certain changes are likely to produce. They have succeeded better than many others because they have observed more accurately. The inventive genius perceives that it would be pleasant and profitable for men to have better machinery for doing their work, and he begins experimenting and observing the results of his experiments until he has perfected machinery that lessens the labor and increases the comfort of man. Then he or some one else reaps a financial reward. In proof of this witness the patentees and manufacturers of thousands of convenient articles, both great and small, from a steam engine to a fastener for shoe buttons. The successful men of every time and every business have been those who have kept their senses wide awake and working in unison with their minds.

Perception is an essential part of the intellect, hence anything that gives increased power to the perceptive faculties must strengthen the intellect. He who is in the habit of observing closely hears the birds sing and knows what ones sing the sweetest songs. He sees the flowers by the wayside and the trees that stand before him and recognizes them as pleasant companions. Every day he hears more and

sweeter songs than he heard the day before. He sees more beauty and more of interest in the things around him. Under such conditions the intellect will surely gain strength and culture. Those who have not formed the habit of observation do not fare so well. It is possible and even probable that many might hear a bird sing and half an hour afterwards could not say positively whether they had heard one or not. It is possible that some may go to church and hear a sermon, without going to sleep, and afterwards not be able to state concisely a single thought that had been presented. It is probable that many of the students at this College, even those of the higher classes, cannot tell how many kinds of trees they pass in going from the chemical laboratory to Williams Hall. It is even possible that some of the graduates go away from here unable to tell black ash from white ash, or hard maple from soft maple.

The above facts show a lack of observation that is deplorable and yet prevalent here and everywhere; but, perhaps, is less prevalent here than in most other places. Why! Because the sciences must, from their very nature, do much more than the classics can to induce closer and more thorough observation. Because the branches taught here are mostly scientific, and as taught tend at once to sharpen our perceptive powers and make us more observant of the common but interesting things about us. We study drainage and laugh, but afterwards always take more notice of the lay of the land wherever we may happen to be. We study stock and stock breeding and take more pleasure than ever before in looking at stock and judging it according to real merits. We never regret that botany teaches us to see beauty in every plant from the weed by the roadside to the grand old oak; and it is not stange that some are led to wonder at the infinite power that makes all things upon the same plan and yet so different. The student in analytical chemistry knows that when he wishes to be sure of results he must fix his attention on what he is doing and observe carefully every reaction. After studying physiology, entomology, and zoölogy we take a deeper interest in all animal life, even the "ugly worms." Some profess to dislike some of these studies, but each study increases the power of observation in one or more directions, and this increase of power we cannot avoid if we would. But we can, if we will, strengthen the perceptive faculties much more than this, and to do so is a duty we owe to ourselves and to our friends. It will help fill our pockets with money, our minds with wisdom, and our hearts with good will.

No one questions the value of the habit of close observation; then why not cultivate it more thoroughly than we do? It will not take any extra time. It takes no longer to see a tree than it does to walk by without seeing it. It takes no longer to fix the attention upon what a lecturer is saying than it does to listen without hearing. Nor do we need to wait for opportunities. Every day we allow to go by unimproved, scores of opportunities for sharpening our powers of observation.

If we would improve one half the opportunities we have for observing nature in all her phases, we would surely become wiser, happier, and better.

At a meeting of the Natural History society held August 9, the following officers were elected for the ensuing year: President, C. P. Gillett; Vice President, B. C. Porter; Secretary, R. W. Hemphill; Treasurer, L. G. Carpenter; Curator of Museum and Librarian, W. M. Badoeck; Directors, Prof. Beal, Prof. Cook, Jas. Troop, C. Baker, and H. T. French.

The eighth edition of *The Bee Keepers' Guide*, consisting of 1,000 copies, was all sold in just four months.

Oratory.

BY EDWARD A. BARTMESS, DELTA TAU DELTA SOCIETY.

Oratory is the art of speaking, and may be divided into three classes: (1) writing the speech, then learning and reciting it, (2) reading from manuscript, (3) studying well the subject, then clothing it in language suitable to the occasion. We think that oratory in its highest and truest sense is found only in the last class. It was the custom among the ancient orators to learn their speech, then recite it. Demosthenes, who as one author says "shook the arsenal that fulminated over Greece," committed and recited his speeches. But it is said that on rare occasions, when he trusted to the inspiration of the hour, his thoughts soared higher and his eloquence burned deeper.

Oratory in its highest sense is found only when the orator, with his mind wholly absorbed in his subject, with face full of expression, and eye flashing, *speaks* his thoughts with boldness.

Oratory is found only in the thoughts of to-day, and not in the thoughts embodied in some old musty manuscript of last week or last year. Off hand speaking calls forth the living thoughts of the present, while speaking from manuscript is only the echo of dead thoughts of the past. Without pausing to enumerate other cases similar to that of the great Grecian orator, we think we can safely conclude that oratory in its highest form is found only in off hand speaking. Now let us consider some of the prerequisites to oratory.

In looking over the field of eminent speakers, we see at once that this profession requires education, extensive reading, courage, firmness, and a certain degree of natural talent. Education and extensive reading are necessary to the orator, from the very nature of the profession. To affect an intelligent audience would be utterly impossible unless the orator have that with which he may accomplish this end. The fastidious listener is ever ready to condemn a speaker if his grammar or rhetoric be at fault, if his knowledge of history and literature appears scanty. Hence education is indispensable.

Again the orator must have courage and firmness, for these qualities are just as necessary in the oratorical contest as on the battle field of war. Although a speaker's education and reading be not wanting, he can not hope to rise as an orator, unless he first have the courage to face his audience, and then the firmness to advance his arguments, regardless of popular sentiment. Any person possessing these first three qualities, may with the fourth, natural ability, become great in field of oratory. We think this fourth requisite is very important. Though a man have education, courage, and firmness, it will be impossible for him to become a famous speaker, unless he possess some natural talent. While some men never can become orators, others are born orators, and even natural talent does not always become apparent in the first attempt at public speaking. Daniel Webster's failures in school declamations prove this. When Henry Clay appeared in public the first time he was so embarrassed that he forgot where he was, and addressed the chairman as, "Gentlemen of the jury." But into what did these men afterwards develop? The greatest oratorical giants of America. Their powers were dormant at first, but cultivation brought them into activity. What then do we conclude from this? That we may have natural ability which only lacks cultivation to develop it. If we fail in our first efforts we have only to copy the school

boy's motto, "try again," and remember that that the greatest of America's orators failed in their first efforts.

Now, what effect has oratory on the people of a country? When we consider that all questions which cluster about nation's existence are decided by the orator, we must see that the effect of oratory is great. Not only is the orator's voice heard in the senate, but throughout the whole land. One day in each week is set apart for the orator and his oratory to rule supreme. The busy hum of the great cities is hushed, and people gather together by millions to hear the words that fall from the orator's lips. Then the press catches up the voice and echoes it throughout the land, and the words spoken do not die with the day, but live to influence the world long after the author has passed away.

The influence of oratory, either for good or evil, can not be easily over-estimated. How forcibly Shakespeare, in his play of Julius Cæsar, expresses the power of the orator. Antony, in addressing the citizens who are gathered about the body of the slain Cæsar, says, referring to the orator Brutus: "But were I Brutus, and Brutus Antony, there were an Antony would ruffle up your spirits, and put a tongue in every wound of Cæsar that would move the stones of Rome to rise and mutiny." The citizens, frenzied against Brutus, answer: "We'll mutiny. We'll burn the house of Brutus; away, come, seek the conspirators." How aptly the power of oratory is here described. By the speaker's voice the flames of rebellion are kindled, or by his words those flames are quenched.

Now, as the growth of a nation depends upon its political and religious element, and as eminent speakers largely govern these two leading principles, we are forced to conclude that our existence to-day, as a great republic, is maintained principally by the orator and his oratory.

Preparation and Achievement.

BY J. D. HILL, UNION LITERARY SOCIETY.

When Moses was leading the Israelites through the wilderness they left the service of the true God and set up a golden calf to worship. We of to-day may think that the days of idolatry and superstition have passed, and we have reached a higher grade of morality. This may be all true, but when we get beneath the surface of human nature, we find mankind just as prone to worship the golden image to-day though it may be in the form of the "almighty dollar, as were the followers of Moses thirty-three hundred years ago.

It has been charged against the American people that we spend too much of our time in the accumulation of wealth and too little in the cultivation of the intellect; that we care more to have our children pushed into a successful business life than to see them occupy an important position among the teachers of the land. From the time children leave the cradle they learn to look upon the position of the wealthy with envy and long to attain the same place. They see with admiration the man whose Midas-like touch has turned all things to gold, and strive to emulate his example. And too often they would rather be dishonest and rich than be honest and poor, forgetting that "an honest man is the noblest work of God."

How often in our teaching do we find some bright boy and in pleading with his parents to give him

a chance to acquire a higher education are met with the reply, "We would like to, but cannot afford it. Besides he has enough education for a farmer."

To argue with a man who values education in dollars and cents, who weighs so much education against so many pieces of money, is almost useless. It is only by showing what the cash value of his education will be in after years that you can loosen the strings of his purse. People would rather see their sons successful followers of our Vanderbilts, Goulds, and Astors, than of our Websters, Lincolns, or Garfields. They forget that the costly coat may cover a heart full of misery, blasted hopes, and unsatisfied ambitions. There is more to allure them in the rich livery, the costly comforts, the life of ease, than in the career of that humble Augustian friar who secluded himself in his stone cell that he might study the Christian teachings, then boldly attacked the evils of the Popish church, standing firm with but few friends, his life in danger, and remaining calm while the blood capped waves of Romanish persecution surged around him. Martin Luther did more good for mankind than all the millionaires the world ever produced. He has built for himself a monument that shall endure as long as the human race exists. His name will be found deep in the heart of every true lover of religious liberty. But where are the names of the world's wealthy? They are forgotten. They have done few good or noble deeds to merit remembrance, and yet the world falls down before them as did the Jews of old before their golden calf.

In consequence of such ideas too many of our best youths are early taken from school and placed where they can best obtain the wealth desired. Thus their intellectual development is stunted. They may make thorough business men but at anything else they are of little use. Their knowledge of other branches than their own is scanty and superficial; they have not that broad foundation to build upon that they would have possessed had they devoted more time in developing their intellectual powers. When a man starts to build a house he first of all attends to the foundation. If this be not secured his structure will crack, crumble, and fall to the earth, leaving a wreck as a monument to his folly. Yet many men have commenced to build lives on an insecure foundation, hoping that they will stand the strain that is to be put upon them. How often are they disappointed and the stately edifice they had hoped to build has proved but a mean structure after all, because of the want of a good foundation. He who would become a truly successful man must build on a broader and firmer foundation than that of an education merely sufficient for business. Yet around us on every side we see young men starting in life, hoping that they will find some day, time sufficient to supply that lack in their mental training which they so sorely need. But as life is prolonged its duties become more manifold, its cares more perplexing; so that very few ever succeed in fulfilling their intentions.

The experience of nations shows us that when a country's wealth has increased to a certain extent the people become enervated and soon succumb to the pressure from the nations around them. Greece was mightiest when her wealth was her flocks and fields, and her powers rested on the steadfast and patriotic hearts of her citizens. When Rome had reached the zenith of her wealth she no longer possessed the energy that had carried her legions victorious over her enemies, but fell an easy prey to rough and rugged barbarians. And so man when not furnished with the inducement to labor will allow himself to be

led along paths of ease in preference to the rough and stormy road of knowledge.

Let us then strive rather to attain great intellectual powers than great wealth. A life spent in mere accumulation of wealth is a life wasted, one that will never be remembered with respect and honor. It behooves us all to remember that "How long we live, not years but actions tell."

SCIENTIFIC.

Sunspots and the Weather.

BY L. G. CARPENTER.

At first sight it scarcely seems probable that such far-off events as are happening in the sun can have any effect on us or our meteorology. But as we consider that the sun is the preponderant power in terrestrial meteorology,—that his heat changes the cold of winter to the heat of summer; the cool of evening to the warmth of day; that his rays evaporate the water and set in motion the winds which transport the vapor, that in falling as rain causes all nature to rejoice,—when we think of these most obvious of his powerful influences, we are in a condition to think it possible, if not probable, that any cause which affects the sun, or his radiation of light and heat, will in some manner affect us.

The sun, it may be well to state, there is good reason to suppose, is entirely gaseous. At the surface the gas, cooled by radiation, condenses in the form of clouds, and these form the surface as we see it. These condensed particles rapidly cool off by radiation and descend, giving place to other hotter and lighter particles. So that there are constantly ascending and descending currents of heated and cooled matter, and these currents, the cooled downward being the darker, probably give rise to the mottled appearance which the sun presents in the telescope. If, from any cause, these downward currents should become of great magnitude, we see them as spots. A spot is generally irregular in outline, and consists of a dark center, with a less dark fringe surrounding it, and furnishes evidence of disturbance in its neighborhood in the sun. They may form and change or entirely disappear very suddenly. More than once the writer has seen them change under his eyes. And when we consider that it takes the most powerful instruments to show an object on the sun as small as one thousand miles in length, we may get some idea of the magnitude and velocity of these disturbances which involve thousands of miles,—and which not infrequently may cause a spot fifty thousand miles across to entirely break up and disappear in a single day.

It is well-known that the number of spots is not the same at all times, but that it seems to increase for a few years, then decrease, and again increase, going through the same cycle in about eleven years. During the maximum years they are not only more numerous but larger, and often of enormous magnitude. During the past two years several spots have been large enough to be seen with the naked eye. One was over 80,000 miles across and its area twenty-five times that of the whole earth.

Since the discovery of spots on the sun, and especially since Schwabe's discovery of their periodicity, there have been many attempts to find some terrestrial phenomena which should vary as the sun spots do, which should increase as they increase and decrease as they decrease, or which should behave in exactly the opposite manner.

It looks as though it would be easy to settle the sunspot influence in any special case; the rainfall for instance, by comparing the number of sunspots for a number of years with the rainfall. If there be no connection, we should expect by the laws of probability, taking a large number of years into consideration, that the rainfall in maximum years should be the same as in minimum years. If, however, we should discover that more rain fell in maximum years of sunspots than in minimum years, we should legitimately infer that there was some connection between the two. The probability of the connection would become more certain as the number of series becomes greater.

In point of fact the investigation is one of extreme difficulty, even when records extend over many years, from the complexity of the phenomena involved. So many influences may modify, neutralize, or even reverse the effects of sunspot influence, that only by the tedious comparison of many years' observation, and in such a manner as to eliminate other irregularities, may the one effect be separated from the others.

The effects of the sunspots on the weather which have been to some extent investigated, may be considered as, 1st, on earth, magnetism; 2d, temperature; 3d, wind disturbances; 4th, rainfall.

Sunspots undoubtedly affect terrestrial magnetism, and influence electrical activity. The reader, perhaps, recollects the brilliant auroras of last November and the magnetic storm which greatly affected telegraph lines. This magnetic storm, as well as the one of April, 1882, was accompanied by great solar activity. Also, the diurnal range of the magnetic needle varies with the number of sunspots.

The temperature, according to Prof. Langley, so far as the effect of the sunspots alone is considered would be not less than one-half nor more than one degree less in maximum years than in minimum years.

Cyclones in India and hurricanes in the West Indies seem to vary with the number of sunspots. Records of tornadoes in the United States are not complete enough to give any evidence one way or the other. The past two years, however, seem to have had a respectable number.

Barometer seems to vary to some extent with the sunspot cycle though differently at different places. The Amherst college observations show that the annual range varies inversely as the number of spots.

Rainfall is especially subject to local conditions. Nevertheless a great share of the stations on the globe show that more rain falls in the maximum than the minimum years. The relation is especially evident in India, where rainfall varies greatly. United States stations do not give a very decided assent. Brocklesby states ('73) that on the whole the records seem to show an increase of rainfall in maximum years. The last decade, according to the records of the signal service, gives just an opposite result. Taking all the stations, 27, which had observations from 1870, I find that the rainfall during the minimum years of 1877-8 averages 5.5 inches more than the maximum years of 1871-2.

These investigations all need to be carried further to be conclusive. They show now a degree of probability which can become a certainty only as the time over which records extend increases.

If there is such a connection between the sunspots and the terrestrial phenomena it is evidently of vast practical importance, that first, the fact and extent, and second, the law, of relation be discovered. It would place a very efficient instrument in the hands of meteorologists. If such seasons as the present

should be found to be in any way due to sunspot, it would be of great importance to every one if such a season could be predicted, if only with a fair degree of probability.

As matters of curiosity it may be stated that various persons have at different times been led to the conclusion that there is some connection between the sunspots and the level of our great lakes; the height of rivers in Europe; famines in India caused by droughts in minimum years; plagues and epidemics; price of wheat; financial panics; numbers of certain rare butterflies, etc.

But many conclusions need to be taken with caution as they are built on a meagre basis of facts, with frequently flimsy logic.

These connections can be made out satisfactorily only with the lengthened records we shall have with the lapse of time. Investigations at present only give a fair degree of probability.

One Phase of Heterœcism.

It is not my purpose in this article to present any subject especially new to science, but rather to discuss in a popular way one of the most interesting theories, perhaps I should say facts, which has grown out of recent research in the broad field of the life history of plants.

When one examines the common barberry plant in late June or early July, it is easy to detect a greater or less number of small, bright, scarlet spots scattered here and there on some of the leaves. I do not know that these spots are to be found on every plant that might be examined, but I have never known an instance of their entire absence, not even on the purple leaved form now so commonly cultivated as an ornamental shrub. What are these spots? The color is certainly attractive, but when we consider that they are caused by parasites living upon the barberry as their host, we can not regard them as adding to the beauty of the host plant. The microscope reveals the structure of the parasite—a cluster of small globular, or sometimes cylindrical cups, with pretty scalloped rims, filled when first mature, with minute brown golden spores. How long the barberry has been affected with this disease no one can say, but it has doubtless existed from the earliest times, and received years ago the name of barberry rust. When scientists began to give their attention to the nature of the rust, it was supposed the spores were the reproductive organs, and that these sown upon the barberry plant would produce in proper time and season, a new crop of rust, as surely as peas sown in the garden would in due time produce a new crop of peas.

Going now into a wheat field in the latter part of July, it will probably be easy to find some of the leaves and stems with a greater or less number of delicate reddish lines upon the surface. Under the microscope these lines are found to be formed by great numbers of reddish spores of an oval shape, each on a little stem of its own, which protrude through a longitudinal fissure in the epidermis. I have before me some wheat leaves, gathered on the 20th of July, more than three-fourths of the surface of which are occupied by these groups of spores. They of course constitute what is everywhere known as a disease of the wheat plant under the name of red rust. This, like the barberry rust, is a parasite, and the spore, as in that case, has been regarded as simply the reproductive organ.

For I know not how many years practical farmers, especially of the old world, have said that the barberry should not be permitted to grow near a field of wheat, on the ground that the disease of the latter plant was caused by the former, or in other words, that the barberry rust in some way caused the red rust of wheat. Science, however, came in and most decidedly pronounced this notion to be a superstition founded on sheer ignorance, for, as was said, nothing could be more unlike than the two parasitic plants constituting the two rusts, so unlike indeed as to form two well marked genera. Even as recently as 1865, Mr. M. C. Cooke, who must be regarded as the highest authority, at least among English speaking people, says in his admirable work on Microscopic Fungi, in alluding to the two rusts, that no two fungi can be much more distinct.

Let us now on this 20th day of September, go out into a field of wheat stubble, or perhaps better into the barn where the harvested wheat is still in bundles, and examine the stems and leaves where the red rust existed earlier in the season. In some places at least, we find blackish lines and dots, in form like the reddish ones; and the microscope reveals the fact that they are caused by clusters of dark brown spores the much longer than broad, and with a partition across center, as unlike the red spores as can well be. They characterize a disease of the wheat plant, well known in the old world as the mildew, but in this, perhaps best known as the black rust. In this case as in the last, science has claimed that these two parasites of the wheat plant are totally unlike, being as distinct from each other as are oats from corn.

In studying the life history of any plant one of the essential things to do is to trace its development from the organ of reproduction, through all its varying stages of germination and growth. In applying this principle to the study of certain low forms of fungi, the learned Danish naturalists, CErsted, now more than a quarter of a century ago, found it impossible, in some cases, to produce a given form of fungus directly from its own spores. Pushing his researches farther he finally reached the astonishing fact that in some instances the spores of one fungus would produce a form quite different from that from which they came, while in turn the second form would produce the first.

A little later than this the German naturalist, De Barry, following a similar line of research, took up the study of the barberry rust, but found it impossible to produce the rust from the spores. Carrying his researches forward he at length proved, beyond much doubt, that the barberry rust produced the red rust of wheat, that this in turn produced the black rust or mildew, while this in turn, and finally produced the barberry rust again. To this fact of successive forms following successive generations, De Barry applied the name of *heterocism*. Illustrating these most remarkable facts from familiar examples, it is as though being ignorant of the life history of our common plants, we should after due research discover that peas on germinating produced oats, that these in turn produced corn, while this as the last of the series would produce the peas. In using this illustration we must of course keep in mind the fact that the real change which the discovery of heterocism has shown in this, that certain forms which for a long time were considered to be entirely distinct are now shown to be different forms of one and the same species.

Recurring now to the views of practical farmers, so thoroughly maintained, of the relationship between the barberry and the wheat rusts, we come upon the

striking fact that the supposed supersition of one generation becomes a truth of science in the next.

I have stated that the fact of heterocism in the black mildew of wheat had been fairly demonstrated, and is now almost universally accepted by scientists. Nevertheless, some problems present themselves which are difficult of solution. For instance, throughout the whole of this region the wheat, during the present season has been severely affected with red rust, although only a single barberry plant is known in a wild state within many miles of the University, and only a few are in cultivation. This being the case, where do the barberry rust spores come from to contaminate the wheat of a whole region? It is true that the red rust once started on the wheat may propagate itself with great rapidity; but this fact only explains a part of the problem.

But other and broader problems present themselves. On the theory of acquired habits by natural selection, how is it, we may ask, that the black mildew came to change its form in such a remarkable manner, or to choose the different hosto plants for its successive generations? Or, these strange habits once acquired, of what possible advantage can they be to the species which has acquired them? Even the Grant Allen school of philosophy, I apprehend, would stumble a little at problems such as these. But it must be confessed that it is far easier to present problems than it is to solve them.

A. N. PRENTISS.

Cornell University, Sept. 20.

Economic Entomology.

There is probably no department of natural science in which the general public are making more rapid progress than in respect to entomology. Especially is this true of the farming class. There are two reasons for this: First, the importance of the subject calls out information which otherwise would remain locked up with the investigator; and, secondly, this same practicality secures for any information of this kind a ready ear.

Since Illinois so wisely appointed the lamented Walsh as State Entomologist years ago, she has kept the chair filled. New York has adopted a similar course, which shows that she appreciated the excellent work of the late Dr. Fitch. The able reports of Dr. Riley have made that able and distinguished entomologist celebrated the world over.

The reason for all this is not that entomology is fascinating beyond any other science, although there is much in the study of insect life to arouse even the dullard to enthusiasm, but rather that it equals, if it does not surpass, all others in direct practicality. The farmer, the gardener, the manufacturer, and the housewife, all have pressing need to be wise in the very direction of this science.

It is very easy to give proof that such knowledge is a pressing necessity. Experience alone is not enough. New insects are ever and anon springing up and old ones are taking on new habits.

The present season in many parts of Michigan, a strawberry pest, new to our State, *Anthonomus musculus*, Say, has done immense damage, utterly ruining the crop of this delicious fruit. The enemy was a new one, a minute beetle of the weevil family. Its presence would hardly be known by the unscientific; its habits would be still more a puzzle.

The tarnished plant bug, *Lygus lineolaris*, Beauv., has been common for years in the Northern States, doing no small damage to the fruit trees, cabbage plants, and strawberry vines, by sucking the sap from them. The present season it adopted a new

role in Southern Illinois and attacked the green strawberries, thus destroying thousands of dollars worth of this incomparable fruit.

A year ago one of the finest homes in Detroit was invaded by an immense host of lilliputian foes. A little beetle, a mere speck, crowded into the house in such swarms that even the pantry and the very victuals were swarming with this unwelcomed life. I was summoned to the rescue. I at once recognized the nuisance as a grain beetle; asked to be shown to the barn, which was built contiguous to the house. Here we found the beetles by the billions, and soon traced their way through the crevice of a closed window to the apartments of the house. Knowledge of the insects and their habits, soon banished the intruders, to the great joy of the household.

Within a year past several millers in the State have appealed for help against these same and related beetles, which had invaded their mills, and which responded to their inquiries with a proposal to hold the fort.

These are only a very few examples which might be given to show that entomological information is in demand, and serve to explain the readiness with which people grasp after such knowledge, and the rapid progress which is being made in the direction of such study.

Samia Columbia.—Smith.

This beautiful moth, the larva of which feeds usually upon the European larch, is quite abundant in parts of Michigan where this tree is planted out along the railroads.

Last year I received 200 cocoons of this insect, gathered from these larches. One of the cocoons was larger and looser than is common and without the distinctive steel like lustre which characterized the others. Indeed, it was about intermediate in size, texture, and color, between the typical Columbia and *Cecropia*. To my surprise, when the moth came forth it resembled the *Cecropia* more than the Columbia. In size and color it was nearer the *Cecropia*, although tending towards the darker hue and smaller size of the Columbia.

Does not this suggest that Columbia is but a varietal form of *Cecropia*? Different food or other circumstance has produced a modification, and in the case mentioned atavism was the cause of the peculiarity noticed. Were it not that the cocoon and imago were both different from the typical *Cecropia*, we might conclude that the caterpillar of a *Cecropia* had left its apple tree or other foliage and sought the larch to pupate. But being found in company with other typical Columbia cocoons, and being intermediate, this does not seem probable.

But we have other testimony. The present year a female *Cecropia* came from the cocoon in one of our student's rooms. In the afternoon, scores of males of Columbia came to the same room attracted by this female. Does not this argue that the two species are specifically identical? Else why were not other silk moths attracted? A day or two afterward a female *Promethea* came out, and the males of that species fairly swarmed about the place.

Structurally the larva of Columbia is like that of *Cecropia*. The color varies less than in many unquestioned species. The body is deeper green, and the red tubercles are more deeply colored. That the blue of the lateral tubercles should be replaced by white, is not a startling modification. We all know how marked the variation of *Cecropia* is in size and

color. It seems more than probable that Columbia is a well marked variety of *Cecropia*, and not a distinct species.

Peculiar Organs in Male Insects.

Mr. C. M. Weed has noticed some peculiar organs, appearing not unlike antennæ when extended, extending from the extremity of the males (sides of penultimate segment of abdomen) of two of our most common moths: *Leucartia acraea*, Pack, and *Pyrrharcia isabella*, Pack. The larvæ of these moths are the common yellow and black caterpillars so commonly observed in autumn. They are often termed great bear caterpillars. These organs are simply hairy tubes, light yellow in color and two c. m. long, which usually are drawn inside the abdomen, as the finger of a glove might be turned in. At the will of the insect, they may be pushed out, and when thus extended are slim, hairy organs, not unlike, as before suggested, the feelers in appearance. These are pushed out by a gas, possibly air, and may be easily extended after the moth is dead, by pressing the abdomen.

In *Canadian Etomologist*, Vol. 11, page 48, C. G. Siewers describes and illustrates these appendages, which he found in *L. acraea*. He suggests that they are useful to steady the insect in flight, and thus serve as do the tails on the posterior wings of *Luna* and *Papilio*.

In *Psyche*, October, 1874, H. R. Morrison speaks of these organs in *L. acraea*, and also in *Danaus erippus*, *Agrotis plecta*, and *Euplexia lucipara*. Mr. Morrison says that in every case they were peculiar to the male insect, and though he gives no absolute opinion as to their function, he suggests that they are in some way connected with copulation.

In *Papilio*, February, 1883, R. H. Stretch again figures and describes these organs, as observed in the male *L. acraea*.

In speaking of these moths to Prof. Fernald a year ago, at Montreal, that able entomologist suggested to the writer that these might be scent organs, and for protection. The absence of odor, and imperforate condition of the tubes would seem to argue otherwise.

So far as we are able to find, Mr. Weed is the first to notice these organs in *Pyrrharcia isabella*. It is to be hoped that all of our moths will be closely examined to see if others are similarly characterized.

THE WORKING biologist of to-day realizes how difficult it is to mark out a clear line of division between animals and plants. Some zoölogists, notably Hæckel, founds an intermediate kingdom—the Protista—where he places certain of these doubtful forms among the lowest plants and animals.

It is now well known that certain animals secrete chlorophyl and cellulose, which were once supposed to owe their existence solely to plants.

M. Guldensteeden-Egeling, a German chemist, has recently found hydrocyanic acid secreted by a myriapod, *Fontaria gracilis*. This animal is a serious pest in green-houses. The odor of prussic acid about the myriapod is very marked. Heretofore cyanic acid has been supposed to be exclusively vegetable in its origin.

Apropos to the above, we would refer to the article on Chlorophyl, in *SPECULUM* Vol. 1, page 34. This strange partnership of plants and animals is called

"Symbiosis," and is thought to account for the yellow cells in Radiolarian and Cœlenterates. The yellow cells are algaoid messmates of the animals.

Prof. Lankester, however, refuses to accept symbiosis to account for Chlorophyl in the spongilla—fresh water sponge—and hydra. As he is the best authority living on this subject, and was the first to discover chlorophyl in these animals, it seems probable that the green matter is real chlorophyl and a very part of the animal.

The American Association for the Advancement of Science.

During the middle of August this Society held its 31st annual meeting in Minneapolis, Minn. The objects of the meeting are two-fold, viz., for the presentation of papers containing original discoveries and for mutual acquaintance. Our College was represented by Dr. Beal and Mr. Louis G. Carpenter.

The local committee of arrangements, consisting of citizens, raised \$5,000 to defray the expenses of daily lunches, excursions, and other privileges. The Society holds a short general session each day, after which it adjourns to meet in sections, of which there are nine. The president and vice-presidents, or chairmen, of the sections deliver addresses. Besides the formation of sections it has been customary for specialists to meet by themselves for informal discussions. Notably among these the entomologists have usually turned out in goodly numbers, and have been envied by others less fortunate for their good social gatherings. At this meeting the botanists turned out as never before. There were present about thirty. They organized the American Botanical Club (A. B. C.), electing Dr. W. J. Beal president, and Prof. John M. Coulter, editor of the *Botanical Gazette*, secretary. A committee was appointed to make efforts to get the postage reduced on herbarium specimens. Another committee was appointed to make plans for excursions at the next meeting to be held in Philadelphia.

During the session of the club there were several informal lectures, including one by Dr. Farlow, of Harvard, on teaching how to begin work with fungi. Some of the club made an excursion, during which it was interesting to notice how fashion changes as well in botany as in dress. Formerly botanists have tried only to collect the higher plants, for the purpose of naming and preserving them; now they forage around among the decaying leaves for fungi. Most of the botanical papers presented at the association—and there were a large number—were about fungi, vegetable physiology, or plant monstrosities. There seems to be a growing tendency to present papers which have a practical bearing on some of the affairs of everyday life. The sections in geology, biology, and anthropology were best attended, while mechanical science and microscopy were not fully organized and presented no papers.

In the city, the latch-string was every where out for members to view the art gallery, city hall, saw-mills, paper mills, flouring mills. Minneapolis claims the largest saw-mill in the world, also the largest flouring mill. We visited the Washburn mill, which is capable of grinding by the new roller process, 5,000 barrels in 24 hours. Within 40 feet are two other mills owned by the same man. These are capable of making 3,000 barrels in 24 hours.

Since some terrible explosions of mills, inventions have been made for taking the dust from the rooms.

At present a person dressed in black may pass all

over the mill for half an hour, while it is running, and come out without the marks of flour on his clothes.

At the meeting of the A. A. S. there are now and then some bores and cranks who torture or amuse others with long speeches, or who offer papers on some "great discovery" or pet theory. Here also may be seen some of the college presidents apparently quietly watching the proceedings, perhaps with a view of marking some fellow for the faculty of his college. The officers of the Government and State surveys are usually out in goodly numbers and often work together.

The falls of St. Anthony on the Mississippi were quite rapidly wearing away and likely to extend up stream above the city. At great expense they have placed stones and timbers below the falls on which are sloping planks down which the surplus water quietly flows. While making his welcoming address President Folwell spoke of having harnessed the falls. It occurred to us that this prop to the rocks must be the hold back or the breeching to the harness.

One of the most striking of the addresses given by the vice-presidents was that of Prof. H. A. Rowland, of Johns Hopkins University. It was "A Plea for Pure Science." "He is to be honored who cultivates improvements in telegraphs and electric lights, so also, the cook who invents a new and palatable dish for the table, benefits the world to a certain degree. We are tired of seeing our artists reduced to hirelings, and imploring Congress to protect them against foreign competition. We are tired of seeing our professors degrading their chairs by the pursuit of applied science instead of pure science." He was especially severe on the small colleges and universities. "The curse of mediocrity must be upon them to swarm in such numbers. They must be a cloud of mosquitoes instead of eagles, as they profess. I note one so-called university which has two professors and 18 students! There are only six universities with over 500 hundred students, and only eight with a productive income of over \$1,000,000. I do not object to education, but I do object to lowering the ideals of the youth of the country. Let them know they are attending a school, and not a university. We are tired of seeing our professors degrading their chairs by the pursuit of applied science instead of pure science." This is vulgar and beneath the notice of a professor in college.

Somewhat in contrast with Professor Rowland's address was that of Dr. Beal, who spoke of "The Needs and Opportunities of Agriculture." Both addresses can be seen in recent numbers of *SCIENCE*.

H. C. Hovey presented a paper on Oyster Farming, showing great progress within a few years. It has lately been ascertained that even in quite deep water on sand bottom good oysters can be grown, if small branching trees and oyster shells are just liberally spread over the ground. Four years ago the area of oyster grounds in Connecticut was less than 7,000 acres; now it is 100,000, and there are 325,000 capable of producing fine oysters in abundance. The waters are staked out and owned by men who attend to the business in a systematic way. Large farms are economically dredged by steamboats.

About 300 members attended the association. The city was full of people, saying nothing about the members of the association, so the hotels were much crowded.

In general session Prof. E. D. Cope, of Philadelphia, gave an address on "The Evidence for Evolution in the History of the Extinct Mammalia," and Dr. T. Sterry Hunt gave a short paper on "A Classification of Natural Science." Major Powell, director of

the United States Geological Survey, also read a paper on "A Classification of Natural Science."

Professor Cope gave an evening lecture in one of the churches, and Professor F. W. Putnam, the permanent secretary, gave an illustrated lecture on Indian Mounds of Ohio. The next meeting will occur in Philadelphia.

The Society for the Promotion of Agricultural Science.

This young National Society held its fourth annual meeting in Minneapolis on the 13th and 14th of August. Three persons were invited to become members. Ten members out of 42 were present, but this is scarcely to be wondered at when we consider that the members are widely scattered from Maine to California. In the absence of the president and secretary Dr. Beal was chosen president *pro tem.* and Prof. F. A. Gulley secretary.

Dr. E. L. Sturtevant by invitation gave an interesting account of the New York Experimental Station, of which he is director. The station receives \$20,000 a year for current expenses. The doctor presented several papers pertaining to plant growth and nomenclature of vegetables and fruits. Dr. C. E. Bessey, of Iowa, discussed the "Germination of Rust Spores upon the Problem of Wheat-Growing in the Northwest." Dr. W. G. Farlow, of Harvard University, presented a very complete paper on the *Peconospora* of the United States. These fungi are often very injurious to vegetation.

Prof. E. M. Shelton read a paper on "The Influence of Temperature on the Fattening Process." The results of extended experiments were given, leading to the conclusion that farmers who fail to furnish their swine with sufficient artificial protection against cold weather must furnish protection of another kind in the shape of fuel for the "internal fires" of the animal.

Prof. C. V. Riley spoke of improvements in the use of insecticides.

Dr. W. J. Beal presented some notes on the grasses, showing how the leaves grow, turn over, roll up, and protect themselves from dry weather; how they often form tufts when grown isolated, and how this can be prevented by seeding thickly.

Prof. W. A. Henry sent a paper giving the results of experiments showing how similar animals varied in weight when fed alike.

Prof. W. H. Brewer, of Yale College, was re-elected president, and Prof. F. A. Gulley, of Mississippi, was elected secretary. Dr. W. J. Beal was elected to act with the president and secretary, thus forming an executive committee. General satisfaction and great interest were shown in the work of the Society.

The next meeting will occur in Philadelphia.

THE AMERICAN POMOLOGICAL SOCIETY.—This Society has just held its nineteenth biennial session in Philadelphia, Pa. Some three hundred or more were in attendance. The society prints a large report containing papers by the best men who can be found to write on topics of especial benefit to fruit-growers. It also contains a catalogue of fruits such as are recommended for the different parts of America. This meeting affords a chance for men to advertise any new fruit, and for states or territories to advertise their land by exhibiting the fruits thereof. The president, Hon. Marshall P. Wilder of Boston, Mass., is eighty-five years old. He was not able to be present, but presented an address which would do honor

to any man. Dr. Beal reluctantly consented to serve another term as secretary. One thing which led to his acceptance was the fact that the next meeting will be held in Michigan. Our State stands high in the society, whether we consider the excellent fruit, she exhibits, the excellent report made by our State secretary, or the enterprise and thrift of her people. There was a strong feeling in favor of coming to Michigan for the next meeting in 1885. It will doubtless be held in Detroit or Grand Rapids. Hon. T. T. Lyon, Hon. C. W. Garfield, and W. J. Beal were delegates from this State.

NORTH AMERICAN BEE-KEEPERS' ASSOCIATION.—This association held its annual meeting this year for the first time in Canada. It occurred in Toronto, Sept. 18-20. There was a very large attendance; though the meetings were held in the commodious auditorium of the City Hall, with its ample gallery, many were obliged to stand during most of the sessions. Delegates were present from Colorado, Texas, Florida, Maine, and most of the intervening states, while Canada was represented from all its provinces, even as far as Manitoba. Ontario sent a very large delegation.

The papers and discussions were very able and interesting. The attendance of the Rev. L. L. Langstroth,—who may well be called the father of improved apiculture,—gave peculiar interest to the occasion.

The officers elected for 1884 were Rev. L. L. Langstroth, Oxford, Ohio, President; Dr. C. C. Miller, Marengo, Illinois, Secretary, and C. F. Muth, Cincinnati, Treasurer.

The next meeting will be held at Rochester, New York.

COMMENCEMENT.—The threatening appearance of the skies at the beginning of the week caused some to predict a wet and disagreeable time during commencement, but with the exception of a slight rain Sunday, the weather was as pleasant as could have been desired. Notwithstanding reports to the contrary, the Baccalaureate sermon was delivered as is usual by President Abbot. Music was furnished by a choir from Lansing, and a good congregation graced the chapel. At two o'clock Monday afternoon the fountain upon which the graduating class had spent so much time and money was formally presented to the College by their president in a short and excellent speech, which was responded to by Dr. Kedzie in behalf of the College. The class day exercises in the evening passed off very pleasantly, music being furnished by the Eight O'clock Club of Lansing. The poem was especially remarked as being a very fine one, well delivered. At an early hour on Tuesday morning the chapel began to fill and at ten o'clock was full to overflowing. The graduating class numbered twenty-nine members, one of which was a lady. The chapel was appropriately decorated with evergreens, and over the center of the stage hung the much lauded motto of the class, "Deeds not Words," the letters of which were made of the white tuberoses, the class flower. The first oration of the day was delivered by H. W. Baird, entitled "Living, the Test of Learning," the other orators following in alphabetical order. The orations being on the following subjects: L. A. Buell, "Higher Education for the Farmer;" W. F. Hoyt, "The Chivalry of To-day;" A. F. Kinnan, "Youthful Illusions not all Illusions;" J. T. Mathews, "The Call for Practical Men;" F. F. Rogers, "Unprofitable Things on the Farm That Pay;" and last came C. M. Weed who discoursed on "The Motives of Scientists." Then followed the conferring of degrees, and the class of '83 were cast out into the world to commence their life of usefulness and toil, to make acquaintance with the rough road of experience; to be cast about and buffet with the conflicting tides of circumstances, and above all to prove that their instruction has not been in vain. Tuesday afternoon at five o'clock Hon. Edward Willits delivered an address before the literary societies on "The Future of Agriculture."

The address was enjoyed by all and it is to be hoped that each succeeding year will witness the delivering of a commencement address. President Abbot's reception followed in the evening, and Wednesday morning witnessed the returning of the graduates to their homes or places of business, perhaps never to all meet together again.

THE COLLEGE SPECULUM.

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LANSING, MICH., OCTOBER 1, 1883.

WE WISH to beg the pardon of our subscribers for the scarcity of editorials in the present number. Mr. F. R. Osborn, ex-editor in chief, sent in his resignation because of leaving college at the beginning of the present term, but this resignation was not acted upon by the students' organization until September 28th, when it was accepted, and the present incumbent elected, thus giving but a very limited time for the work assigned him.

THE PRESENT issue of the SPECULUM will be the last until April 1, '84. In the meantime we shall have our long winter vacation. Subscribers and exchanges please note this fact, and not think because they do not receive a copy during the winter that we are deceased. Far from it; on the contrary we were never, at any time during our existence, in a more prosperous and flourishing condition than at present. This paper has proved a grand success, far surpassing the expectation of the most sanguine. It is true we have had considerable opposition and discouragement, but we now have the satisfaction of seeing our efforts crowned with certain success.

CLEANLINESS is a virtue that should be, yet is not, practiced by all. Whatever one does to induce others to become more cleanly in personal habits merits public appreciation. We would therefore call the attention of the proper authorities to the fact that there are no bath or wash rooms here for students' use. On each of two floors of Williams Hall is a room used only for storing rubbish, known as the "dark" rooms. These rooms are centrally situated at an angle in the hall-way, and would be very convenient for use as common wash rooms. If they were fitted up with durable marble basins, they could easily be supplied with water and drainage. A large arched doorway would afford ample light.

A room can be found on every floor of each hall that would be of much more practical value as a wash room than a student's dwelling. The irrepressible slop-pail that is now so prominent a feature of every occupied room, both to the eye and nose, would become a thing of the past. It is quite needless to say that our sanitary condition would thus be very much improved, especially if the reader has ever visited the room of one of our lazy students.

THE UNUSUALLY small freshman class, which has just entered, has been the subject of many remarks and comments from all quarters. The question naturally arising to all is, why is this so? Surely it is not because of a deficient faculty, or inferior officers, for we have the best. Nor is it because of the obscurity or unpopularity of our College, but it may be from lack of an external element to advertise and familiarize the people with the practical benefits derived from a course of study here secured.

This may appropriately be called a college "of the people, by the people, and for the people," and by the people it should be more liberally patronized. Instead of 40 there should be at least 100 students to enter at the beginning of the college year. Possibly the present unproductive and unfavorable year may have a depressing effect upon the farmers, to such an extent that many of them feel unable at present to send their sons to college.

Again, it may be that the well known "melon scrape" may have combined with the "Okemos road trouble" and other causes to produce a prejudice in the minds of some against this institution. These were in themselves but trivial matters, but were magnified from microscopic to gigantic proportions by the press and enemies of the College.

In other colleges these occurrences would have passed by unnoticed, but owing to the general good conduct of our students, when anything uncommon occurs much is made of it.

Let us all cooperate and see what can be done to mitigate this apparent neglect—neglect it may not be—but surely some remedy is required, and if we can find it, let us do so.

THE PRECISE origin of college hazing, like that of many other feudal customs and barbarous practices, is somewhat obscure. Probably, however, it was brought to the New World along with the first colleges. The distinctions between freshmen and upper classmen were, a century or so ago, much more rigid and absolute than now; in fact, at the latter part of the last century, and the beginning of this there were almost perpetual hostilities existing between them. At both Yale and Harvard some such rules as these were made by the upper classmen.—"A freshman shall not play with any member of an upper class without being asked." "The freshmen are forbidden to wear their hats in the college yard until May vacation; and whenever a freshman

either speaks to or is spoken to by a superior he shall keep his hat off until he is bidden to put it on." "Freshmen are to consider all other classmen their superiors." "No freshman shall speak to a senior with his hat on, or have it on in a senior's chamber, or in his own if a senior be there." "When any person knocks at a freshman's door, except during studying time, he shall instantly open the door without enquiring who is there." These, and many other rigorous and barbarous laws were inflicted upon the freshmen at the principal colleges a few years ago. But these social distinctions of the colleges are rapidly being broken down and leveled away.

However, the old principle of "making it generally interesting" for the freshmen has been perpetuated by the many tricks and annoyances which have ever since been imposed upon them. Instead of the senior's lecture to the freshmen, as formerly practiced at Yale, came the sophomores "smoking-out;" instead of the running of errands came the obligation, now in force at many colleges, of entertaining the upper classmen with a supper. And thus the old laws became obsolete, and new practices—none the less severe—were inaugurated.

The methods of hazing as at present practiced are numerous and diverse. The freshman is taken from his bed at midnight, bathed by sophomore hands at the nozzle of the college pump, and blindfolded, when he is made to run three or four miles to and fro on the campus. If his room is furnished with care he endures the risk of finding, as he returns from an evening walk or call, his furniture piled up in the center of the floor, his pictures smashed and his room in general resembling the track of a Minnesota cyclone. He is liable to be called upon any evening by a dozen sophomores who fill his room full of tobacco smoke, demand a speech and song, and test his agility by compelling him to play "leap frog" with his *comrade de chambre*, and after putting him to bed, and bidding him an affectionate good-night, promise to call again at their earliest opportunity. By these and occasionally more severe applications does he pay the penalty of being a freshman.

These operations are submitted to with various degrees of fortitude and complacency by different victims. To some it seems an essential element of college life, and the failure to receive a respectable hazing would be a sad disappointment. Others submit to it as a necessary evil, while some vigorously "kick" and offer stern resistance. This latter class, however, is generally favored with a double dose.

The extent to which hazing prevails is very general; as is also the degree of prevalence and severity in different colleges. As a rule it has not been carried as far in the western as in the eastern colleges. And it is a commendable fact that it is every year growing less popular in our principal colleges. Hazing is primarily a matter of custom. Every

freshman who is hazed, can only (so he thinks) heal his injured honor by hazing when he becomes a sophomore, and thus custom perpetuates itself from year to year. Probably hazing is also caused to a certain extent by that principle of human nature which tempts one to impose upon immaturity, inexperience, and "greenness."

To abolish hazing, it is first necessary to create a college sentiment against it. This might possibly be done by the exertion of stronger moral and religious influences, or perhaps a more intimate relationship between professors and students, or a stricter demand for high scholarship. Possibly a more rigid execution of college laws might modify this pernicious practice, generally expulsion or suspension are the penalties affixed, but these are so often unenforced or ignored that they lose their effect as laws.

A very simple process effectually ended hazing at Cambridge. The faculty prepared at the beginning of the college year, about ten years ago, an agreement for the freshmen and sophomore classes that they should abstain from this old time and abominable practice. This was signed by all the members of both classes, and thus perfect harmony was secured. At Yale there is a college law, that any student found guilty of hazing shall enter the next class below. Needless to say this has the effect of almost entirely checking the practice. It is true that this practice is not carried to such an extent at our college as it is at many others, but let us combine together to put down this evil as it does exist, and by united and untiring efforts entirely wipe out the annually recurring shame.

COLLEGE NEWS.

The freshmen class numbers 40.

The lawns have suffered much from need of rain.

The open ditch in No. 14 is being laid with eight inch tile.

The work on the chemical laboratory is nearing completion.

The old College safe was recently sold to the Capitol Grange, consideration \$50.

Work has commenced on the new boiler house. It will probably be enclosed this fall.

It is rumored that there will be a street car line from Lansing to the College before long.

The water works are nearly completed. They will be in full operation next spring term.

Dr. Kedzie will deliver an address at the Midland county fair, October 4. Subject, "Farmers' Rights."

Prof. Cook was in attendance at the North American Bee Keepers' Association lately held in Toronto.

The green-house has received a coat of paint outside and inside and all broken lights have been replaced by whole ones.

A new section has been added to the Natural History society, called the Astronomical Section, with L. G. Carpenter as chairman.

Jack Frost failed to bite at the bidding of the signal service on the nights of Sept. 21 and 22. We have experienced few warmer nights this fall.

The College brick yard has turned out 400,000 excellent bricks this fall valued at \$9 per thousand. The actual expense has been about \$6.50 per thousand.

The bees in the College apiary have averaged about 100 pounds of honey to a colony this summer, and a considerable proportion of it was comb honey.

The severe early frosts have done much damage about the grounds, but fortunately no harm was done at the green house as the plants had been carried under shelter.

A great many trees are dying this fall in Hillsdale. Insects are supposed to be the cause, and Prof. Cook has been called by the city authorities to investigate the matter.

A fresh water sponge is now growing in the frog pond in the College wild garden. The sponge was transferred from a colony on island number 2, at Grand Ledge, by Dr. Beal.

The experiments in cross fertilization of clovers and vines have been very unsatisfactory at the College this season, on account of the unfavorable condition of the weather.

Dr. Beal has been appointed by the governor as one of a committee to attend the Louisville exposition in charge of Michigan fruits; but owing to college duties the offer is declined.

Eighteen head of the College herd were exhibited at the State fair, and five premiums taken, two first, two second, and one third. It was considered the best exhibit of stock the College has ever made.

The officers of the Student organization for the ensuing year are as follows: President, D. J. Stryker; Vice President, L. A. Ross; Secretary, C. F. Lawson; Legal Board, C. C. Lillie, C. P. Gillett, D. B. Waldo, H. E. Thomas, E. F. McClear, and W. T. Welch.

Prof. Satterlee and Mr. Troop have completed some chess and wheat experiments. Under their treatment the wheat had a hard stent to mature, but the few spires that lived were true to the unvarying laws of nature and brought forth of their own kind. The chess thrived better and brought forth of its kind.

Corn on the College farm this fall would have been a good crop had it not been for the severe early frosts. The corn will probably be cut and fed without being husked. Oats averaged 60 bushels to the acre. Wheat averaged 20 bushels. The Egyptian red did the best, averaging 25 bushels. The Clawson averaged 20 bushels.

The wild garden was considerably injured this summer by heavy continuous rains, and the succeeding drough. Many high land plants were killed while others were very much damaged. The College has received two bunches of seeds and bulbs for the wild garden from L. H. Bailey, of Harvard University, and has the promise of more.

A series of experiments have been carried out at the college this summer to test the vitality of the garden and flower seeds sold at the groceries in Lansing. The exact figures are not yet ready, but it is safe to say that the vitality of the seeds this year has been greater than that of former years, and yet is far below what it should be.

The SPECULUM is being read and quoted far and near. Two letters have just been received from men in California making inquiries concerning the paper, and one incloses a year's subscription. The SPECULUM has come to be, not only an interesting sheet to alumni and students of the College, but each number contains instructive and valuable information, that no intelligent reader would think of valuing at the cost of the paper.

The class of '84 held their junior class day exercises in the parlors of the Michigan Exchange at Detroit, on Thursday evening, September 20. Several members of the class took the steamer North West to Cleveland Thursday night, and spent Friday taking in the sights of the "Garden City," visiting the famous Euclid avenue, the great petroleum and iron manufactories, the tomb of Garfield, and other places of interest. The others found enough to occupy their whole time in Detroit, where they visited the State Fair, the Art Loan, the Zoölogical gardens, &c., &c. All returned on Saturday feeling that class day had been a success and that they were more than paid for the outlay of time and money.

The comet of 1812 discovered about a month since will probably be an interesting object the coming winter as it will be visible to the naked eye about Christmas, and remain until it passes beyond our southern horizon in March. It is now (Oct. 6) 180,000,000 miles from us, and is approaching the earth at a rate of over 12 miles per second. In January it will be about 60,000,000 miles distant which will be its nearest approach to us. A week or two later it will be at its nearest point to the sun, 70,000,000 miles, and will then begin its departure into space which will continue until 1920, when it will begin to return and visit us again in 1955. This comet and the one of 1846 are in the same orbit as are the comets of 1843, 1880 and 1882 in one orbit. The orbit of the present comet extends 500,000,000 of miles beyond Neptune.

The faculty and State board no longer hesitate to recognize the club boarding system as a permanent affair. The club rooms have been painted and calcimined and in every way possible made pleasant and convenient for boarding purposes. The cost of board last term ranged from \$2.44 to \$2.57 per week,

and not a word of complaint was heard as to its price or quality. What a change from the condition of affairs at the time when the SPECULUM was started, and which lasted until the present boarding system was in operation; then the students complained so severely of the price and quality of board, that they felt they must have a medium through which to express their feelings, and this need was presented as the principal argument in favor of starting a College paper, which resulted in starting the SPECULUM.

An inglorious defeat: The invincibles (?) were completely routed Friday night, September 21, by the freshmen. The latter, while returning quietly from a class meeting, received a volley of tomatoes, pumpkins, apples, and the like from the hands of the sophs, who were concealed among the bushes and trees in the vicinity. The freshmen, instead of breaking for their rooms, turned to face the music and find out, if possible, whom the molesting party might be. The sophs immediately broke ranks and, panic stricken, fled in every direction, skulking and climbing trees, and some, it is affirmed, did not stop until they had reached the west gate. The whole matter resulted in a big scare and the ducking of two sophs, one in the ditch in the wild garden and one in the fountain basin. We are glad to see the freshmen standing up for their rights. May success attend their like efforts in the future.

Natural History Society.

At the meeting held August 9, 1883, Dr. Kedz'e gave a short but interesting address on the Relation of Magnetism to Sleep, in which he clearly showed the absurdity of the belief which some hold concerning the relations of magnetism to health. A German, Baron Reichenbach, after many years of study claims to have found that the the most healthy position for the body to take during sleep is "true as a needle to the pole." The most unhealthy position is due east and west, and "to sleep in such a position is tantamount to committing suicide." In the first place, Tyndall has proved that the body is a diamagnetic and would naturally place itself at right-angles to the poles, which fact alone entirely overturns the absurd theory. But allowing that the body is a magnet, and that its taking the position of the magnetic needle is favorable to health and the theory is as erroneous as ever. In this latitude the needle does not tend to point due north and south in a horizontal plane, but the north end of the needle tends to dip, making an angle of 73° with the horizontal, hence, with the head to the north pole, the feet must be suspended in air 17° from the perpendicular. Choose ye whether you will conform to such sanitary regulations and live, or whether you will continue to commit suicide by sleeping in the usual way.

Mrs. Merrell called the attention of the society to some resemblances of the menobranchus to the fish and to the tailless amphibians. The menobranchus has lungs, persistent external gills, four feet, and a tail, characters which distinguish, in part, the fish, and more fully the frog in its transformations. The gills and shape of the body resemble somewhat the fish; the feet, with unwebbed toes and fingers, bring it again nearer to the frog, as does also the possession of well developed lungs. The transformations of the menobranchus are not well understood. Cope says it is the larvæ of a salamandroid; Marsh and Peters say the batrachoseps and Siredon, the axolotl of Mexico are the tadpole of a higher form. It is suspected that these are "arrested larvæ which have become sexually mature, a condition which has been noticed, though rarely, in other undoubted tadpoles." The slight differences observable in the number of fingers and toes of the menobranchus at different stages could, no doubt be explained by rearing some of the young and observing their transformations. A family of menobranchi live in a pool within a mile of the College grounds.

Mrs. Merrell illustrated her talk with numerous drawings which she had prepared for that purpose.

Mr. Jas. Troop read a paper on the Boston Natural History Society, from which we learn that the organization which led to the formation of the present society, was started in 1814, known as the "New England Society for the Promotion of Natural History." Soon after the name of the society was changed to "The Linnæan Society of New England." Much interest was manifested at first in the society, but lasted only a short time. The meetings were held very irregularly, and in 1822 the society was disbanded and its collection became badly scattered. In the year 1830 a few of the old members formed a new association, and from this time dates the history of the present "Boston Society of Natural History." The success of this society was assured from the first as many of the most wealthy and scientific men of Boston and vicinity gave large sums of money and donations to the library and museum. In 1864 the building now occupied by the society was publicly dedicated. It contains the library, museum, and lecture-room. Meetings are held

twice a month, at which subjects relating to the natural sciences are freely and fully discussed.

At the meeting held Sept. 14, Prof. Satterlee read a brief history of the Michigan State Horticultural Society. He said the society was organized in 1870, at Grand Rapids, under the name of the Michigan State Pomological Society. Its officers were H. G. Saunders, president; S. L. Fuller, treasurer, and A. T. Linderman, secretary. The succeeding presidents in order are J. P. Thompson, A. S. Dyckman, Geo. Parmalee, and T. T. Lyon. At first the meetings were held monthly, now four or five times a year in as many different places in the State. The times for meeting are in December, February, June, September, and sometimes in August. The first fair was held in Grand Rapids with the Kent County Agricultural Society, the second with the Western Michigan Agricultural and Mechanical Society at the same place, and since then with the State Agricultural Society. In 1880 its name was changed to the Michigan State Horticultural Society. In its exhibits with the State Agricultural Society only fruits and flowers are shown. The premium lists are arranged with special reference to the teaching of valuable facts to those wishing to study horticulture. The series of Reports, from '70 to '80, Prof. Satterlee considers the most valuable work on practical horticulture of which he has any knowledge. The organization of branch societies is also a prominent feature of the society. Much of the present prosperity and efficiency of the Society is due to the energy and ability of the present Secretary, Hon. C. W. Garfield, class of '70.

Mr. C. F. Schneider gave the society the results of his observations and study of a ground mole. He spoke of the damage done by these animals in disfiguring our lawns and throwing up mounds of earth to dull the mowing machines. They are found in nearly every State east of the Mississippi river. They are nearly cylindrical in form and four or five inches in length, and appear to have little or no neck. Their legs, especially the front ones, are short, broad, and very powerful, and the toes furnished with strong sharp claws. The mole has no eyes that are of use now, but probably did have once, as well developed bony sockets are present in the skull. The external ears are also wanting, and the nose is developed into a long, bony projection well adapted to their habit of digging. Their senses of smell and hearing are very acute. They feed upon insects in the soil, and are great eaters. If deprived of food for a few hours they starve to death.

Mr. Troop read a paper entitled "The Other Side of the Indian Question." From this paper we learned many new and interesting facts relating to the social and political position of the women of some of the earlier Indian tribes, especially those among the great Iroquois nation. In this day and age people have very erroneous ideas concerning the position which the women held in the great Indian tribes of a hundred years ago. Her position is often looked upon as being no better than that of a slave, occupying a position even below the brute. Not only are these ideas incorrect, but it is shown by good authority that her position in the tribe was equal in importance to that of the man. Her rights and wishes were acknowledged and respected always. In fact, the reins of government were actually held and controlled by the women.

Dr. Grange gave a very interesting and instructive talk on Imaginary Diseases of Domestic Animals. A very common example mentioned is that of hollow-horn in cattle. As the horn of every healthy creature is hollow, such a disease would be impossible. Dr. Grange exhibited a horn which he had taken from a creature in health, and sawed it longitudinally in two parts. The specimen showed that with the exception of two or three septa running across the cavity, the horn was hollow.

Mouth Murrain was spoken of as a name often applied to some slight ailment of cattle. In this supposed disease of the mouth the papillæ of the cheeks are often dissected off because they are supposed to cause the disease, and thus the animal is deprived of organs provided by nature to aid in mastication while no relief from disease has been rendered.

Another of these diseases is Hooks in horses. When a horse is thought to be in danger of this disease the barbarous operation of dissecting the membrana nictitans from the eye is often performed. The object is to prevent this membrane from growing over the eye and producing blindness, a thing of which there is no danger. The function of this membrane is to wipe foreign substances from the eye.

Wolf Teeth are also thought by some to produce blindness in horses. These teeth are supplementary molars and deciduous, and often appear in the mouth of the horse. The only harm done by them is when they grow so long as to strike the opposite jaw.

Perhaps the strangest of all the diseases mentioned was that of *Wolf in the Tail*. The seat of this disease is supposed to be in the tip of the tail and the imaginary *Wolf*, which is nothing but the last joint of the caudal vertebrae, is often dissected out, and the creature expected to get well.

PERSONALS.

THE Editor of this Department desires the earnest co-operation of the alumni in aiding him to fill these columns with interesting items. Give occupation since graduation, what offices held, whether married or not, etc. Let this receive prompt attention from every alumnus.

- O. C. Howe is at home on the farm.
 St. John is farming at Gates, New York.
 Harry Nixon is teaching at Appleton, Minn.
 Jeddie Smith is teaching in New Buffalo, Mich.
 C. H. Eldridge is teaching at White House, Ohio.
 John Mathews is teaching in the Portland schools.
 Allen Redding is having a good time at home visit'ng.
 Willard Keelzie is farming and surveying in Lenawee county.
 Archy Emery is now partner in his father's store at Lansing.
 Ed. Hume is building a new house on his farm near Lansing.
 H. A. Danville is at present working his father's farm at Marilla.
 A. Bird has not been heard from, but is probably farming at Highland.
 E. J. Fletcher has not been heard from but rumor places him in Dakota.
 E. P. Clark is in Colona, Berrien Co., Mich. His business is not known.
 Albert Mather when last heard from was enjoying himself at Charlevoix.
 A. F. Allen, '61, is a prosperous farmer in Vineland, Douglass county, Kansas.
 Henry Baird will, for the time being, act as Assistant Secretary at the College.
 Law and Rogers are having splendid success surveying in Marlette, Sanilac county.
 Edwin Fairchild, son of President Fairchild of Kansas, is studying at Oberlin college.
 Jeff. Irish, '83, has returned from the west, and will now probably enter the University of Michigan.
 Richard Gulley goes to Mississippi into the office of the Southern Live Stock Journal, at Starksville.
 Oscar Clute, '62, is President of the Iowa Bee-Keepers' Association, recently organized in that State.
 A. A. Crozier, '79, is farming at Hudsonville, Ottawa county. He is now in the midst of peach harvest.
 Wm. B. Northrup, '85, is in Utica, New York. He expects to return to College soon, his health permitting.
 L. A. Buell will make bee-keeping a specialty. He expects to winter 50 colonies. He will teach school this winter.
 Lou's Carpenter, '79, assistant in mathematics here, spent last vacation in Dakota, where he invested in a tree claim.
 J. C. Simonson, two years with '74, is a prosperous farmer in Holly, which was his home when a student at the College.
 L. W. Hoyt, '82, has returned from the Upper Peninsula, and is now deputy collector of internal revenue, at Grand Rapids, Mich.
 Herbert Collingwood is in Boston, but will soon go to Starksville, Miss., to enter the office of the "Mississippi Live Stock Journal."
 Alfred Gulley, '68, who went to California last year, has returned to South Haven better satisfied with Michigan than California.
 L. H. Bailey has increased responsibilities at Harvard on account of the leaving of their gardener. He is also writing for several papers.
 Albert Bahlke, once with '83, is now in Bismark, Dakota. The bank at Pewamo, of which he was to have been cashier, failed to be organized.
 R. M. Brooks, '73, of Wacousta, has invested in the coöperative or grange store, at North Lansing, Mich., of which he is one of the auditors.
 Mr. S. P. Tracy, '76, is now in Chippewa county, Mich., as agent for Ferry in contracting with the farmers of that county to grow peas for seed.
 Dan Holliday after spending some time in Northern Michigan went to his home in New Orleans but has again come north. His business is not known.
 Daniel Strange, '67, expects to open an office in Lansing soon, but THE SPECULUM has been unable to find what branch of the world's profession this office will represent.

Will Bahlke is principal of the Pewamo schools.

James McClear, '82, has recently entered the University law department.

W. F. Hoyt, '83, has entered the Sterling Medical College, Columbus, Ohio.

D. S. Lincoln, '81, is engaged as gardener at the hospital at St. Peters, Minnesota.

Ernest Hutton, once with Class of '83, is a druggist in Howell. He also has charge of the city telephone exchange.

Clarence Weed, '83, took the first prize for a collection of bee plants at the tri-State fair held at Toledo, Ohio, also one prize at the Michigan State Fair.

Prof. Frank Gulley, '80, has bought a 500-acre farm near Starkville, Miss. He has also purchased some fine cattle with which he will adorn his farm.

John Swift, '68, is in Emmet county collecting 40,000 native plants to be placed in the Detroit Park at Belle Isle. His family is at Cross village, Emmet county.

James Brassington, '76, has a law office and is a real estate agent at Hart, Mich. He has a little boy three years old whom he hopes to send to the Agricultural College.

Prof. C. E. Bessey, '69, was elected at Minneapolis, October 23, secretary of the Biological section (section F) of the American association for the advancement of science.

Mr. Frank Hagenbauch, '79, has a little daughter, born June 22, '83. His brother, Chas. Hagenbauch, once with '84, was married March 7, '83, to Miss Katie Bonebright.

James L. Morrice, '73, has a large farm implement store at Harbor Springs, Mich., and Frank Wells, also '73, is an agent in the same business, his field including Beaver Island.

L. K. Woodman, once with '84, after working on his father's farm and rustivating in Northern Michigan, has again returned to College, much improved in health. He is now with '86.

Gov. Begole's three sons were all at different times students in the Agricultural College. One died in the army. The only surviving son is in charge of the homestead farm, near Flint.

Jacob M. Hollingsworth, '82, and wife were at the College a short time this term. He has left his position as foreman of the Riggs farm, Francisco, Mich., and will teach near Howell this winter.

W. W. Daniells, '64, professor of chemistry in the University of Wisconsin, has been spending the summer in Northern Central Wisconsin doing field work for the United States Geological survey.

Oliver Bristol, once with '83, has taken the responsible position of bass drummer of the Almont band. All students who were at the College the same time with Mr. Bristol can testify to his ability to fill the place.

The Columbus Medical Journal for September publishes in full the graduating thesis of Dr. H. L. Rosenberry, class '81. The subject is Comparative Osteology. Dr. Rosenberry is now practicing his profession at Malaga, Monroe county, Ohio.

Eugene Davenport, '78, and wife were at the State Fair, assisting Secretary Garfield in the pomological department, and Henry Baird and Clarence Weed, '81, were assistant secretaries to Mr. Stirling, secretary of the State Agricultural Society.

C. E. Hollister, '61, is engaged in farming and surveying at Laingsburg. He has two children, May, aged twenty, is in her third year at Olivet College, while Cassey, aged seventeen, is at home, helping in farming and surveying. He will probably enter the Agricultural College September, '84.

Mr. O. E. Ladd, '78, is still in Detroit assisting Prof. Will W. Tracy '67, in D. M. Ferry's seed gardens. Their business is to test seeds as to vitality, also to test new sorts just introduced, and note their value. Mr. Tracy has also to visit the principal seed growers and inspect their growing crops.

It was stated in the last SPECULUM that Mr. H. S. Hampton, '76, was farming in Idaho, but we have direct information that this is a mistake. Mr. Hampton is a lawyer at Albion, the county seat of Cassia county, Idaho. He is in partnership with Judge Heed, an old practitioner of the territory, and is doing a large business. Mr. Hampton is also deputy county treasurer of Cassia county.

S. M. Millard, '64, president of the alumni, as all probably know, is a prominent lawyer in Chicago. His home is, however, away from the noise and bustle of that metropolis, in the quiet city of Highland Park, about 23 miles from Chicago, on the bluffs of Lake Michigan. Mr. Millard is alderman of the city of his home, trustee in the Highland Hall College for women, a successful institution having a faculty of 14 professors and instructors, and in the September meeting of trustees of the

Illinois Industrial University, was unanimously elected president of that board.

Messrs. A. B. Pueblos, '79, now a missionary in Utah, W. S. Delano, in the signal service at Yuma, Arizona Territory, and Dr. H. L. Rosenberry, '81, are all making collections to send to the College Museum. Why not? We have alumni now in almost every State. In what more commendable way could they show their love by their works than by filling our museum with rare curiosities from the several States, that we may rejoice in the ores of California, the strange animal forms of Texas, the beautiful coral of Florida, and the equally interesting curiosities of the other States.

EXCHANGES.

The alumni of an institution like, above all things, to hear of the whereabouts and doings of their old classmates and friends, consequently a paper to be well supported by the alumni of the institution in which it is published must keep up a well edited personal department. It is according to this hypothesis that we try to account for the small size of the Crescent, it containing but little over four pages of reading matter in the number before us. Of this amount the department of personals occupies nearly three-eighths of a column by direct measurement. Verily, friend Crescent, you ought to increase your personals four-fold or more.

As exchange editor we wish to call the attention of the students to the fact that the SPECULUM is receiving considerable adverse criticism on account of its being a quarterly. The SPECULUM has lived long enough to demonstrate that it can live a good deal longer. Why not make it monthly, or at least have it published twice during a term. If necessary the size could be reduced slightly, and thus make it more pleasant and interesting for our subscribers? We do not make this suggestion in order to try and follow the criticism of our contemporaries, for who ever heard of one college paper trying to follow the criticism it receives at the hands of another paper. Indeed if one were to try it, the editors would soon find themselves in the same predicament as the man in the fable.

But few of our exchanges have reached us as yet, but those that have seem to be starting in for the year in a good healthy condition. One thing that is especially to be commended, is the fact that several new college jokes have been forged during vacation, and are appearing in the first issues of those papers that are lucky enough to possess an editor capable of producing these stupendous out-growths of wit and humor. They are now ready to enter upon their unceasing round of publication in college journals, for all will admit that a joke that has been once ingrafted in the college press, never dies. This fact is especially noticeable in the Thielensian, the successor of the Chrestomathean, published at Greenville, Pa. Otherwise this paper promises to be a valuable addition to the college press. The fact of its having started over the ashes of the Chrestomathean shows that its editors have pluck and "where there is a will there is a way." We wish you success.

One of the leading college papers made the request in its last issue for last year that some more interesting and instructive mode of running the exchange department be devised and practiced by the college press. All who have ever had anything to do with an exchange department will recognize the pertinence of these remarks, but the trouble lies in trying to bring about a change so that an exchange column will be interesting and instructive. The way it is run in the majority of papers, it is of no interest to any one except the exchange editors, and all the interest that they take in it is to simply look it over to see whether their paper has received mention or not. What do papers care for the criticisms they receive through this department? How many ever profit by the suggestions made? Not one. In many cases it might be better for them if they did. If a paper receives a favorable notice the exchange editor thinks he helps run a pretty good paper, and that every one knows it, and perhaps makes a mental resolution to give a favorable notice in return. If the notice is unfavorable the editors think that their paper is just as good, but that every one does not know it, and his ire is immediately aroused. We clip the following from the Hesperian Student: "The way in which the Berkeleyan treated us after we gave it a nice little puff, it took us just eighteen minutes by the clock to write it, and the return it made us for the carefully constructed compliment was exceedingly unkind." After perusing this selection we come to the conclusion that in some instances when one paper praises another it expects praise in return. Look at the exchange column, from any standpoint one can see chances for improvement. It is not always pleasant to sit down and read the rant and abuses with which some papers choose to fill this column. Reform is needed or else abolition of this department of college papers.

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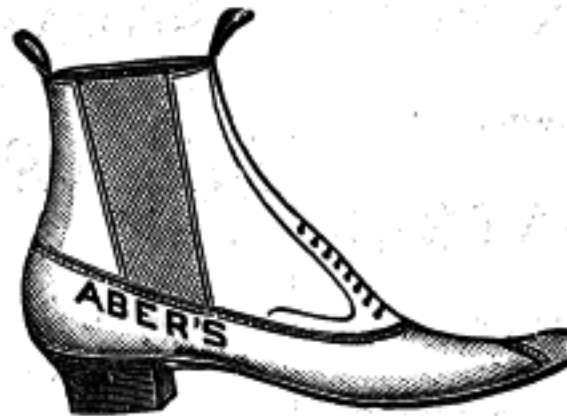
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