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WHOLE No. 9.

Good Luck.

W. D. BARRY, UNION LITERARY SOCIETY.

The aim of every person starting in life should be success. Success in acquiring an education, success in choosing a profession, and success in transacting the business of life.

From earliest times the idea has been prevalent that luck is a chief element of success. Persons who have accumulated a good fortune are commonly spoken of as favored with good luck, while others who have been unsuccessful almost invariably attribute their failure to bad luck. We read of persons "born to good luck," "following a lucky star," and "finding luck in odd numbers." What seems to be more reasonable is that good luck comes to us, not by chance; but is the result of a good aim, a thorough preparation, good judgment, and industrious habits.

Many persons are always waiting for some good luck that will make them more fortunate. Some spend the greater part of their early life waiting for a lucky opportunity to enter some prosperous business that will help them to success. This good luck that appears to the casual observer, to make fortunes lies mostly within ourselves. It comes mainly by our own exertions, and personal effort. As the philosopher has said, "the mould of a man's good fate is in his own hands."

It is true many things come to us unexpectedly, as favors, and opportunities, and events, which seem beyond our control; but usually these can be traced to causes which naturally produce certain effects. Simply an act of kindness may be rewarded by some great favor. A person's natural ability is often the cause of his good luck.

There is a kind of accidental luck, as in games of chance and lotteries, which is entirely beyond the control of persons engaging in them. As a majority of persons who invest in these speculations do not receive the prize for which they seek, he who wishes to succeed will not trust to luck in this way. The wreck of thousands who have sought fortunes by lotteries and vain speculations teaches us that good luck is in no such road.

To trust one's fortune to the outgrowth of chance would be to practice a belief that the world is not governed by law. So attributing good luck to natural causes is more in accordance with the common order of things. Everywhere do we see order and harmony, in events as well as natural phenomena. In every employment we find that industry is rewarded, the laborer who manages well becomes prosperous; ability and skill accomplish great results.

The attainment of good luck as applied to success in life is secured mainly by finding just the position nature has designed us to fill. This should be determined by our best judgment and most careful reason, and not by chance. He who lets some accident influence him in the choice of a profession is likely, after a sad experience and loss of time, to learn that

he has been following a calling for which he has neither taste nor natural ability. When we are engaged in pursuits we delight in, and those are our natural callings, we become more active and as a natural result good luck will follow.

The preparation made for any work determines largely the success of its future. If a person has natural ability he will be improved by cultivation. Every person needs culture and knowledge in order to insure success in any calling. The discipline received in acquiring a sufficient knowledge for one's business becomes an important factor in bringing about good results. The educated man makes chances, he sees farther ahead in his business, and places himself in the way of good luck.

Another chief source of good luck is habits of industry. Fortunes that are gained in a short time come with but little effort, and are likely to slip away quite as easily. Thus the good is swallowed by the bad, and leaves the sting of loss behind. The fruits of industry require a longer time to grow and mature, but are more lasting when once obtained. Strong obstacles in the way to success are often overcome by habits of industry. The first efforts in performing some difficult work may be fruitless, yet by giving more thought, more attention, and more energy success is almost certain.

The lives of eminent men, both past and present, teach us that good luck is the fruit of careful thought, industrious habits, and personal effort. The riches of Vanderbilt and Gould were acquired and kept only by careful planning and foresight in their business. The fame of Washington and of Webster that distinguishes them from the rest of their fellow men is not the result of uncontrolled powers. The invention of the steamboat, the electric telegraph, and the electric light are examples of what industry and genius have brought forth.

In the business of every day life the successes and failures will depend upon how well we perform our parts. The skill of the doctor governs his success in treating patients, the wisdom and discipline of the lawyer brings his clients, and the earnest labors of the farmer are the sources of his rich harvests.

The different degrees of good luck attained by persons of various callings is like a company of tourists starting out to climb some high mountain. A large number will linger at the base contented without accomplishing any thing rather than overcome the difficulties before them. Some will start vigorously, but lacking energy and persistence may be easily turned from their purpose. Only a few, the most ambitious, will reach the summit, and accomplish the task which they first set out to perform.

So it is in life; we gain prosperity only as we strive for it. If we aim at success, and exert all our strength toward its achievement, good luck, as we are pleased to call it, will crown our efforts.

IN MAKING up your list of papers for the coming year, don't forget THE SPECULUM.

The Student's Abuses.

LYNN BONHAM, DELTA TAU DELTA.

The average mind regards the student as one of the few but fortunate persons living in the paradise, ease. He has nothing to do but have a good time. True he does not have to labor from sunrise till sunset, but he must do what is far more wearing, use his mind; and that too more hours per day than the most energetic mechanic thinks of employing his muscle. Even among our own number there is a misapprehension of study. The freshmen looks forward with fond anticipation to the time when he will be a senior, and can enjoy his ease. If the student who does his duty has time for amusement and reading, it is because he has learned how to study, and can thus grasp the subject presented to him without the effort it costs the untrained mind.

These are but trival things and ones which the student can stand, but there is one real abuse in the truest sense of the word that he can not stand, viz., cramming. A fact which both teachers and students have been slow to learn is that "scholarship is not power, and that the ability to acquire is not the ability to do." Large numbers of both teachers and students refuse to recognize this fact, although it has been repeatedly demonstrated to them in the sad wrecks of young lives shattered on that fatal rock, cramming. Still the colleges and academies all over the land, with a few notable exceptions, offer medals, money, and other prizes as incentives to higher scholarships.

It is a pleasant thing for the friends of a student to see him receive the first prize in a class of one hundred, and they feel justified in predicting for him a brilliant future; but how bitter their disappointment. Instead of beholding him a blessing to his country and an ornament to society, they have the pain of placing him in an early grave, or still worse seeing him go through life a wreck, a burden to himself and his friends.

The practical world has ceased to expect much of its valedictorians, and prize-medal bearers. It depends on those whose power of growth has been slower, and whose vitality has not been checked by excesses of any kind during the years of physical development. These are the men that have done and always will do the world's work.

All the prizes ever offered will not quicken the dilatory student to effort, but they do call forth from the ambitious student who needs no such incentive, but on the contrary should be restrained, exertions which prove his ruin. If prizes must be offered they should not be to the student having the highest class standing, but to the student of good standing who improves his physical condition and requires it to keep pace with his mind. If prizes were offered in this way our colleges would graduate men mentally equal to the graduates under the present system, and instead of mere pygmies we would have men in the true sense of the word.

The young man who enters his life work with a firm and healthy frame, and the ability to use such knowledge as he possesses is of unestimably more value to himself and the world than the scholarly man whose system is the haunt of disease, and whose brain is the lumber house of Greek roots and mathematical formulæ.

The tendency of the age is to extremes, and a certain class of students go as far in the opposite direction by cultivating muscle at the expense of brain.

Nothing could be better for the student than a judicious employment of athletic sports, but the severe course of training through which many put themselves draws all the nervous energy from the brain to the muscles.

Sports are for recreation and amusement, and in limited amounts serve well this end, but in excess lose all their stimulating effect, impair the mind, and destroy the finer sensibilities.

While there are unquestionably a large number of students graduating each year, whose lives have been blighted by too hard study, there are as many more who have shortened their days by too much athletic training, and a still greater number are injured by dissipation.

Dissipation does not necessarily imply debauchery, but irregular hours and various excesses. We as students abuse ourselves in a shameful degree, yet we can not complain for it is self inflicted abuse.

Every man requires a certain amount of recreation, and it may be secured in various ways. Amusement and recreation are terms whose meanings are sadly confounded. They may be synonymous, and again may be widely different. Recreation implies re-creation or the restoring of wasted energies. Amusement may or may not serve this end. All sports and games serve as recreation just so long as they rest the body, but when they begin to tire, they lose their only value in ceasing to be recreation.

At different times men require different kinds of recreation; at one time none will serve so well as sleep, while again sleep can only be secured after the refreshing influence of a judicious indulgence in athletic sports of some kind.

As has been seen this is an age of extremes, and we as students help the rest of humanity in keeping up the reputation of the times. While many of our number are ignoring sport to the detriment of their constitutions, perhaps as many of us are cultivating brawn at the expense of intellect. As we look upon the prominent men of our time, as the two great pulpit orators, Beecher and Spurgeon, we see men of fine physique, men that have required brain and muscle to keep pace.

By comparing the lives of such men with those of extremists, we will see that the way to secure the greatest good for ourselves and the world is to avoid excess in all directions and cultivate a symmetrical development.

A Knowledge of the Classics not necessary to Culture.

A. C. REDDING, ECLECTIC SOCIETY.

Ever since it was proposed to introduce physical science into education, its advocates have met with opposition from two sources; from the practical business men, who claimed that it was worse than useless, and from the supporters of the classics. The practical man believed, and there are many to-day in our own State who still believe, that science is nothing but mere speculation, and to be indulged in only by a certain select few who have more leisure than business, and that theory and practice are opposed to each other.

The advocates of the classics on the other hand, claimed, with apparently much self-satisfaction, that there is nothing in the whole range of science capable of giving culture, and worse than all, that a continued

devotion to scientific research tends to make the mind narrow and bigoted. Some think that the worst thing they can say of a searcher after nature's laws is that he is a "mere scientific specialist." This last class of educators zealously hold to the illusion that only those who have a knowledge of Greek and Latin, however little, are educated, and to prove their statement they bring forth the great men of ancient letters.

It is a great mistake to suppose that there have not been as great orators, statesmen, and poets as Demosthenes, Pericles, and Homer in every prominent nation. Their oratory was elaborate, powerful, brilliant, and effective—so do we find it in every age, and with every people. They made great statutes, but there is no civilized nation in existence that has not made as great. In the power of delighting the ear, or moving the passions their poetry may have equaled ours, but was in no way superior. In all useful knowledge the Greeks were sadly deficient.

As a matter of curiosity or amusement the actions of the ancients may occupy our spare moments; and some provision must be made for studying them at our Universities. But there is not a particle of utility in them. If we assume that nothing is useful or desirable unless it contributes to personal comfort or material well being, it is very easy to show that any pursuit which admits, however slightly it may be, of any other purpose is useless, and therefore undesirable. It should be our purpose rather to seek that which will do the greatest good to the greatest number.

Education implies some change to be wrought in the individual himself, and this leads to a consequent manifest change in his views and actions. If this is unnecessary, education, at best, is worse than useless. If all that is desirable is to make him limit his views to things immediately around him then, perhaps, no education is needed at all. But since all our attainments must come through a course of training on the mind itself, it is this which has to be effected first. Useful here must be useful for mental culture and nothing else. Performing simply by rule means the use of the hands without the head. "To be practical is excellent, but to be practical and nothing else is the definition of a machine." To assume that a study is useful because that which it deals with is useful is absurd in the extreme. A library of ten cent novels in Latin would not increase their value one whit. There is no necessary connection whatever. The value of an education is absolutely and perfectly distinct from this, and must be proved by actual experience. The best way to reach results is to compare individuals as nearly alike as possible, except in training.

There are, no doubt, many in our own State who think that a college course means only a period of "elegant do-nothingism," under the high sounding title of a college education, which they consider wholly outside of, and foreign to a regular business for life. This view is of comparatively recent growth and will apply only to those institutions, usually of the classic order, attended by the sons of rich men.

Some accept this elegant leisure theory of a college education with little harm to themselves, while with others it acts almost as a poison, making them restless and dissatisfied with themselves and everything around them, and averse to any effort for improvement. This has the effect of keeping many sensible, well-to-do farmers from giving their sons the lasting benefit of a real, true, practical, scientific education.

To be the son of a rich man does not settle the question of ability, but rather increases his chances

for being sent to college, and from the mistaken notion that only those who know Greek and Latin are educated, combined with a prejudice against any thing that pertains to labor and science, they generally accept some classical institution.

An exclusively scientific education will bring about a mental twist as surely as an absolutely literary training, and our scientific colleges should guard well lest they send out men of narrow views and one-sided minds.

But there is no necessity for this catastrophe. Instruction in English is provided for every Englishman; and thus, with French and German, we have the keys to the grandest literatures the world has ever seen. The readers of the English language are the richest people, in their literary inheritance, the sun ever shone on. "Their novelists paint the finest characters, their historians know the secrets of entrancing and philosophical narration, their critics have the keenest acumen, their poets sing the sweetest songs."

If an Englishman cannot get literary culture from his Bible, his Shakespeare, his Milton, his Macaulay, his Webster, his Tennyson, he cannot hope to get it from Homer, Sophocles, Virgil, Xenophon, or Horace.

Self-Knowledge.

W. D. WATKINS, PHI DELTA THETA.

Every man like every nation has a history. There is an account of the successes, failures, blighted hopes, and frustrated plans of life sharply and clearly defined upon memory's page by the iron pen of experience. There have been events, like the introduction of Christianity and the discovery of America, that have changed the whole course of the world's history; similarly, force of habit, condition of health, and surrounding circumstances are tending to change the whole tenor of individual life. It is an old and seemingly true saying that "man is a child of circumstance." If this is so, it becomes an important part of our knowledge to know the circumstances that influence our actions, and the exact power of our moral, mental, and physical natures.

There is an ideal of manhood towards which each is striving. We approach or recede from this goal just in proportion to the exertion we make to attain it. Each has obstacles to overcome that lie only in the path of his own life. We often see those around us stumble and fall in their career, because they misunderstand themselves and their surroundings; yet, in spite of this warning, we fall over similar obstacles and make similar mistakes. To have a plan in life, to know our own abilities and failures is a great thing, for human nature is callous to its faults and blind to its failures.

There are two classes of persons that gain a knowledge of themselves. One of these recognizes their faults and attempt to correct them, while the other recognizes their faults, yet hide behind the mask of hypocrisy. The first class is raising, the second tearing down and destroying the standard of morality. Because there is a class of persons who abuse this power, it does not prove that it is not useful in enabling us to approach the true ideal of manhood.

It is said that "man in a great degree makes his own future." An obscuring curtain is drawn before the coming events of life. It is impossible for us to penetrate the intervening veil and see the course that lies for us to take, but a conjecture may be formed of

what life will be by knowing our ability to shape the circumstances that mould it.

Youth is drifting toward a time when habits, either for good or ill, will be comparatively fixed. A knowledge of self enables one to form perfect habits by giving him an idea of his imperfections.

The different occupations of the world constitute a great plan of human activity. Each has his part to play and position to fill on the stage of life. To be able to make an analysis of our own lives aids greatly in determining this position. It is well for a person to understand the natural bent of his mind. As this is an age of singleness of aim, much valuable time would be saved, many bitter disappointments and utter failures avoided if each person understood his fitness for the position he intends to occupy. We constantly see many persons that make utter failures in the profession they have chosen. These failures would have been avoided if, before making their choice, they had understood their own tastes, talents, and the circumstances that unfit them for the positions.

A consciousness of power comes with a knowledge of self. Newton, confident of the exactness of his reasoning, demonstrated the law of gravitation, Watt gave the world the steam engine, Morse the telegraph, and Bell the telephone. The student, by realizing what he is and what he may do, is spurred on to greater exertion. By this power scientists form hypotheses and demonstrate laws, politicians control governments, and architects plan structures that receive universal admiration.

There are some men who have lived and died without a knowledge of their power, while others have fully realized it during lifetime. Shakespeare seemed unconscious of his power. Milton had a high opinion of his abilities. Gibbon knew the greatness of his work, and considered he had given a history to the world which would immortalize his name.

The power of reflection is given to human beings, distinct from the brute creation. Childhood has no thought of self, but, when the age of discretion is reached, we then make an analysis of our character. At this age we take a retrospective view of life, from memory's storehouse recall many instances of success and failure. By coupling these together we gain a knowledge of self. We learn of ourselves best by studying our own experiences. Shakespeare says: "Tis said best men are moulded of their faults."

Another important way of gaining a knowledge of ourselves is by studying the lives of others. We measure ourselves by some person that represents our idea of perfection, or see in others points of perfection we do not find in our own characters. "To know another is to know ourselves."

Biography teaches us how other men have lived, and the vicissitudes of their lives; art and science spread before us their abundant stores; nature reveals her beauties, and experience teaches her bitter lessons. During innocent childhood, happy youth, earnest manhood, and reflective old age man is continually learning of himself from each of these sources.

Dr. McCosh of Princeton is credited with taking the grounds that athletic exercises ought not to be encouraged in our colleges. He calculates that eight or ten out of every one hundred students, in colleges where they have an athletic association, lose much of the benefits of their course by having their hearts set too much on such sports and neglecting their studies. This would seem to indicate that athletic sports are not regarded with as much favor by all College presidents as is bestowed on them by President Porter of Yale.

Wisconsin University has had added to it an experimental station, with Prof. Henry at its head. May Michigan do likewise.

SCIENTIFIC.

From Harvard.

L. H. BAILEY, JR.

Each scientific department of Harvard University is an isolated and independent school for the instruction of a few students and for the accomplishment of scientific work. There are over one hundred elective courses open to students of the university, and the scientific departments, or at least the biological courses, receive probably less than an average of their presumed share of the students. Perhaps half of these students are specials, who, having graduated from other colleges or having received elementary instruction elsewhere, are applying themselves to some special channel of investigation. These students are given the use of laboratories, apparatus, and specimens, and they work at their leisure, coming and going as they please. No recitations are required of them, and they often receive but an occasional aid from the professor or tutor in charge. Much of the laboratory work is intrusted to assistants, who are often temporarily employed, but who deem the advantages and prestige offered by Harvard a sufficient recompense for hard work and small pay. These assistants often come to have a local reputation, but are usually unknown until they suddenly take some important position in some other institution, or, as is rarely the case, after long application they are called to some conspicuous place in Harvard itself. A professorship in the University is not always a desirable position for a scientist. There are endless duties to divert the professor's attention, so that it sometimes happens that the assistant finds more time for his own work than does his master. The curators of the museums, a director of a garden or some special department are most usually enviable positions to one who wishes to make the most of himself. These men are paid fair salaries, and most of their time is given to their own specialties. Perhaps a superficial sketch of the work done in the botanical department will be a fair sample of that done in other scientific departments. This department is divided into two parts quite distinct from each other. One is the herbarium, the most extensive in this country, the other the laboratory and lecture-room. The botanic gardens of some seven acres, including a wealth of native and exotic plants, form an auxiliary to both the herbarium and the laboratory. A botanical class receives lectures in the lecture-room twice a week for some months, being taken over a general synopsis of the natural orders of plants, with an especial notice of useful species and occasional glances at knotty points in classification. The members of this elementary class are not noted so much for decorous behavior and close attention as for pocketing the edibles on the professor's sample table when his back is turned. At the end of six months the examination papers of half of them will declare that a flowerless plant is "a plant which has seeds but no leaves." But the few members of the class who take an interest in the study become enthusiasts, and they go to make up the advanced class, which generally does good work.

The herbarium department is a type of one of the most commendable features of Harvard University,—of buildings, specimens, and money given to the furtherance of close scientific work without reference to utility or instruction. The guiding spirit of this department is Dr. Asa Gray, a man now ripe with

years and honors. Dr. Gray's study connects with the library and the herbariums. For several years he has given no instruction. The University regards his name on its catalogue worth \$4,000 a year. Although in his seventy-third year, Dr. Gray is still hard at work. He is trying to complete the "Synoptical Flora of North America," a work begun over forty years ago by Dr. Torrey and himself. For two years he has been at work on the order Compositæ. The volume will go to press this year. Specimens of all species of North American plants are in the herbarium, carefully dried, and mounted on white paper. It is to these specimens that the botanist goes for information. Dried plants are as easily and satisfactorily studied as are fresh specimens, at least for discriminating characters. Dr. Gray gets specimens of all of the species of the genus he may be studying, or, if the genus is too large, of some section of it, lays them on tables before him, and begins to study and compare. "It don't take long to write a book" he says, "if you know what to write." A very few specimens will often hold his attention for a day or two. It is a recondite and laborious work to describe the hundreds of composites and to untangle all the mazes of classification into which they have fallen. He once remarked to the writer, with a sigh, "The weight of years is upon me, but the Compositæ is as young as ever."

Sereno Watson is curator of the herbariums. He is not a professor and could not be induced to become one. During the ten or fifteen years that he has been connected with the University he has earned a high place among scientists. He has published a great work upon the botany of California, one volume of a bibliographical index to North American botany, and ten contributions to North American botany, in which he has described some hundreds of new species of western plants. This work has been the result of his leisure while discharging his regular duties. An illustration of what may be called the intensive method of studying science, the dividing up of work, is afforded in Mr. Watson's studies. He pretends to know nothing of the great order Compositæ, and he once said to the writer, "I do not know a single willow or sedge, and never care to."

The botanic gardens, although not large, are the most extensive in this country. These are under the direction of Professor Goodale, who has charge of the instruction in flowering plants. Their more immediate supervision is intrusted to a certain assistant who also has some work in the herbariums and laboratory. The cultivation of the plants, both in the greenhouses and outside, is intrusted to a gardener. No one but those in charge are allowed to pick flowers in the garden. The greatest value of the garden lies in its use as an educator of the people who visit it, and in the aid it renders teachers and a few students in botany. New species of plants and those little known and understood, are grown primarily for the use of Dr. Gray or Mr. Watson or some one of the assistants until their habits and characters are made known; that done, they become the common property of the gardens.

Elytra of Humbugs.

Elytra are the wing cases of insects. By *Elytra of Humbugs* I mean the concealments and disguises by which humbugs and impositions are covered from the public view.

The Sophomore class in chemical analysis have found pleasure and profit in clipping the elytra of

certain humbugs, and present the following results for the information of the public.

1. "PALESTINE WONDER STONE.—From the perfumed sands in the land of Egypt. This is a tablet of stone emitting an odor as sweet and fragrant as all of the world's perfumes combined. Every stone gives out a perfume so powerful that if placed in a lady's handkerchief or glove box it will keep the contents exquisitely perfumed, or if carried in the pocket it imparts a delightful odor to the whole apparel, outlasting any liquid perfume. Far away from any settlement or human habitation, more than three days' journey from the Pyramids in Egypt, is a wonderful formation of soft rock or sand. It is known to but few travelers, as yet. The region is wild, and dangerous to those not traveling in the caravans. It is the only stone that emits a fragrant perfume that we have any account of. The stone is put up in beautiful gilt boxes, each box being ornamented with a fine French picture. They are priceless relics of a far away land. Each stone is a rare gem. Address M. Young, 173 Greenwich St., New York."

This wonder stone is only a small cake of stucco scented with oil of citronella. They cost $\frac{1}{2}$ a cent; price 10 cents.

2. ROUGH ON RATS.—"Rough on Rats.—Poison. Do not die in the house. Made only by E. S. Wells, Chemist, Jersey City, N. J. Is entirely new, differing from anything before introduced. Traps, arsenic, strychnine, phosphorus, and other pastes and poisons fail to completely clear them out," etc.

This is simply white oxide of arsenic, or old-fashioned "ratsbane," colored with a little lampblack. It is contrary to the law in Michigan to sell this material without distinctly labeling it *arsenic*. Cost of a box $1\frac{1}{2}$ cents; price 25 cents.

3. INSTANTANEOUS HAIR DYE.
Chloride of silver dissolved in ammonia water. Cost 5 cents; price 50 cents.

4. BAZIN'S DEPILATORY POWDER, for removing superfluous hair.

Four-fifths sulphide of calcium and one-fifth red sulphide of arsenic. (Realgar.) Cost 10 cents; price 50 cents.

5. ORIENTAL CHARM, or magical beautifier, by T. Felix Gourand, New York.

One ounce calomel in eight ounces of water. Cost 10 cents; price \$1.50.

6. CREAM OF ROSES, by H. C. Foreman, Chicago, Ill.
One ounce carbonate of lead in six ounces perfumed water, with a small vial of red ink. Cost 10 cents; price 75 cents.

7. CHAMPLIN'S LIQUID PEARL.
Half-ounce of oxychloride of bismuth in four ounces perfumed water. Cost 12 cents; price 50 cents.

8. CAMILLE'S SNOW DROP.
Chalk and carbonate of Bismuth. Cost 5 cents; price 25 cents.

9. MRS ALLEN'S HAIR RESTORER.
One ounce precipitated sulphur suspended in rose water. Cost 10 cents; price \$1.50.

10. A NEW DEPARTURE, or \$1.25 for 39 cents, by J. D. Henry, Buffalo, N. Y.

Five small packages (of about ten grains each) of aniline colors. Cost $\frac{1}{2}$ cent; price 39 cents.

11. DYKE'S BEARD ELIXIR, from U. B. & N. Co., Palatine, Ill.
One quarter ounce of flowers of sulphur, a few grains of borax, a few grains of powdered cardamom seeds and cinnamon bark, and a small quantity of coloring matter. Cost one cent; price 25 cents.

Last but not least,
12. THE FRENCH PURE GOLDEN SYRUP.—French process of making pure syrup from sugar: Granulated sugar makes Stewart's Drops or Thurber's Pearl, brown or New Orleans sugar makes New Orleans molasses, and the intervening shades of sugar will make a syrup, the quality of which will be in exact proportion to the quality of sugar used. The quantities given are those suitable for family use. Taking the granulated sugar, 4 lbs. make a gallon of very thick syrup, the flavor of which is unsurpassed. Our New Orleans sugar, $5\frac{1}{2}$ to 6 lbs. make a gallon.

General Directions, Rule. Put in a kettle (perfectly clean) one pint and a half of water, 4 lbs. of sugar, one teaspoonful of pulverized alum. Place on the fire; boil three minutes (minutes to be counted from time it commences to boil). While boiling, a scum arises, which should be taken off with a spoon or ladle. As soon as the three minutes are up, take off the fire, and strain syrup while hot through a cotton or linen cloth into a perfectly clean dish or pan. When cool it is ready for use. Parties wishing to make large quantities must double up on the ingredients in the same proportion.

For Maple Syrup. Use one quart of water for 4 lbs. of maple sugar, one teaspoonful of alum. Then proceed as in *General Directions*.
For Gums for the Liquor Trade. Use one-half teaspoonful of alum to 10 lbs. of sugar, one pint and a half of water. Proceed as in *General Directions*. This makes a plain gum. Flavor to suit.

For Canning and Preserving Fruits. Make same as gums. Then use pound for pound of syrup, instead of the usual rule of pound for pound of sugar.

For Soda Water Syrups. Take $\frac{1}{2}$ of a teaspoonful of alum to 3 lbs. of sugar, one pint and a half of water. Proceed as in *General Directions*. Flavor to suit.

For all other Uses.—*Druggist's Syrup, Mineral Waters, etc., etc.* Use the *General Directions*, reducing the proportions of alum and sugar in exact ratio if the syrup is needed thinner than the rule makes it. (Signed,) Finley, Grant & Co.

Particular Notice. The French Pure Golden Syrup Process is secured to us by the International Patent and Copyright Laws—all persons who are in any way found infringing on our rights will be dealt with as the law directs. Finley, Grant & Co., Atlanta, Ga.

In regard to the above I quote the old newspaper heading, "important if true."

The following letter stirred me up to new diligence in laying this discovery before the public:

DEAR SIR,—Test process carefully as directed on enclosed formula, and you will make better and finer syrup than you ever saw offered for sale and *absolutely* pure. Please test at your earliest convenience and let us know the result. Respectfully,
Finley, Grant & Co.

I have tested the process by the formula and find the following results: The syrup would have been absolutely pure if I had not put in the alum; but the alum remains in the syrup as a very objectionable impurity. Its presence is shown by the taste, and very distinctly by chemical tests. This alum will be the cause of dyspepsia and bowel complaints to any who freely use the syrup. The alum is no benefit, but an absolute injury to the syrup.

The statement that "4 lbs. of granulated sugar will make a gallon of very thick syrup" is very wide of the mark, as I find by trial it will make less than two quarts of thick syrup. It takes 9 lbs. of granulated sugar to make a gallon of syrup, and if the sugar is very moist it will take 10 lbs. No dosing with alum will bring 4 lbs. of sugar up to a gallon of very thick syrup.—*Prof. Kedzie.*

Kerosene as an Insecticide.

The ravages of insects are already alarming, and yet not a year passes but some new enemy claims our attention by its serious onslaught on our fruits, vegetables, and grains. It is given to man to subdue and conquer the earth, and there can be very little doubt but that he has the power to successfully combat even the worst of our insect foes. All that he needs is knowledge to direct as to kind of weapons, and skill to use.

A good insecticide must be effectual, harmless to the plants, and should be non-poisonous to the higher animals. Pyrethrum, which is referred to in another column, meets two of these requirements, but the first, perhaps the most important, is not always satisfied. We find that many beetles and most bugs are entirely indifferent to its use.

We have long used kerosene with marked success on plant lice and some other insects. We formed an emulsion by use of soft soap thus: To one gallon of water a quart of soft soap was added, and all heated to the boiling point; then the vessel holding the liquid was removed from the fire and a pint of kerosene well stirred in. This forms an emulsion, which can be further diluted with water.

In 1880, Prof. W. S. Barnard suggested milk either sweet or sour as the emulsifying agent.

Recently one of our students, Mr. R. J. Coryell has been experimenting with a compound of sour milk and kerosene. Mr. Coryell finds that while mixed in equal proportions it injures the foliage of some plants, if mixed in the proportion of one to five it did no injury to the several plants, shrubs, and trees to which he applied it. Mr. Coryell applied this compound to foliage and twigs attacked by plant lice, and to various slugs, and found that even as dilute as one of

kerosene to ten of milk it killed the lice in every instance, and all slugs that were touched.

The writer has tried experiments similar to those of Mr. Coryell, and found that basswood foliage was blighted by the kerosene and milk emulsion when used in the proportion of one of the oil to three of the milk. The same mixture turned on to squashes killed the vines and also the squash bugs, and striped beetles. The mixture when in proportion of one of the oil to five of the milk killed no plant to which it was applied, when put on with a fine rose, by use of the fountain pump, and did kill the yellow pond lily beetle, several kinds of plant lice, the squash bugs, striped beetles, grape flea, beetle larvæ, etc.

Prof. S. A. Forbes has used kerosene oil with success in killing the chinch bug. Bugs cannot be killed by applying poisons to the plants, as these insects do not eat the plant but pierce through and suck the juices. Neither does pyrethrum destroy them. From the experiments already tried, which need to be extended, we believe that we can use kerosene and milk in such proportions as to be harmless to nearly all plants, and yet destroy several if not nearly all of our worst insect pests.

In using this substance we would urge all to first experiment on a small scale, to determine the proper proportions, as plants vary very much in their power to resist the injurious action of kerosene.

Yellows in the Peach.

If we except New Jersey and Delaware, no State is so greatly interested in peaches culture as is Michigan; therefore, any investigation of that most fatal malady of the peach, "The Yellows," especially if carried on by scientists, is of great interest to us.

Prof. D. P. Penhallow, of McGill University, Montreal, and late of the Houghton Farm Experiment Station, has just issued a pamphlet upon this subject, which is interesting and suggestive, and if the conclusions are sustained will be of immense service to our people.

After giving the characteristics of the disease, which must be very familiar to every horticulturist of Michigan, he points out the results of his own and Dr. C. A. Gøssmann's investigations as follows:

1. An excess of lime and want of potash in the diseased wood and bark.
2. Deficiency of chlorine.
3. Loose cellular structure in the bark, and dense wood with small cells.
4. Excessive storage of carbo-hydrate in the cortical layer.
5. The presence of calcium oxalate in large quantities.

The author sums up a discussion of the subject as follows:

"In reviewing these various considerations, the conviction becomes more firmly impressed upon us that while the growth of fungoid parasites, the operation of insects, and the effect of atmospheric conditions may, and undoubtedly do, exert an important influence on the production of disease, the yellows can not be ascribed primarily to these causes, *but finds its origin in conditions of special soil exhaustion.* And that a rational course of treatment will be directed toward supplying the wants here manifested."

In confirmation of these conclusions it is asserted that Dr. Gøssmann treated diseased trees with a phosphatic fertilizer in connection with muriate of potash. The trees so treated were restored to a condition of

health, and have borne fruit which brought the highest market price.

If these trees really had the genuine yellows, and if the treatment they received really caused the recovery then truly this is a matter of great importance. Surely our alumni of the "Peach Belt," and all others interested should prove at once the truth or error of these statements, that if well founded all may hasten to restore or rejuvenate the famous or once famous peach orchards of our Lake Michigan coast.

If chlorine and potash are wanting, and thus the vegetable tissues are starved, as both analysis and experiment are said to prove, then surely the peach grower will hasten to feed liberally of these elements, that our tables may once more abound in this most luscious and health-giving fruit.

Diffusion of Arsenic.

Last winter Dr. Kedzie was employed as an expert witness in the Matthew Millard murder trial. The prosecution in that case claimed that because arsenic was found in the liver and kidneys, therefore the deceased was poisoned. The defense claimed that arsenic was injected into the alimentary canal after death, and had passed to the adjacent viscera.

Dr. Kedzie showed, by a convincing experiment before the court, that arsenic would pass the whole length of a test tube through solid gelatine.

Dr. Kedzie, in a very interesting address before the Natural History Society in May last, stated this case, and showed how this mistake in works on toxicology might lead to the conviction of the innocent.

At the close of the meeting Mr. Fred J. Hodges discussed with the writer the possibility and desirability of making a cat umpire in this discussion. The next morning Mr. Hodges secured the cat, and after killing it injected the alimentary canal at both extremities with arsenic. He then gave it respectful burial. After a lapse of thirty-one days this victim to scientific research was disinterred, and the liver and kidneys were subjected to careful chemical analysis. In both of these organs Mr. Hodges found the poison.

No taxidermist or person acquainted with the preparation and preservation of anatomical specimens could doubt this property of arsenical compounds, especially those as soluble as white arsenic. In cases of embalming, the embalming material is only injected into the great cavities, when they soon spread to all adjacent organs and tissues. The experiments of Dr. Kedzie and Mr. Hodges referred to above have made the matter so sure that we can hardly conceive how the average jurymen can fail to comprehend and act upon the truth in any future trial for murder like the one of Matthew Millard.

OUR COLLEGE AND THE FARMER.—Why is it that our College has grown so rapidly in popular favor? Ten years ago it was defamed everywhere among our farmers, and for the College bill to come up in the Legislature was generally hailed as the signal for a hard battle. Now friendly words come from almost every farm, and our appropriations pass without a word in opposition.

A close observer at the recent State Horticultural Meeting at Ionia could readily detect the tree on which much of this fruit grew. Eight college graduates read papers or took part in the discussions. Three of the professors read papers, and two undergraduates presented the results of observations and experiments in the application of science to horticult-

ure, which were received and very justly with marked favor.

Nearly all these articles from the College were scientific, and yet of great practical importance. Thus while our students are popularizing the College in the best possible manner, by practically demonstrating its value, they are also scattering scientific information among the agriculturists of the State.

It is rare to look through any number of our current agricultural literature without seeing an article from some graduate of our College, which is the result of actual observation or experiment in the line of applied science.

MARINE ANIMALS LOCALIZED.—It is well known that Terrestrial animals are generally to be found in special localities. The warblers and the wood thrush prefer the dense forests, while the robins and meadow larks flit over the open fields. We go to land regions for tiger beetles, while certain butterflies, like the *Neonymphas*, are only to be found in the thicket and wood lot. Some times we can see a reason for these peculiarities of distribution, while at other times they are wholly inexplicable. From recent reports of the United States Fish Commission we find the same laws hold true in the distribution of the Ocean fauna. The Challenger in its celebrated explorations off our coast found the regions barren. Many others up to 1880 investigated the same regions with a like result. They failed to "strike a lead." In 1880 Prof. Alexander Agassiz dredged across the gulf stream off the Carolinas, in water from shallow to 1,682 fathoms deep, and obtained a rich reward for his labors. The dredging apparatus, which was very superior, came up loaded to repletion with animal forms, many very rare, many wholly unknown before. Since the place to drop the line has been found others have been equally successful. We see that when we go angling, we not only must have a good hook well baited but we must know where to drop it.

ECONOMIC ENTOMOLOGY has made a great advance of late. "Farm Insects," by Mrs. Mary Treat, though too small and incomplete to be made wholly satisfactory, will be a welcome assistant to the farmer and gardener, who greatly need all possible help to successfully battle against the ever increasing hords of noxious insects. The numerous admirable cuts, mostly from the pencil of Dr. C. V. Riley, add very much to the value of the work. A larger and more pretentious work entitled "Insects Injurious to Fruits" is just issued by Lippincott & Co., Philadelphia. It is by Prof. Wm. Saunders of Ontario, the able editor of the *Canadian Entomologist*, who is also a specialist in fruit growing. The work is very valuable, and will be hailed with joy by all pomologists. The descriptions are brief but clear and concise, and the admirable illustrations, which are as numerous as the insects described, would almost always make the identification of any particular enemy certain, even were there no description. Many would have been better pleased had there been a little of classification, but the work was evidently planned with an eye single to the practical man.

NON PLACENTAL ANIMALS.—Mr. Henry F. Osborn, of Princeton, has in recent investigations added much to our knowledge of the fetal organs of the Marsupial animals. He not only finds as pointed out by Owen that the Charion is entirely bald or devoid of villi, but he shows that the vitelline circulation, the

vessels from the yolk sack, are continued into a vascular enlargement which answers to the placenta. The union of the vessels is very simple and rudimentary.

THE COLLEGE SPECULUM.

Published Quarterly, on the 1st of August, October, April, and June,

BY THE STUDENTS

— OF —

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LANSING, MICH., AUGUST 1, 1883.

WITH THIS ISSUE THE SPECULUM enters upon the third year of its publication. As it was started so has it been maintained—a high toned periodical, free from vulgar personalities and buffoon jokes, and filled with some of the best essays the College affords, scientific notes and discussions, personal items, and College news. During the coming year few changes will be made; the various societies will be represented in each number as during the past year; we hope also to give a synopsis of the most important articles read before the Natural History Society; and as Prof. Cook has charge of SCIENCE we expect to make THE SPECULUM as interesting as it has been in the past. To its subscribers we would say, if a paper conducted in this way and without the idea of pecuniary profit meet your approval, we hope to receive your continued and encouraging support.

IT IS WITH many misgivings that the present corps of editors accept the task of collecting and arranging matter for THE SPECULUM. With our complete inexperience in work of this character, and the fact that the paper has earned for itself the confidence and support of nearly all who are or have been connected with this College, and is recognized wherever it has found its way as a first class college journal, we are doubly doubtful of our ability to properly continue the work. We shall labor faithfully, however, if not well, and if aught is done derogatory to the interests of THE SPECULUM we hope to receive correction and encouragement from any one who is willing to offer it. The editors of our paper labor not for their own interests, but for the good of the College and the welfare of its students. The paper was established by and for the

students, and we believe should reflect the students' feelings and ideas; hence we hope to be found ever ready to champion the truth, quick to discern wrongs, and, above all, never letting cringing hypocrisy prevent adverse criticism being dealt when and where it is due.

Personally, we warmly request any one who has any thing of scientific or practical interest to say, to send it to us; it would cost you little trouble and materially aid in keeping up interest in THE SPECULUM.

If you are an alumnus you certainly must have observed something of interest to you since leaving your *Alma Mater*, and what has interested you may interest others. Personal items are especially desirable. If you know the whereabouts of a fellow student, the information would be thankfully received by the proper editor.

It should seem that a paper of this kind fills a place none other can. It brings anew to the mind of the graduate the scenes of his college days, and makes him live them over again. His sympathy for the College is kept alive; he becomes informed of the changes that must from time to time ensue; he can note the advancement made in various directions, the wrongs righted and the rights wronged.

The many interesting things regarding science and agriculture to be found in its numbers ought to make it of importance and practical value to all who are or wish to be well informed. Though edited and controlled by "College boys," we believe it will be found always free from the boyish phrases generally found in such papers, and that the most sedate may find in its columns matter that will furnish food for thought. Those who have had the pleasure of perusing these columns, we feel assured would be doing all concerned a kindness by frequently handing a copy to a neighbor or friend, thus increasing the knowledge of the worthiness of this College and its SPECULUM.

THE MANAGERS of THE SPECULUM receive numerous letters expressing dissatisfaction at its management, sometimes in impolite phraseology, because the correspondents do not get their papers regularly. We suppose there are cases in which we are blamable; we are not infallible, but if the writers will see that we are informed of any change in address we guarantee the numbers will reach the proper destination in due time. Each number is mailed to your address as it stands on our books; if it does not reach you the fault must certainly not be here.

THE MOTTO of '83, "Deeds, not words," is to be thoroughly exemplified by the members of that class. They will put up and have in working order at commencement a fine fountain. We understand it is to be 8 ft., 4 in. high, with a basin 20 ft. in diameter, and is to cost two hundred and twenty-five dollars. The pressure and supply of water is to be furnished from a tank of 300 barrels' capacity, to be constructed in the tower of Williams' Hall. The President of the class, Mr. D. C. Holliday, Jr., will formally present it to the

College at two o'clock P. M., August 13th. President Abbot will accept it in behalf of the College.

This move on the part of the present graduating class is in accordance with the precedent established by the class of ten years ago, which placed the large boulder on the lawn to the northeast of College Hall. As a class monument the fountain will be a most beautiful thing and, withal, an extremely appropriate gift to our College. This action of '83 indicates the love and respect its members have for their Alma Mater, and that in the years to come she will hold an unusual spot in each one's heart.

THE PRACTICE of hazing at colleges is an exponent of the barbarity still inherent in human nature. It was sincerely hoped the practice would be discontinued by the last second-year class, but the hoping was all in vain. Soon after the freshmen had settled down to the routine of college life, and had become acquainted with many members of other classes, they were surprised and mortified one night by receiving, individually, a most thorough ducking. Transoms were broken, and through the apertures squirt-guns manufactured from old gas pipe, buckets, etc., cast deluging quantities of water upon the unsuspecting inmates of the room, quite ruining carpets, pictures, books, etc. We understand one member was placed under a pump and thoroughly drenched, because he evinced a retaliatory spirit. Arrests were made and trials had, but conviction was quite impossible.

If the present class about to begin its second year were to omit this heathenish practice, its members would merit the warmest regard of all connected with the college, and show themselves to be, in a true sense, gentlemen. They ought to weigh this well, and not let the desire for revenge overcome the sense of right and duty.

CHIEF AMONG the new and interesting things of the College is the Botanic Garden. When the project was first started, it no doubt was looked upon as a small affair, and of no great importance, but under the fostering care of Dr. Beal it has become one of those objects to which the visitor at the College naturally turns for instruction and entertainment. To the student in botany it is a perfect treasure. There may be found many of our native flowering perennial herbs, mingled with those from other climes. Plants, water and upland abound—the leguminosæ, rosaceæ, ranunculaceæ, labiateæ, berberidaceæ, solanaceæ, liliaceæ, etc., etc. families, and near by the filices, sarraceniaceæ, nymphæaceæ, naiadaceæ, cyperaceæ, etc. About 700 species of flowering plants are there for study and comparison. A neatly painted label of locust wood gives the scientific and common name of each plant, and in some cases the place whence it came.

The garden is situated on the flat just west of the greenhouse. Native trees and shrubs along the bank have been carefully preserved and trimmed. The

bank itself in some places has been transformed into a rockery. Various stone steps lead winding down to the irregular beds below, where artificial ponds, the brook, and curved paths serve as boundaries. Rustic seats in beautiful, shady places, the rivulets, ponds, flower plats, banks, and bogs tend to make this, we repeat, a very agreeable spot. Let the good work go on; there is plenty of room for increase in size.

THE AVERAGE student fails to comprehend what great principle was upheld in the action of our Faculty in a recent case here. Mr. Williams of '85, finding that he could not attend college after this term, desired to make the best of his stay here, and take studies not with the regular sophomore class. The Faculty very forcibly sat down upon the idea, denying Mr. W. the privilege of listening, even as a visitor, to the lectures he desired to hear. If this rule is to be rigidly adhered to it ought to be well known by all who intend to come here. The result in this particular case was to materially lessen the school days of him to whom the maleficent rule is applied, as he immediately left college.

The above receives the following reply:

Tennyson has said: "The individual withers but the race is more and more." For instance a student asks permission of the Faculty to take advanced studies for which he is unfitted, as veterinary or entomology, before he has studied anatomy or physiology. Circumstances may make it better for the student to do this even though he fail to gain the most good, because of this lack of preparation to pursue such studies to the best advantage. But grant the privilege once, and a rule is established, when freshmen and sophomores will select studies for which they are in no wise prepared. Many have, at times, done just this thing, and preferred requests to the Faculty which of course had to be refused. To let a student enter a class simply as a visitor, which in some cases would work no wrong to the student, would, as will readily be understood, open the doors to even greater dangers and abuses. Such pseudo privileges would wrong the students, tangle up our courses in a hopeless manner, and do great harm to the College as a whole. The Faculty must legislate for the whole, not for any one. Students may misjudge, not knowing all the facts, or not weighing the full effects of any course or action.

THE MAJORITY of colleges have had their commencements, so that we can look over the field and note whatever of importance attracts our attention. Soon another class will leave us. Twenty nine young men are about to receive the coveted B. S. We believe they merit it, and understand fully that it is not a diploma, but hard, continuous labor that wins success in life.

It used to be the popular belief that a college graduate is exceedingly egotistical, so that his four years at college had resulted in giving him the opinion that whatsoever avocation he should condescend to follow he would at once adorn and reap from it the rewards of complete success. This idea of the graduate it seems is rapidly giving way, because he himself in word and deed has shown to the world that he has been misjudged. In some cases the old idea is no doubt quite true, but the majority of college-bred men

are so very sensible that they appreciate the fact that they have only acquired the a, b, c of knowledge—a few facts and many general principles—in fact have just learned how to learn. The question with them is not “what calling shall I illuminate,” but “in what life-work am I best fitted to enter.”

Speaking in a general way of graduates the New York Tribune of June 13 says:

“It is a common belief, especially among graduates of ten or a dozen years' standing, that the younger generation is much inferior to former ones; that the colleges no longer turn out men of such force as ten or a dozen years ago. Those forceful graduates go back to their colleges and are pained by the youthful aspect of the students there, and are surprised that their parents allow them to go to college at so immature an age. This is an amiable delusion, born of an inability to realize the fact that the disturbed graduates are themselves growing old. The boys in college nowadays are no younger than their predecessors were, and they are about the same sort of boys, too. In many respects we are bound to say they are the superiors of their predecessors. They conduct themselves more like gentlemen, except on rare occasions. They do less “hazing,” and they do not do nearly so much drinking. Within the past ten or fifteen years the character of college students has visibly improved. There is less rowdyism, less dissipation, and more studying. There is an abundance of boyish fun and a saving amount of boyish foolishness, but what of that? Nobody wants a boy to be as wise as a man; certainly no sensible father wants to see his boy so prematurely sedate that he can't make a good deal of noise on occasion, and can't bear his part in uproarious, wholesome, manly fun. If some stern critics of our college boys could have their way what an army of prigs we should have turned loose upon us at every commencement!”

IT IS PUBLICLY said and really put forward as an advertising feature of this institution that the young men attending here labor faithfully and well, and that the work done is educational to them. The first of these statements must appear false even from the records from which it ought to have been taken. If it is so why are so many docked? It should seem that a practical farmer would consider a laborer poor indeed who couldn't earn eighty cents a day and board himself. And is the work educational as it ought to be? There are students here who understand farming quite well, but upon inquiry it will be found that they are farmer's boys, or have worked on farms before coming here. It may be said that if a graduate of this College, without other practical training in farming, were to engage in that business he would find himself sadly in need of a good deal of practical information. He would not necessarily know a landside from a moldboard, nor a coulter from a double shovel. It might be wagered safely that he couldn't oil and put together a double harness properly. He wouldn't even know at which end to begin to harness his team. It would be quite impossible for him to strike out a land and so manipulate as to finish with a single furrow. Indeed he wouldn't know what “striking out a land” means. A few get the necessary training in stock feeding, teaming, etc., but these are usually pets for whom the average student has little regard. A few weeks ago there were some sheep to be sheared, but instead of making it a

lesson to several, the force was canvassed to find boys *who could shear well*.

If it is found that a student can perform one kind of labor better than others, as mowing with a scythe, he is kept at that until he becomes disgusted with it and consequently shirks. Generally a student is sent to do a certain thing and left to his own resources to find out how to do it. Viewing impartially it seems the departments are run with the object of making them as nearly self-supporting as possible, without regard to students' interests, which it is maintained is not the object of the institution.

The catalogue states that six hours in each month will be spent by the juniors without pay in learning how to manipulate in horticulture—the only statement leaning toward true educational labor in the whole course. But have these classes received the full amount of even this slight instruction?

Another objection is that to labor three hours each afternoon takes the whole half day from study, because by the time one walks from the farther field to his room, washes himself, and changes his clothes, he finds that a great part of the two hours allotted to the library are gone. Above all if he labors as those in charge seem to think he should he will be too tired to do aught but rest. The students' time is now all calendered for study and labor with little time for play, which, with Young America, won't work; hence we see him using the time during which he could be in the library, or ought to be at his studies, in playing at various games. This obliges him to get his lessons by lamp light, or rather makes him cram up for next day's recitations which are forgotten the succeeding day. The result is that unless he have a wonderful memory he obtains a very meagre knowledge of the subject matter. How many Sophomores receive definite and lasting knowledge of elementary chemistry? How many Freshmen can talk intelligently on botany six months after passing it? How many Juniors retain definite knowledge of mechanics? Occasionally a student is found who is quite thoroughly conversant with some scientific subject, but it is because he was extraordinarily enthusiastic on that particular one. We protest that young men come here to study the sciences, and that they can get more practical knowledge, and more money in the same time, from labor at home, or with some experienced farmer, than they can here. We believe in a system of labor here, but one that the student will think educational to him as well as a drudgery; or rather, we believe in two such systems—one educational and compulsory, the other remunerative and elective.

Indications show dissatisfaction on the part of many of our students in regard to the labor system. The above is a brief outline of some of the causes that lead to such discontent. While we are pained to know that students are not in hearty sympathy with the system, yet we feel it our duty to present the fact. The various heads of departments are making changes that may remedy the evil; we hope so at least,

and have called attention to the feeling that exists, hoping a cure may be found.

WE TAKE pleasure in calling attention to the interesting article from L. H. Bailey, '82. It is expected that in succeeding numbers we shall have other similar papers from those of our graduates that are connected with other colleges and universities east and west.

COLLEGE NEWS.

Notes from the Natural History Society.

At the meeting held June 8, Dr. Kedzie read a paper on MICHIGAN BROMINE, in which he said that bromine was discovered 57 years ago by Balard. Since then it has been found in many places, and has come into great industrial and medical importance. Sixteen years ago the Dr. discovered bromine in the bitters of Saginaw brine, and published an account of it in the Detroit Tribune. In this article he said there was bromine enough in these bitters to supply the country. He made a small bottle of the bromine and exhibited it at the State Fair.

Dr. Kedzie lately visited Midland, where they have a factory with a capacity to manufacture 500 pounds daily. The bromine is stored in 6½ pound bottles with glass stoppers, and sells at wholesale for 33 cents a pound. The first the Dr. ever bought was an ounce bottle costing \$1.50.

J. R. Shelton read a paper on GRASSES, stating that not less than 1-6 of all the plants on the earth belong to the grass family. There are 230 different genera and 3,000 species now known to botanists, and more being constantly found. The first to flower here is the *Poa annua*, perfect specimens of which are from one inch to one foot in height. The *Anthoxanthum odoratum* or Sweet Vernal Grass, is remarkable for its delicate and lasting odor, and is much used to put in chests with clothes to perfume them. It is also used by Indians in ornamental work. The *Alopecurus pratensis* or Meadow Fox Tail is a native of Europe, where it is used for early feed. None of these grasses are of practical importance to the Michigan farmer.

L. G. Carpenter spoke of MICHIGAN AMONG ASTRONOMERS, AND MEANS OF TRANSMITTING ASTRONOMICAL INTELLIGENCE.

To have this union, rapid and accurate communication is essential. Astronomers have met the need by adopting a code by which complex numerical data can be telegraphed in few words with no chance of error. All discoveries are telegraphed to Harvard, and thence to any person or institution willing to pay for transmission. Previously observers worked independently, now small portions of the heavens are assigned to different persons to be examined at least once a month. Four men in the United States devote their time entirely to comet seeking.

In Mr. Badeock's article on PYRETHRUM we learned that Pyrethrum is one of our most valuable insecticides. It is obtained from the flower of a plant native to Asia, but now grown profitably in California. It is bought as a powder, and is applied the same as Paris green. It has the advantage of being harmless to plants or animals. It destroys insects only as it comes in contact with them, externally, at or soon after application. It will not kill eggs, protected pupæ, hairy caterpillars, spiders, or domestic. It has been very successfully applied to the currant and rose saw flies by Mr. Badeock at the College.

From Prof. Johnson's article on ENSILAGE IN ENGLAND, we learned that the silo is receiving much attention of late by English agriculturists, and is fast growing in favor. There are many reasons why this method of curing fodder should be extensively adopted. The green fodder can often be secured when it would be impossible to cure it in the field. The same number of acres can be secured at a much less expense; it is stored in a much smaller space, and is devoured with avidity at all times. The chemical changes that take place in the silo do not lessen the value of the food but rather improve it. The per cent of albuminoids is sensibly increased, and the woody fiber rendered more easily digestible than when cured in the sun. Those who most heartily favor the silo are those who have given it the most thorough trial.

Under the head of OBSERVATIONS Mr. Howe gave the result of his experiments with mosquitoes. He found that female mosquitoes, the only kind that bite, are from 60 per cent to 160 per cent heavier after taking a good square meal. Prof. Cook had observed the insects this season were about three weeks earlier than common, and are very numerous, which is probably due to

a less number of parasites than usual; also that he had noticed honey bees working on the lilac this year for the first time, and that these bees were Assyrians.

Mr. Dart also exhibited a monstrosity in peach blossoms. Several were shown which he took from a tree in Lansing in which there were neither stamens nor pistils, but a large number of petals, making the flowers appear much like small roses.

At the meeting July 13, Dr. Beal spoke of TUBERCLES ON THE ROOTS OF LEGUMINOSÆ. Several specimens were shown by him containing large numbers of these little root balls. They are frequently found in large numbers on the roots of peas, beans, and clover. On examination these tubercles are found to contain a large proportion of starch and protoplasm. The tubercles are spherical in shape and often measure the eighth of an inch in diameter. The Dr. thinks these little balls to be stores of food laid up by the plant to be used when other sources are cut off, as in the case of a drought.

GALERUCELLA SAGITTARIE was the subject of Mr. Parks' paper. The *Galerucella Sagittariæ* is the name of a small striped beetle working on the yellow water lilies in the Botanic Garden. Single leaves are found on which the insect is found in all its transformations, from the egg to the full fledged imago. The beetle is about one-fourth of an inch in length, and is of a brown color striped with yellow, and feeds upon the parenchyma of the leaf, as does also the larvæ. The eggs are laid in June; in eight days the larvæ hatch. When they attain one-third of an inch in length they pupate, and in about five days after, the imago appears. This insect may be destroyed by an emulsion consisting of five parts of sour milk to one of kerosene oil. Mr. Parks' article was admirably illustrated by drawings upon the blackboard.

Mr. A. C. Redding presented a NEW THEORY OF EARTHQUAKES. The theory assumes the Earth to have been formerly a molten mass, which on cooling, formed an external crust. In the process of cooling the heated interior contracted, while the external crust remained firm; hence a space filled with gas intervenes between these two portions. The cooling goes on irregularly, causing large cracks on the inner surface of the crust, in consequence of which large masses of earth become disengaged and fall into the fluid mass below, causing the shocks known as earthquakes directly over these places. It causes an undulatory jar, accompanied with a rumbling sound in all directions. Mr. Redding also applied this theory to explain various phenomena connected with volcanic actions.

Mr. Frank Kedzie exhibited a number of negatives and photographs of microscopic objects, such as the mouth parts of a fly, the foot of a fly, the head of a bedbug, the joint in the oar of a water beetle, etc., which he had photographed. The instrument with which he photographed these objects was also shown and explained. The first essential is a powerful light which he got by the use of a magic lantern. The image of the object to be taken is then passed through a powerful microscope focused upon a dry plate where the impression is taken. The time required for an impression varies from two and a half to five minutes. Mr. Kedzie thinks by the use of a calcium light he will be able to throw the image on a screen. This process will be exceedingly valuable as a means of procuring complete and accurate representations of microscopic objects.

Dr. Kedzie read an article on DIFFUSION OF ARSENIC AFTER DEATH, and Mr. Coryell spoke of EXPERIMENTS WITH INSECTICIDES. These subjects are considered in the Scientific Department.

Commencement Aug. 14th.

The graduating class numbers 29.

A metallic roof is being laid on the Chemical Laboratory.

The studies of the entire senior year are now made elective.

Miss Mamie Abbot graduated from a select school in Detroit last month.

The corn on the farm promises very well indeed, considering the poor season.

The club rooms will be calcimined and painted before the beginning of next term.

The Senior class banquet will be held in the Botanical Laboratory at the close of this term.

Hon. Jno. Story, of South Rockwood, Mich., lately purchased a Short-Horn calf of the College.

The class of '83 will immortalize their names by placing upon the College lawns a nice fountain.

The range from the old dining hall was recently sold to the Canada Agricultural College for \$400.

Mrs. M. J. C. Merrill, B. S., '81, has entered on her duties as Librarian. The library is now open from 8 to 12 A. M., and from 4 to 6 P. M.

The lane on the farm is now passable to the railroad, a distance of about one mile from the cattle barns.

Professor Johnson was at Columbus, Ohio, July 4 and 5, to attend the Association of the Teachers of Agriculture.

The music at the senior class exercises and at commencement will be furnished by the Eight O'clock Club of Lansing.

The lectures in horticulture and landscape gardening are now delivered by our new Professor of Horticulture, Jas. Satterlee.

The class of '84 voted at a recent meeting to hold their next class-day exercises at Detroit during the week of the State fair.

The Farm department has lately purchased a new roller drill, a riding cultivator, a Buckeye mower, and many small tools for students' use.

The flock of Merinos on the farm, comprising seventy head, twenty of which are yearlings, averaged nine and one-half pounds of wool this season.

The 4th passed very quietly at the College this year. The principal diversion was that of pitching quoits. Professors Harrower and Grange took the cake.

The old library room is being converted into a very pleasant and convenient class-room, where Professor Johnson will take delight in lecturing to the students on agricultural topics.

A complete set of standard weights and measures has been presented to the College by the Government. They will be placed in the Chemical Laboratory under the care of Dr. Kedzie.

"There is a light in the window for me." At least the unwary bugs seem to think the lights are intended for them, and the junior meets them at the window with a most hearty welcome.

The present flourishing condition of the Green-house and grounds connected with it, in spite of the continued heavy rains and cold nights, reflect much credit upon our present florist, Mr. Knapper.

Professor Cyrus G. Baldwin, teacher of Latin in Ripon College, Wisconsin, was for several days the guest of his brother-in-law, Prof. A. J. Cook. He occupied the pulpit in the College chapel, July 15th.

Does it not speak well for the College that its appropriation bill of \$51,089 passed the Legislature with only four dissenting votes in the House, and one in the Senate, and with little or no discussion?

The election of stewards for next term has resulted in the choice of E. S. Antisdale for club "A," C. P. Gillett club "B," A. C. Hinebaugh club "C," C. C. Lillie club "D," and A. W. Page club "E."

Hon. Edwin Willets of Adrian has been engaged to lecture before the College literary societies at the close of this term. This is the first attempt of the kind made by the societies, and we think it is a step in the right direction.

The Short-Horn bull Third Grand Baron was lately sold from the College herd to Hon. John T. Rich, of Lapeer. This bull was purchased two years ago, of C. Hills of Delaware, Ontario, and stood at the head of the herd until he was sold.

The basement of the Chemical Laboratory is to receive a floor. Two of the rooms will be used for quantitative analysis, one for chemical balances, and one for general supplies. In consequence of these changes Dr. Kedzie's nitrogen experiments will have to be suspended for the present.

The College Museum has just received a rich acquisition in the academic series of casts, from Prof. Ward's establishment, Rochester, New York. This collection is secured for about seven hundred and fifty dollars, and will add materially to the interest and value of our short course in Geology.

The students at the College never seemed healthier or better contented with their condition than at present. Is it not because they can follow the scriptural injunction "Eat whatsoever things are set before you," and at the close of the term pay their board bills, feeling that they have had the worth of their money?

The wheat on the farm is somewhat rusted; otherwise it looks well. The Clawson and Egyptian varieties seem to be least affected. The oats and grasses are also looking very well. The experimental plots have been damaged by the heavy rains, but have sufficiently matured to determine their value. The Oat grass and English Blue grass seem to promise especially well this season.

The last number of the Speculum suggested that the bridge over Cedar river should be repaired. The bridge has finally been repaired as a matter of necessity rather than of safety. While the College herd was passing over the bridge one evening last month, the drover, Mr. Brown, and ten head of cattle were suddenly precipitated into about eight feet of water. Fortunately no harm was done to the live stock. Mr. Brown, who could not swim, managed to reach the shore by clinging to a floating plank.

There has been an almost unprecedented rain-fall at the College since May 1. The rain-fall in inches is as follows:—For May, 5.66 inches, June, 11.35, July, to the 23d, 9.55, making a total of 26.56 inches in two and two-thirds months. This is over three-fourths of the average yearly rain-fall, which is 31.34 inches.

Dr. Beal will go to Minneapolis the fore part of August to deliver an address before the Association for the Advancement of Agricultural Science. The Dr. is chairman of the section of Biology in the American Association for the Advancement of Science, which meets at the same place, and will deliver an address.

President G. T. Fairchild, of the Kansas Ag'l College, spent a portion of his summer vacation at this College. The seniors remember Pres. Fairchild as their much esteemed professor of rhetoric and English Literature during their first year here. He delivered a very interesting address on "Incentives to Young Men," in the College Chapel, Sunday evening, July 16th.

The contract for building the new boiler-house has been let for \$4,925. The building is to be 37 by 100 feet, and the chimney 65 feet high. The bricks for this building and the house for the Professor of Horticulture are being manufactured on the grounds. The clay is taken from the knoll just north of the Observatory, and is of excellent quality.

On the 13th of last June the State Board of Agriculture, together with the executive committees of the State Agricultural Society, State Horticultural Society, and State Grange met at the College in response to a previous invitation. All recitations were suspended from 11 to 12, and the students met in the chapel where they were favored with several short addresses from members of the different societies. The editor of the Michigan Farmer, Mr. R. Gibbons, was also present, and on the morning following made a few very interesting and suggestive remarks to the senior class in agriculture.

Extensive preparations have been made this summer to secure the College buildings against damage by fire. A Worthington pump will be put in the boiler-house having a capacity of 1,000,000 gallons a day. The water is to be drawn from the river and forced into a 300 bbl. tank in Williams Hall, at an elevation of 80 feet. From the tank water will be drawn to extinguish fire, sprinkle lawns, supply the fountain, and to be used for general purposes about the buildings. There are to be seven hydrants, so placed that water from two can be turned on each of the main buildings. There will also be hose attachments in each ward.

The College nine did not lose their enthusiasm when their captain, Mr. Vance, broke his leg last vacation. Since then several games have been played, in which much skill has been manifested by the students. A company of students assisted the East Planes nine against the St. Johns, at Pewamo, the 4th, where they did excellent work. By far the most interesting game of the season took place on the College ball-grounds, July 13, between the first nine of Lansing and the College nine; the College being challenged by the Lansings. The game was witnessed by nearly all the students and professors of the College, and a large number from Lansing. The students would have done much better had not their catcher, Mr. Sage, disabled one hand the first inning. Dr. Kedzie dressed the wound and Mr. Sage returned and took active part in the game, missing only one inning. After his return his excellent one hand batting and catching caused loud and frequent cheering from the crowd. He made one three base hit. Result of the game, 11 to 12 in favor of the Lansing Club.

COLLEGES.

Five of the Hillsdale College faculty resign.

Chicago University graduated a class of five.

President James of Texas Agricultural College has resigned.

Harvard graduated a class of 210, the largest in the history of the College.

Dr. Richard S. Stone delivered the commencement address at Union college.

The Princeton Art School has received a \$60,000 endowment from Mr. F. Marguand.

President Seelye of Amherst college has refused the presidency of the University of Minnesota.

Prof. Adams, University of Michigan, has been tendered the presidency of the University of Nebraska.

A Choctaw Indian who graduated this year at Roanoke College delivered his graduating oration in his native tongue.

The recently erected building of the Harvard Medical School has been damaged by fire to the amount of fifteen thousand dollars.

The president of Johns Hopkins University receives a salary of \$10,000. The salaries of the professors range from \$2,000 to \$8,000.

The University of Cambridge, England, will confer the degree of Doctor of Laws on Professor Goodwin of Harvard at the June convocation.

Dartmouth, Cornell, University of Virginia, University of California, and University of Michigan have united with nine other American Colleges in support of the American school at Athens.

The corner-stone of the new building of the University of Vermont was laid June 26, and a statue of Lafayette was also unveiled. Judge Jameson of Chicago delivered the oration at the unveiling of the statue.

Professor Sylvester, who fills the chair of mathematics at Johns Hopkins University in Baltimore, is mentioned in London journals as the probable successor of the late Professor Henry Stephen Smith at Oxford University.

Hon. Charles Francis Adams, in his address at the Harvard commencement, strongly argued against the study of Greek in schools and colleges, stating that the time might be more profitably spent in the study of Latin, German, and French.

Graduating week at Vassar College did not pass off pleasantly, there being a difficulty between the faculty and the class as to the manner of awarding the prizes. As a result of a protest by the graduates, the faculty punished the class by prohibiting the delivery of the valedictory and salutatory addresses.

The trustees of Columbia College have arranged a four years' course of study for women, for which a strict preparatory examination will be required, and no girl under seventeen will be admitted. Those who pass the examination may study where and how they please, and will be examined by the college teachers as often as may be necessary. Upon a satisfactory examination at the end of the four years, or upon the completion of any prescribed course, the student will receive a certificate which will be substantially the equivalent of a diploma granted to a graduate of the college.

The authorities of Cornell university have hired a prominent politician to present the protection side of the tariff question to the students at that institution, their regular professor in Political Economy being, as is usually the case, in favor of free trade. The alumni of Williams College have sent in a petition asking that the same fairness be shown the students of Williams. This is a step in the right direction; and if the instruction given to students in Political Economy in all our colleges was a little less one-sided, Dixwell would not be obliged to circulate so many of his pamphlets favoring protection.

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.

Cyrus Crandall, '80, is studying at Adrian.
 James Miller of '78 is now farming in Lansing.
 Draper, '81, is a dentist at Big Harbor, Dakota.
 H. S. Hampton, '76, is farming at Albion, Idaho.
 Charles Goodwin, '75, has daughter number two.
 Charles Garfield, '70, has been taking a tour East.
 H. C. Sessions, '67, is a banker at Groton, Dakota.
 Jno. S. Tibbitts, once with '63, is traveling in California.
 Senator Farr, '70, has been on a fishing tour in Vermont.
 Will Bahlke, '83, will take charge of the Pewamo schools.
 Blodgett, once '83, is clerk in Davis's drug store, Lansing.
 Seth W. Smith, once with '66, is a wealthy farmer at Selma, Ohio.
 Prof. C. L. Ingersoll, '74, is visiting friends in Oakland Co., Mich.
 Charles Sturges, '75, is county treasurer of St. Joseph county, Mich.
 J. S. Pardee, '78, is a physician at New Troy, Mich. He is married.
 J. A. Briggs, '79, is at Los Angeles, Cal. His health is improving.
 Will Smith, once with '83, graduated at Portland high school this year.
 Rev. A. B. Peebles, '77, goes to Utah as missionary to the Mormons.

Archy McNaughton, once with '81, took first prize at a recent rifle match.

W. F. Ross, once with '84, is in the Portland Observer office, Portland, Mich.

Arther Jones, '81, goes to Portland, Oregon, to establish himself as a lawyer.

H. L. Rosenberry is practicing medicine at Maloga, Ohio, and is very successful.

Miss Clara Hinckly, once with '84, is a successful teacher in the Lansing schools.

H. L. Benschoter, once with '84, graduated at the Portland high school this year.

Charles McCurdy, '81, and John R. Shelton, '82, are taking a post-graduate course.

Le Vant Strong, once with '83, is now working on his father's farm at Vicksburg, Mich.

E. E. Spalding, once with '82, was married June 26 to Miss Fannie J. Freeman of Lyons.

Albert Bahlke, once with '83, has become cashier of a newly made bank at Pewamo, Mich.

F. H. Lyman, once with '84, has accepted a place as book agent for a Pennsylvania firm.

O. P. Gulley, '79, is still on his father's farm at Dearborn. Orrin is a very successful farmer.

James A. Porter, '77, is editor of the Rocky Mountain Rural, a weekly published at Denver, Col.

Herbert Bamber, '81, will, for six months, be on the Wabash river surveying for the government.

Henry Halsted, '71, is a physician and druggist at Morrice, Mich. He is doing a large business.

Prof. Will Tracy, Ed. Tracy, S. P. Tracy, and E. O. Ladd are all at Detroit in D. M. Ferry's seed garden.

Lewis Gibson, '64, who has been teaching at Pewamo, will take charge of the Lyons schools in the fall.

Prof. Latta, '77, receives great praise at Purdue University for his work there as Professor of Agriculture.

John T. Mathews, '83, is to be assistant in the Portland schools, of which Charles Beemis, '74, is principal.

The wife of A. N. Prentiss, '61, Professor of Botany at Cornell, graduated in the last class at Cornell with honors.

S. Upton, '81, was at the College last June. He has gone East to engage in sketching on wood for magazines.

Oscar Clute, '62, sold recently \$1,150 worth of bees, and has 80 colonies left. He also had a large crop of honey.

Joseph A. Horton, '76, who was reported as blind, has perfect use of one eye. He is studying telegraphy at Fowlerville.

Davenport, '74, is working a farm of 200 acres at Woodland. He says to all readers of the SPECULUM, "come and see us."

John Bush, who was called away on account of the illness of his brother Charles has returned, and will graduate with the class of '84.

C. C. Georgeson, '78, has resigned his professorship at Texas Agricultural College, and has gone to his farm in northern Texas.

David Howell, here in '63, is superintendent of the city schools, Lansing, and Milton Marble, once of '84, is principal of the high school.

Byron D. Halsted, '71, is one of the board of examiners for the schools of the city of Passaic, N. J. This honorable office is without pay.

Mrs. R. F. Kedzie is spending the summer at the College. Mrs. Kedzie is Professor of Domestic Economy at the Kansas Agricultural College.

H. G. Wells, ex-president of the State Board of Agriculture, and now chief Judge in the Alabama court claims, is spending the summer at Mackinaw.

Charles H. Osband, once with class of '81, was married June 12 to Miss Mille Stocking of Lansing. Mr. Osband is clerk in the Lansing National Bank.

O. E. Angstman, '75, visited the College with his wife this summer. He had an important case in the supreme court. Ex-Gov. Blair was his opponent.

Adams Bagley, '61, is farming at Big Beaver. He has three boys big enough to milk, and a girl that will graduate in the Birmingham school in one year.

Charles E. Thorn, a student in '66, visited the College July 9. He has for the last few years been manager of the farm at the Ohio State University. He is now associate editor of the Farm and Fireside, Springfield, Ohio, a semi-monthly paper of wide circulation.

E. Gregory, '78, has been teaching for three years at Milan. He is spending his vacation in Ann Arbor, reading English history and studying French and German.

Prof. Grimm, the newly appointed Professor of Agriculture at the Oregon Agricultural College, has been studying here for the last year. He will leave soon for that place.

Richard H. Gulley, '78, went to Mississippi in June to visit his brother Frank, but returned during the hot weather. Prof. Frank Gulley will spend his vacation in the North.

Boyd Skelton, here in '70, has a ranch of one thousand acres near Denver, Col., and is rearing Norman-Percheron horses. He also has interest in some mines at Carbonate, Col.

Richard Price, once with '79, has been at St. Francis and Assumption Colleges since leaving here. At present he is at his home in Lansing, and will study law this coming winter.

During the years '82 and '83 the degree of Master of Science was conferred on Samuel M. Tracy, '68, William C. Latta, '77, Frank S. Kedzie, '77, C. C. Georgeson, '78, James Troop, '78.

L. V. Beebe, '61, is in the Penn. Mutual Life Insurance Company of Philadelphia. He has a wife and three children,—two little girls, aged fourteen and twelve, and a boy five years old.

Capt. F. L. Barker, '70, is a civil engineer, and has been sent to Niagara to assist in surveying for the new suspension bridge that the Michigan Central intend to put across the river at that point.

Dr. J. Groner, '74, is at Big Rapids. He wrote an article, Germs in Disease, which was read at a sanitary convention at Reed City, also published in the June number of the Physician and Surgeon, Ann Arbor, Mich.

J. W. Higbee, '74, was married at Chicago last March to Mlle. Blanche A. Son of Paris, France. They go to Walla Walla, Washington Territory. Mr. Higbee is a civil engineer there, and also owns some land in Washington Territory.

L. A. Hurlburt, '67, is spending the summer in Bismark, Dakota, looking after his large real estate interests there. He has probably made \$40,000 on account of rapid increase in the value of property since the location of the capital at that place. He will return to his home in Florida in the fall.

Frank Benton, '79, is now located at Georgen Str. 4, Munich, Germany, where he is engaged in shipping Queens of all varieties and races to various parts of the world. He has recently sent a large shipment of Carniolans, Cyprians, and Syrians to this country. Mr. Benton is also continuing his studies in philology in the great University of Munich.

Ed. S. Jewett, here in '59, went into the army for four years, and was at Port Royal, also at the bombardment of Charleston. He passed through the war without serious injury, and settled at Niles, Mich., where he acted as postmaster, but catching the western fever he bought a farm of 955 acres at Emporia, Kansas, and is raising cattle. He has a wife and two children.

The Lake Superior Sentinel, published at L'Anse, says of George A. Royce, class of '75, who delivered a 4th of July oration there: "As an orator Mr. Royce has few equals, and on this occasion his delivery was very eloquent and forceable. It was the finest 4th of July oration ever delivered in L'Anse, if we are to judge from all we hear in praise of it."

Lewes Vanderbilt is in the lumber business, at present furnishing timber and lumber for the Northern Pacific R. R. His address is Bozeman, Montana. He says of the locality there, that it is a poor farming country, being too cool, subject to hail and snow storms, and that they are somewhat troubled with grasshoppers on account of long, dry seasons; but for stock raising it has superior advantages, streams of pure water are in abundance near the mountains, but away from the ranges the water is likely to be alkaline.

Jno. P. Finley, '73, is to be appointed a lieutenant. The examination required in the signal corps for the rank of lieutenant is very severe, lasting six days, and embraces the subjects astronomy, geometry, trigonometry, surveying, algebra (advanced), special use of logarithms, hydrodynamics, hydrostatics, heat, light, sound, electricity, magnetism, mechanics, history, geography, constitution of United States, international law, and military tactics. There were twenty sergeants on the list to be examined; only four passed. Mr. Finley spent some time in Michigan after his examination.

The Hon. Oscar Palmer, chairman of the last House committee on the Agricultural College, claims to be the first graduate of the College. He came here unacquainted with farm work. Being sent to the field with the oxen to pull stumps, the oxen would "gee" when he wanted to go "haw." Picking up a board, he applied it with vigor to them, and they, like sensible brutes, ran away. His next work was to sow turnip seed. In this act he gained for the College a lasting reputation, that of sowing a peck of turnip seed to the acre. This short experience satisfied

him that the farm was not the place for him. Leaving the College, he graduated at the Georgetown Medical College, D. C. Notwithstanding his short experience at the College, Mr. Palmer made an excellent chairman.

EXCHANGES.

As we sit down to look over the pile of exchanges on our table, and try to put up what is technically termed an "exchange column," we are impressed with the idea that College journalism is in no danger of dying out. The papers come from the various institutions filled with good, readable articles, and not a few of them have extended accounts of the class day and commencement exercises which occurred at the institutions in which they are published. In the last numbers of many may be found the pathetic leave-takings of the old board of editors, and their introduction of the new board to journalistic life.

The marking system as practiced in our colleges is receiving considerable attention from the college press, and many of the papers have literary articles or editorials on that subject. In the June number of the *Pennsylvania Western* we notice an article on this subject in which the faults of the present system are discussed. After presenting the facts of the case, the author closes with the following pertinent remarks: "But now, with all these facts, and many more which have been set over against the marking system, if it were to be abolished what would be substituted in its place? I see the disease, but no absolute remedy." Many others have advanced their views antagonistic to the system, but so far there has been no satisfactory alternative produced. The *University Mirror*, in an editorial on the same subject, claims that it greatly promotes the cause of "ponying." This is a question that interests every college student and without doubt has its many faults, but until some other plan is brought forward that proves to be more fair and successful the old system will have to stand.

One of our most valuable exchanges for the past year has been *The Michigan Argonaut*, published at the University. The literary articles in the last number seem to be of rather a light nature, a little too light it seems to us for a college paper to publish. The fifteen editors have filled the other departments with interesting items. We clip the following from an editorial in which the writer moralized on College life. College life is ever one grand panorama of successively changing mental visions. A young man hardly becomes a decent freshman until he is shoved by the logic of events into the position of a sophomore, and he feels new and different emotions. So it is through the whole of his College course, until before he can realize the fact he is pushed out into the cold and heartless world. Is it not thus in real life? As he leaves College, and at last comes to know that his school life is over forever, the student half surmises that the world is in many respects the same as the life he has been leading, and he therefore leaves with the most intense realization of the brevity of human life and the futility of human exertion.

In looking over *The Purdue* we discover an Agricultural department, which we believe is the only paper that supports such a thing. *The Purdue* is put up in a very neat and tasteful manner, and does credit to the institution at which it is published. In an article on College Journalism the writer, after giving a very concise history, closes with the following excellent paragraph: Although there are many hindrances to college journalism, yet it has a moral and an elevating influence. One drawback is that there is not enough time put on the preparation of articles. Every Faculty intends that the prescribed course of study shall monopolize the student's time, and, unless there is a special provision for editorial work, it must be done under the pressure of regular work. Under these conditions, either the studies or the editorial work must suffer. A year's work on the college paper is as much benefit to a student as a single branch of study, and some institutions recognize it as such. In spite of hindrances, the character of the institution is certain to show in its paper. The tone of the college paper is correlative with the character of the students; it reflects the moral and intellectual life of under-graduates, and reveals the pulse of college opinion. The young man in searching for a school to suit his taste can find no truer recommendation of any school than a volume of its fortnightly or monthly paper. It shows the college in a better light than all the catalogues or private letters of professors.

Mr. J. C. Field, of Lansing, has been teaching a class in vocal music at the College this term. It hardly seems necessary for the seniors to go away from the College for their music, but it is with the singer as with the prophet, "He is not without honor save in his own country."

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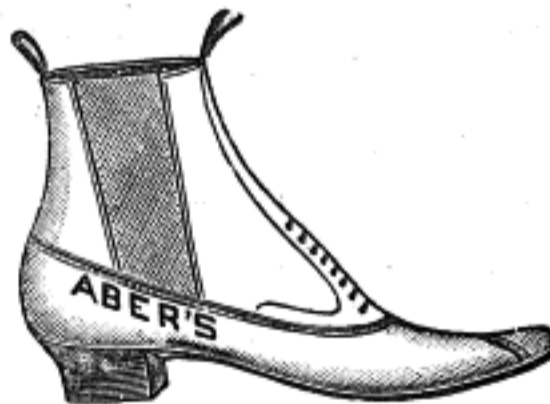
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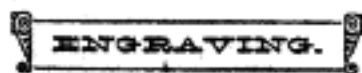
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