

THE SPECULUM.

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WHOLE No. 42.

Prof. Anderson's Inaugural as President of the Shakespeare Club.

As everything done in a Shakespeare Club must, of course, be fitted with an appropriate quotation from the master, I have nothing to do by way of introduction but to repeat to you the words spoken by a dancer in the epilogue to our play of Henry IV. "First my fear, then my courtesy, last my speech. My fear is your displeasure, my courtesy my duty, and my speech to beg your pardons. If you look for a good speech now, you undo me; for what I have to say is of mine own making, and what indeed I should say will, I doubt, prove mine own marring."

That is, I think, an admirable regulation of the French Academy, which requires each new member to make his inaugural a eulogy of the departed immortal whose place he takes; and I am sure that you will pardon me to-night, if, in imitation of this practice, I say a few words in grateful recognition of the services of President MacEwan.

In the language of the Israelitish proverb, "Let not him that girdeth on his harness boast himself as he that putteth it off." If the president who put off his harness a few short weeks ago were only here to-night he might be justified in boasting of this pleasant circle that grew up under his able leadership, and of this pleasant place that he prepared for your entertainment. In my all-too-brief intercourse with President MacEwan I learned to appreciate his stirring activity, his earnestness of purpose, his manly fearlessness, his unguarded frankness of expression, his devotion to English literature, his delightful sallies of wit, his oddly original and humorous way of looking at what seem to others like misfortunes. All these

qualities made him exceptionally useful as a leader in the study of Shakespeare. To paraphrase Antony's language:

"Here was a *leader*, when comes such another?"

I am no president as MacEwan is, but as you know me all, a plain, blunt man that love my friend.

I have often thought, however, that the best way to do honor to a good man, and especially to a good teacher, is not to spend our time in idle repining for his loss, but to show by our actions that he has been able by his precepts and his example to inspire us to do better work, and so, in a measure, at least, to fill his place now that he has gone. The greater the loss, the more effort must be put forth to make it up. The departed hero may have been a better fighter than any one of us, but let us close up the ranks bravely, and turn an unwavering and unbroken front toward the hostile ranks of ignorance and Philistinism. And the first stronghold from which to drive ignorance and Philistinism is, I take it, our own breasts. Who of us, if he made a clean breast of it, would not have to disclose some ignorance of Shakespeare's meaning in occasional passages even of this play? Who of us is able to look at the characters here depicted in the broad, charitable, and sympathetic way of the myriad-minded man? Shakespeare offers us the richest mine of intellectual gold that we can find in any language. Anyone can pick up the golden nuggets that lie on the surface, but if we want to get the full good of our bonanza, we must dig deeper, we must bring up those ponderous quartz-crushers, the Shakespearian commentators. Let us to the work, each armed with pick and shovel.

What Should be the Future Land Policy of the United States?

J. A. WHITE, UNION LITERARY SOCIETY.

The question is a momentous one to every citizen of the Republic. The land policy to be pursued by our government in the future will not only affect the present, but will be of vital importance to succeeding generations. The evils existing in many European countries are largely due to their systems of land tenure. That the policy of the government in the past regarding the public domain was not as it should have been will be admitted by all when we consider what effect the continuance of such a policy would have on our future welfare. One has but to glance at the last census returns to become convinced that one of the worst foreign elements among us is European landlordism. That concomitant of poverty among the masses is already deep rooted and thriving in our soil.

From various sources since its establishment the general government came into possession of vast tracts of land. After making allowance for swamp lands and Indian reservations there was left over one billion acres of arable lands. This should have been reserved and guarded with a jealous care for the use of the present and coming generations. This amount of land would have been sufficient to supply, for centuries to come, that portion of our population which would naturally engage in farming. But how much of this land is at present left for settlement? The records of the land office show but very little. What has caused this waste of the people's heritage? And may they not justly demand of their law-makers such measures as will reserve to their posterity what is not necessary for present actual wants?

Since the year 1850 congress gave to railroad corporations over two hundred million acres of land, an area more than five times as large as the State of Michigan.

This land was given, it is true, for the laudable purpose of promoting internal improvement; but one wonders that the statesmen of those times, versed in the science of government and social economy as many of them undoubtedly were, did not foresee the evils to come from disposing of such vast areas, thereby opening to speculators and foreign landlords the opportunity to become possessed of immense estates. A careful consideration would have enabled them to see in Europe the evil effects of the accumulation of large tracts of land by single individuals; that it acts as a serious menace to republican government. Surely a money subsidy paid to the roads would have been more economical.

But this is not the worst; there has been acquired and improved by thirty non-resident aliens alone within the past half century an area equal in extent to the lower peninsula of Michigan. This land was purchased by these foreigners with the intention of establishing in free America the same accursed system that, in the British Islands, has reared the elegant palace and within its shadow erected a hundred hovels of misery. Resident landlords are little less to be dreaded than foreign ones. Four men in this country at present own landed estates larger in extent than the three southern New England States. In addition to this we learn from the last census that of the increase in the number of farms in the United States from 1870 to 1880 those of one hundred acres or less increased only eight per cent, while those above one thousand acres increased eight hundred per cent. The same census shows that there were then considerably more than a million tenant farmers in this country. Ireland in the most glorious days of landlordism had not two-thirds that number. This serves to illustrate the tendency of the past land policy of this country.

The American people have for many years been engaged in a mad race for wealth, and foreigners coming to our shores have

caught the same spirit and have made it the one object of their ambition. This has perhaps worked more good than evil in the past, while it could be done without working much injury to anyone; but there will come a time, and it is not far distant, when this desire to acquire great wealth must cease from the fact that it will be impossible to gratify it in a legitimate way. Land, the main source of speculative wealth, is rapidly being taken up. The child of to-day will live to see the time when every acre of arable land in the United States will command a price from fifty dollars upward. The time is rapidly approaching when the entire tillable area of the country will be under cultivation. The history of European land tenure shows us that the countries in which the cultivator owns the soil he tills are the most prosperous and the people the most contented. Other countries having the tenant system prosper, if they prosper at all, at the expense of a part of their citizens. No government, if we judge by the past, has an unlimited lease of existence if one class of its people thrives while another class degenerates.

"Ill fares the land, to hastening ills a prey,
Where wealth accumulates and men decay."

It is agreed by the leading political economists that an ideal system of land tenure is that in which every man owns the land he cultivates, having control of no more than, by proper care, he can till successfully and well. If such a system as this has been tried and found to be the best, might not our legislators enact laws gradually looking toward that end? Various theories have been proposed advocating an equitable solution of this question. Socialism offers its uncertain plan, and the chimerical scheme of nationalization has been advanced and both have many supporters. Neither has the favorable sanction of history, and common sense seems to be against both. The only way out of the difficulty is through a movement in congress. A law should be enacted limiting the amount of land that can be taken up by any one person to one hundred and sixty acres. Aliens

should be prevented from acquiring title to real estate of any kind. No more land should be given to corporations for any purpose whatever. If it becomes necessary for the government to aid any enterprise that will be a public benefit, let that aid be given in money. All unearned grants should be declared forfeited and reserved for actual settlers.

A nation's wealth lies in its soil. The hum of machinery is heard only after the field, the forest, the mine have yielded their treasures. Agriculture furnishes by far the largest portion of the wealth of the country. These facts are worth taking into consideration in formulating our future land policy. Let us hope that our legislators will solve this land question in the near future and in such a manner as will insure to our country a continuation of the prosperity that it has enjoyed in the past.

Washington Irving.

WM. ENDERS, PHI DELTA THETA FRATERNITY.

There is a beauty about the fame and character of Washington Irving that makes us contemplate them with an ever-increasing delight. Few men have such a personal identification with their literary composition, or have combined with admiration of their genius that welcome into the purest affections of their readers. The repetition of that name never becomes tiresome. No caprice of fashion tempts us to put it aside in favor of some new idol.

Irving began his career almost with the beginning of the present century. The first indications of his rich vein of humor appeared in the "Jonathan Oldstyle Letters" published in the *Morning Chronicle* in 1802. His health at this time being somewhat impaired, he spent a few years traveling in Europe. Shortly after his return to this country he wrote the charming papers in "Salmagundi," which at once established his reputation as a shrewd observer of

society, a graphic delineator of manners, and a moral teacher whose quaint humor kindly tempered the bitterness of his wit. It was not, however, until the appearance of "Knickerbocker" that his unique powers in this direction were displayed, giving that promise of a golden harvest which has been redeemed so many times in his various productions.

With his successive publications a new phase of his intellectual character was displayed, but without any decrease of the admiration which had already stamped him as a favorite. "The Sketch Book," "Bracebridge Hall," and "Tales of a Traveler" revealed a magic felicity of description and pathetic tenderness which gave a more mellow beauty to his composition; while his "Life of Columbus" established his reputation for unrivaled skill in sustaining the continued interest of a narrative.

Between the date of Irving's first publication in "Salmagundi," and that of his last, "Life of Washington," America has produced a literature of her own, and England has renewed her literary youth. In Irving's boyhood America had scarcely half a dozen writers of note. In his old age she could boast of such historians as Bancroft, Prescott and Motley; of such poets as Longfellow and Bryant; of Cooper in fiction; of Emerson, and many other ethical writers. England, also, has not been fruitless. The eighteenth century produced but three great historians; the nineteenth, thrice that number. Byron may not be the greatest poet of the nineteenth century, but he is greater than any the eighteenth produced. In such able hands as those of Sir John Herschel, science has produced a literature of its own.

To have attained the position which Irving has won among such competitors, in an age which forgets as readily as it applauds, is the lot of few. During the half century in which his pen was at work, many bright lights grew dim. His still shines on, and, notwithstanding the many rivals which have

burst upon our view, no one has shown a disposition to extinguish it.

In effect, Irving is already installed upon the shelves as a classic. His smooth, flowing style makes him worthy to be read by every man. Be his theme what it may, whether a "Dutch tea and turnout" or a "Siege of Granada," a "Prairie fire" or a "Yorkshire Christmas dinner," we find the same charming style. It does not extend far; it is not a style for profound subjects. It has, musically speaking, but one set of keys, and can give but little meaning to passages requiring diapason grandeur or trumpet stop. It better expresses ballad music, or, perhaps, even the mellifluous cadences of Bellini, or the gliding graces of Haydn. Therefore it cannot be called a perfect style; but in its proper track it flows on "unhasting, yet unresting, with the musical ripple of a soft murmur."

Irving is peculiarly a "national writer." He has sought his inspiration in the lakes and streams, the hills and valleys of his native land. No poet has succeeded in throwing such a spell of romance around our familiar scenery. By his pen the lordly heights of the Hudson have become classic ground. He has peopled every forest dell with the weird beings of his fancy. Although he loved the beauties of his native land, he scorned that narrowness of exclusive partiality. He gathered that which is precious and beautiful from every country, finding material for his gorgeous pictures in the ancestral glories of England's castles as well as along the banks of his native river.

Irving's moral character commands the admiration of all men. There is something that makes Irving and Scott personally loved by their thousands of readers who know comparatively little about their real personality. It is some quality in what they wrote. Each may define it as he will, but however we may estimate it, there is no way of accounting for Irving's influence without this quality. In his tribute to Irving, the noble Thackeray, who understood well the

real value of mere literary merit, quoted Scott's dying words to Lockhart, "Be a good man, my dear." We know well that the great author of "Henry Esmond," and the great author of "Heart of Mid-Lothian," recognized the necessity of charity, purity, and faith in literature. These are benefices; and judge Irving as you will, his is a beneficent literature. He loved a pure life; he had faith in his fellow-beings; he could sympathize with the lowest and was not subservient to the highest.

The Benefits of Education.

S. K. BOYD, ECLECTIC SOCIETY.

Man has it in his power to make this world a Paradise of tranquil beauty or a fuming hell of discontent and misery. Well had the immortal Shakespeare reasoned when he said:

"Ignorance is the curse of God;
Knowledge the wing wherewith we fly to heaven."

Ignorance and indolence go hand in hand, while learning carries in its acquisition labor and thought.

Learning by study must be won:
'Twas ne'er entailed from son to son.

We see all about us the results of the work of education. How vastly different the people of this, our own lovely land, from the uneducated races of the dark continent. They delight not in peace and harmony, the characteristics of education and refinement; but rejoice in war, cruelty, and confusion. Among them right is trodden beneath the powerful foot of might, and civil liberty is a thing unknown. Why is this vast difference? For the simple reason that education and religion have raised and improved the minds of the people of our country and created a sentiment of equality and freedom; have made it possible that every one who will but make the effort may have that which will raise him above the brute and give him power over his own selfish desires and inclinations. As Webster

has said: "It is only religion and morals and knowledge that can make men respectable and happy under any form of government."

The desire for education becomes more and more general as civilization progresses. The mind of man seeks to rise above the finite and reach out towards the infinite. The trained mind sees in the still night, not only specks of light, but numerous worlds that roll in majestic splendor through the vast realm of space. It has measured them and defined their course in the heavens. Knowledge has enabled man to harness the vapors and compel them to do his will; it has enabled him to bring the lightning from its throne of terror in the sky, to carry his messages over continents and under oceans with a rapidity that is rivaled only by the transmission of light.

Knowledge is power, and those who possess it hold an influence over, and a power to sway, less educated minds than their own. The use of this power for the advancement of mankind will pave the way to peace and prosperity for those to whom its results may descend. It is true, education makes a bad man worse; but its tendency is not to degrade men. If a person is not bad beyond the reach of any influence he will be benefited by education. The influence for good greatly overbalances and holds in check the slight increase of influence for wrong. This is proved by the steady increase of civilization where there is increase of educational advantages.

Education is the first principle of every free government. Monarchs hear its voice and tremble on their despotic thrones. The greatness of ancient Greece was due, not to her splendor and magnificence, not to her vast territory and innumerable strong-holds, but to her wise teachers, her great scholars, and her intelligent statesmen. While the people listened to their teachings she flourished and prospered; and she fell only when her citizens became engrossed in the gayeties and

luxuries of the barbarians and refused to listen to the admonitions of wisdom. What charm would all her ancient greatness hold for us were it not for her classic literature and the great principles and laws of science discovered by her immortal philosophers? They have been handed down through the ages, and form the foundation of the literature and science of our own times.

Wherever civilization reigns, wherever equal right and liberty hold their sway, there you will find education courted and sought. The first work of our Pilgrim fathers on arriving in the New World was to build school-houses and establish churches. The result is a nation which is excelled by no other that the sun shines upon; a land of free schools and colleges; a land of civil and religious liberty; a land where harmony reigns. Our country stands at the head of civilization only because of its great educational advantages. Our institutions are surpassed by those of no other nation. Let us strive to advance and maintain them that we may ever see our nation enrolled first in the records of education, refinement and civilization.

SCIENTIFIC.

Natural History Society.

At the meeting of the Natural History Society on October 18th, Mr. C. B. Waldron reported the results of some interesting experiments made to determine the source of acidity in plants. It is well known that some plants, notably the Indian turnip, are very acid. Dr. Stahl, a German botanist, has advanced the theory that this acidity is due to the presence in the plant of certain crystals, which when eaten penetrate the tongue and gums and produce a burning sensation. Mr. Waldron tested fuchsias, tradescantias, and cacti, and found that while they contained these crystals, they were not acid. He also separated the crystals from an acid plant by filtration and found that

the acidity still remained. He therefore thought that acidity is not caused by the crystals, although it is a noticeable fact that that portion of the plant which contains the most crystals is the most acid.

Mr. Butterfield gave the results of his study of the Brown Rot of plums. This disease is not confined to plums, but attacks cherries, pears and apples. Nor is it confined to the fruit, as it attacks the twigs and leaves as well. The disease is propagated by spores. These are washed or blown from diseased fruit upon unaffected fruit, and under favorable conditions transmit the disease. The fruit, when attacked, becomes brown, then dry and shriveled. The twigs become dark and soft. In order to carefully study the growth of the spores, Mr. Butterfield attempted to cultivate them in water and in pear juice, but found that only those in pear juice fully developed. He found that several mycelia may start from the same spore, but usually only one is developed. It has been asserted that these mycelia can penetrate the fruit, even though the skin is firm and uninjured. To test this, Mr. Butterfield punctured the skin on one side of a plum and sowed some spores upon the injured surface. He also sowed some spores on the uninjured side. The plum became affected with the disease only on the punctured side.

Mr. Niswander reviewed the work of Prof. Forbes of Illinois relating to contagious diseases of insects. In the discussion which followed. Dr. Mayo described various methods of rearing microbes, with especial reference to the isolation of pathogenic varieties.

Dr. Beal gave a short talk on Curly or Birds-eye Maple. This is most abundant in the northern part of the State, especially along the west coast. On good land in this region perhaps one maple in twenty-five may be affected, but on poor land perhaps not more than one in fifty will be affected.

The affected trees can be told from the others only by removing the bark. On doing this the inner bark will be found to be covered by little pits into which fit little conical projections, which are found on the sap-wood. The Indians thought these "eyes" were due to injuries caused by birds, hence the name "Birds-eye Maple." The true cause, however, is not known. Dr. Beal found that at the bottom of each pit is a little yellow spot, which may have something to do with its formation. In addition to hard maple "birds-eyes" are found in red maple, silver maple, beech and hickory. In the latter the conical projections are found on the inner bark, and the pits in the wood.

Mr. Himebaugh gave the results of observations on the variation of leaves of dandelion, after which Mr. G. C. Davis read a paper on the whip-tailed scorpion, and Mr. U. P. Hedrick read the following paper on

PETOSKEY STONES.

In the Devonian strata of rocks is found a rich and beautiful assortment of marine fossils. Wherever this stratum crops out there is almost sure to be numerous specimens of one or another kind of corals. Near Petoskey is a large limestone cliff, an outcropping of this stratum. At different depths in this rock there is a mass of blue clay, imbedded in which are found the corals known as "Petoskey Stones." These corals are found at but few other places in the United States—or for that matter, in the world. A few have been found at places on the Ohio river, and a few more at Iowa City, Iowa, but at no place in such abundance and beauty as at Petoskey. Their proper place is imbedded in the limestone cliffs, but long ages of washing and dashing of waves against the cliffs have torn portions of them away, and cast the corals upon the shore or in the shallow water near the shore, where they lie sparkling and glistening in the clear water, forming not the least attraction of the Petoskey summer resorts.

The stones range from the size of a man's head to that of a walnut, the most common size being that of the fist. They are almost invariably shaped like a "patty pan." The scientific name of the most common coral is *Acervularia Davidsonia*, named from Davidson, a writer on fossils. The upper surface of the *Acervularia Davidsonia* is covered with four, five and six sided cells about a quarter of an inch in diameter. Around each cell is a delicate crenulated wall. In the middle of the cell there seems to be a cylindrical wall, which in reality does not exist. Within this apparent cylinder sinks a pit about an eighth of an inch in depth, with radiating lines running to the outer or six-sided walls. These are the upper edges of vertical radiating plates, which extend the whole depth of the coral mass. The forms are quite beautiful without polishing, still by polishing certain internal shadows are brought out with admirable clearness and beauty. If the stone be split vertically, and one surface polished, you see the entire face covered with delicate lines, giving the polished surface the appearance of finely woven cloth.

Prof. Winchell of the State University, says: "It is quite wonderful to see, by the aid of the microscope, the numerous parasitic creatures which attach themselves to the *Acervularia Davidsonia*. The surface was sometime a whole world. Here a little bivalve shell spreads its rootlets out and makes itself secure. Here are numerous coiled shells of the class worms. Here gathered together in dense masses are little corals consisting of cornet-shaped tubelets. Another coral was beautiful, small and delicate, and so extremely fine that it seemed almost like a spider-web trailing over the surface. In fact one finds an amazing number of variations in whichever part he may examine the stone.

Besides the *Acervularia Davidsonia* there is another fine coral found on the shores of Little Traverse Bay. It is called *Favosites*

Alpenensis. It is shaped like a potato, roundish or oblong, and is covered with small cell-mouths which are nearly circular in outline, but are often angular in shape from mutual crowding. When the stone is split and one surface polished, the tubes which run through it can be seen very clearly.

These two corals are the corals distinctly known as "Petoskey Stones," but the summer tourist finds both in the shops of the lapidarist, and on the beach, many specimens which rival them in beauty but not in abundance. In the shops the stones are ground on rapidly revolving grindstones into many different shapes, such as that of the heart, a book, a paper-weight, a shoe, or are modeled after almost any object the designer may desire. After being ground they are polished by rubbing them rapidly on woolen cloth saturated with oxalic acid. They are then tastily arranged in the show-cases, amid, perhaps, rare and beautiful specimens from all parts of the globe. The stones are now for sale, and the law of adaptation to surroundings is nicely illustrated in the dealer's stony heart as he gives the stones some absurd name and sells them for four or five times their value.

On the beach, arranged by Dame Nature, still they lie, mingled with stones of almost all hues, their beauty brought out all the more by the contrast. In fact it is here that they show the most beauty, either as they lie sparkling and glistening in the clear water or as they are tossed hither and thither by monster waves in which they sparkle only for a second, and then are supplanted by those of more brilliant hue.

Mechanical Club.

The meeting of the Mechanical Club, held October 4, was one of unusual interest. Although young in years, this society is destined to take a place in college affairs parallel with that held by the Natural History

Society. Following is a brief abstract of the program:

Mr. W. Hall read an article on the Brooklyn Bridge. The great task was undertaken to satisfy the demands of New York and Brooklyn for rapid communication. One of the early supporters of the scheme was Mr. William Kingsley. Success is due to the energy and ability of the engineers, John A. Roebling and his son. The paper contained a detailed account of the work of construction.

A paper on Brick Making by Mr. Willis E. Chapman contained the following points: Art of brick-making is forty centuries old; was known to Romans and Egyptians. Uniform sizes were established by Charles I. The methods of manufacture vary in different climates. Machine brick do not equal the hand-made article. The industry must grow as forests are cleared away.

The Diving Bell was the subject of an essay by Mr. E. P. Safford. This is no modern invention, for it was known in principle 350 years ago. Lasiver mentions seeing two Greeks go down into the water in an inverted vessel without getting wet. The principle is very simple. The vessel is constantly supplied with air, and thus the water is excluded. To illustrate: float a lighted candle on the water, cover with a glass cup and force into the water; the candle continues to burn. The early diving bells were very crude—made of wood. They were sent to the surface for fresh air. Later air was sent down in casks. The modern diving bell is an iron box having a constant supply of fresh air pumped to it. Used much in preparing surface for foundations. Operators suffer from increased atmospheric pressure if the bell is lowered rapidly.

Prof. Holdsworth gave an interesting and instructive talk on drawing instruments, with several illustrations. He showed the

relative value of several instruments in most common use. Lieut. Simpson and several others followed with excellent suggestions on the purchase, use and care of instruments.

Mr. Percy Barlow gave a select reading on the method of producing aluminum by means of the electric current.

A paper was read by Mr. J. R. McColl on the Flood-gate explosion at Hell-gate, New York. This dangerous passage was known to the early Dutch sailors, who called it Hurl-gate. The name has suffered transformation into Hell-gate, a more appropriate name from a sailor's point of view. As early as 1848 Congress began to agitate the improvement of this passage. Some minor improvements were made. The great task of removing Flood-rock, which, at its highest point, stands 250 feet above the water, began at a much later date. This rock consists of hornblende gneiss, containing veins of quartz. The section cut, twenty-six feet below low tide, has an area of nine acres. A shaft was sunk near the center of the island, sixty-four feet below low tide. From this excavations were made in all directions, care being taken to follow the contour of the surface. When the work of excavation was completed, 80,166 cubic yards of solid rock, or two-ninths of the entire mass, had been removed. That which remained was a roof from ten to twenty-four feet thick, and 467 pillars fifteen feet square. These were drilled with 13,286 holes to receive the explosives, care being taken that the blasted rock should be in nearly uniform pieces. The explosive used was rack-a-rock, a compound of chlorate of potash and di-nitro-benzole. This was put into cartridges containing six pounds. The paper gave a complete description of the electric arrangements for discharging the explosives. When all was arranged the passages were flooded with water. At 11:14 A. M., October 10, 1885, the little daughter of Chief-Engineer Gen. Newton closed the local current, and

instantly the rock crumbled. The task still remained of removing the broken rock, which required 300,000 pounds of powder—as much as was used in the original explosion. This work of ten years cost the government \$1,000,000, but the benefits derived supersede the great cost.

Mr. C. P. Hulburd gave an interesting talk on Wire and its Insulation. He prefaced his talk by giving a comparison of the amount of wire used in this country and others for electrical purposes. He then spoke of the prominence into which copper wire was coming for telegraph and telephone purposes, giving as the reason its superior conductivity. He then spoke of the methods of measuring, and gave a comparison of the several gauges in use. He spoke of the methods of insulation, illustrating by samples of bare and insulated wire.

We are indebted to Prof. Durand for the following description of

THE NEW DYNAMO.

The dynamo which has been under construction in the Machine Shop during the summer and fall terms, was completed October 21, and has since regularly furnished light for the machine and wood shops.

The general interest which is taken in it will perhaps warrant a somewhat detailed description. It is an incandescent-light dynamo, with a capacity of fifty lamps, requiring fifty volts each. The winding is what is technically termed "shunt." That is, the current developed in the armature flows to one main connection, where it divides into two portions, one of which goes around the field-magnet, thus maintaining the magnetic field, while the other flows through the lamp circuits, raising the carbon filaments to incandescence, and thus furnishing the light. These two portions then unite at the other main connection and thence flow to the armature, thus completing the entire circuit.

The lamps are arranged in five independent circuits, any or all of which may be thrown in or out at the switch board. Two of these circuits light the machine shop, and three the wood shop. A lamp circuit consists of two wires strung along together, or parallel, whence the name usually given to this kind of distribution—"in parallel." Bridging across between these wires are placed the cords carrying the current to the lamps, and at their ends the lamps themselves. By the simple attachment of a little cylinder of wood to the cord, the lamps are readily adjustable to any height; and as each machine is furnished with one, the light may be placed where most needed for the work in hand.

It is a peculiarity of this method of distribution, that in order to have all lamps burn with equal brightness, whether many or few are turned on in a circuit, the difference of potential between the main wires should be constant. This requires the development of a constant electro-motive force in the dynamo. This requires that the product of the strength of the field by the revolutions should remain constant. The engine is usually controlled by a governor, and therefore the revolutions will usually remain constant, or nearly so. Hence the strength of the field must remain constant; and, that this may be so, the same current must always flow through it. But it will be remembered that the current coming from the armature divides into two main branches, one only of which traverses the field coils. This is the current which must remain constant.

Now it is a principle governing the bifurcation of a current that the parts are inversely proportional to the resistances of the two parts of the circuit. Of these two parts the field remains constant, while the other varies with the number of lamps thrown in, and since each lamp furnishes another channel for the passage of the current, it follows that this resistance will be great with a few lamps, and small with many. With few

lamps, then, the lamp resistance will be large, and the total resistance of the double circuit large, and hence the current small. Of this current, however, by the principle above, a large fraction will be sent through the field. We have, then, in this case, going through the field, a large fraction of a small current. With many lamps it would appear in the same way that we should have a smaller fraction of a larger current, and it is easy to show mathematically that in fact the field current will be the same in each case, no matter how many lamps may be turned on or off.

In the above, the resistance of the armature has been omitted. Its presence will cause a very slight departure from the exact rule as developed above, but only slight, and if the armature resistance is small, it will be practically unappreciable. Accordingly, in dynamos of this type, for this among other reasons, the armature resistance is made as small as possible, and in the shop dynamo is about one-fifth of an ohm.

The above will serve in an elementary way to show how it is that with the engine going at a constant speed the dynamo is self-governing, giving the same brilliancy to one light, a dozen, or fifty.

The castings, armature and commutator were obtained in Chicago at a cost of \$180. The cost of the dynamo finished is \$475, the difference representing the value of the work put upon it here. Several changes were made in proportion and design as intended by the dealer, and with apparently good results, since the full electro-motive force is obtained on about 1,800 revolutions per minute and fifty-five pounds wire in the field, instead of 2,000 revolutions and sixty-two pounds, as were called for by the dealer's directions.

The wiring of the buildings, putting up of the lamps, sockets, etc., was all done by the shop force, so that the installation as a whole stands very nearly entire as an example of home industry. Taken altogether, the plant

is a great addition to the shops, besides showing to what practical purposes student-labor, under proper guidance, may be turned.

THE SPECULUM.

PUBLISHED MONTHLY DURING THE COLLEGE YEAR,
BY THE STUDENTS

OF THE MICHIGAN STATE AGRICULTURAL COLLEGE.

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AGRICULTURAL COLLEGE, NOV. 10, 1889.

WE apologize for the many slips in proof-reading that appeared in the October SPECULUM. The truth is, all the Board were not in College at the time, and those who remained were obliged to do double duty, hence, in the necessary hurry, errors were overlooked.

Now that the local oratorical contest is fresh in the minds of the M. A. C. students, it may not be inappropriate to again agitate the scheme of organizing a State Inter-Collegiate Oratorical Association. Organizations of this kind exist in other states. Are the colleges of Michigan any less enterprising than their sister institutions? If they are, no Wolverine will admit it; but if we

would maintain our position among the colleges of the country, this qualification must not be neglected. The good that follows from an intimate connection of the colleges of the state is too apparent to need enumeration.

In the fall of 1887 the students of this college appointed a committee whose duty it was to take steps looking toward the formation of an inter-collegiate oratorical association. The plan was to make the contest a feature of our field-days. Though no satisfactory reason was set forth, the idea seems to have been unfavorably entertained. We are afraid that indifference constituted the chief cause of its rejection. The project is worthy of another consideration, and though it is now too late to make proper arrangements for having such a contest at our next field-day, committees might be appointed, a constitution drafted, and matters put under way for an oratorical contest in the spring of '91. Let us try.

FOR the benefit of those who do not fully understand the difficulties existing in the settlement of the late oratorical contest, we give the following explanation:

The constitution provides that the markings of the judges shall be on the scale of 100. It says further, "The grades of each judge shall be ranked 1, 2, 3, etc. The orator ranked first by four or more judges shall be awarded first honors. If no orator is so ranked first, the orator the sum of whose ranks is least shall receive first honors." We give the markings of the judges, with the ranks and results, as announced on the evening of the contest:

| NAMES. | COMPOSITION. | | | | DELIVERY. | | | | Sum of Ranks. |
|-------------------|--------------|-----------|-----------|--------|------------|-----------|-----------|---------|---------------|
| | 1st Judge. | 2d Judge. | 3d Judge. | Ranks. | 1st Judge. | 2d Judge. | 3d Judge. | Ranks. | |
| Waters | 90 | 75 | 75 | 5 3 6 | 80 | 70 | 92 | 1 2 1 | 18 |
| Babcock | 96 | 85 | 86 | 2 1 3 | 66 | 65 | 77 | 4½ 3½ 4 | 18 |
| Hall | 95 | 61 | 92½ | 3 6 1 | 74 | 65 | 75 | 3 3½ 6 | 22½ |
| Ward | 97 | 65 | 84 | 1 5 4 | 66 | 64 | 79 | 4½ 5 2 | 21½ |
| Butterfield | 91 | 80 | 77½ | 4 2 5 | 76 | 72 | 77 | 2 1 4 | 18 |
| Fox | 89 | 70 | 88 | 6 4 2 | 62 | 53 | 77 | 6 6 4 | 28 |

It will be noticed that whenever a judge has marked two or more tie, these orators have been placed midway between the ranks which the highest and lowest would have occupied had there been no such tie.

On the other hand, it is claimed that when two or more are marked equal by any judge they should both be put in the regular rank together, and all those coming after advanced a rank. We give the rankings and results following from this mode of procedure:

| NAMES. | Composition. | | | Delivery. | | | Sum of Ranks. |
|-------------------|--------------|---|---|-----------|---|---|---------------|
| | RANK. | | | RANK. | | | |
| Waters | 5 | 3 | 6 | 1 | 2 | 1 | 18 |
| Babcock | 2 | 1 | 3 | 4 | 3 | 3 | 16 |
| Hall | 3 | 6 | 1 | 3 | 3 | 4 | 20 |
| Ward | 1 | 5 | 4 | 4 | 4 | 2 | 20 |
| Butterfield | 4 | 2 | 5 | 2 | 1 | 3 | 17 |
| Fox | 6 | 4 | 2 | 5 | 5 | 3 | 25 |

The results differ widely enough.

The proposition is now made to amend the constitution. While we are in favor of changing the manner of marking, we believe that not one of the new schemes is free from objections. It is proposed to ascertain the standing of each orator by taking the sum of his percentages. In providing for two separate sets of judges the intention is that composition and delivery shall have equal weight in determining the best orator. This is as it should be; but when the standing is indicated by the sum of all the percentages, this distinction no longer exists; and, as will be seen by examining the first table, the sum of an orator's percentages might give him first honors, though he be lower than another when composition and delivery are offset, each to each. Would it not be better to rank the sums of the percentages in composition and the sums of the percentages in delivery separately, and then let the sum of each orator's two ranks determine his final position?

IN the *Michigan Farmer* of October 19, appeared an article strongly condemning the College, and especially the president, for the appearance in the *Harrow* of certain saloon advertisements. While the true purpose is

not, as purported, a moral one, the prime object being a stealthy attack because of the removal of the former professor of agriculture, impressions of the most erroneous kind are made upon the mind of a reader unacquainted with the true circumstances. THE SPECULUM begs leave to say a few words with reference to some of the statements of this article.

The false idea is carried that the *Harrow* is the publication of the College; that it is "semi-official," as the writer is pleased to call it. It has been customary for each sophomore class to put out during the summer term a book known as the *Harrow*. Each class consults its own interests as to whether it will or will not publish this annual. It cannot be claimed that the sophomore class represents the College, for it constitutes but about one-fourth of the students. It is further claimed that the faculty must have known what was to appear in the *Harrow*, since they excused the editors from labor that the work of publication might be carried on. What sophistry! The *Harrow* board were exempted from labor on the departments and allowed to go to Lansing, but does it necessarily follow that the faculty were aware upon what particular occasion the objectionable advertisements were obtained? The fact is the faculty knew absolutely nothing concerning what advertisements were to appear till the books were printed, and for the most part distributed. It is not only unjust, but absurd, to charge to the whole College what a single class is responsible for, and what the students as a body and the faculty severely condemn.

As has been said, the object of that malicious article is not to expose the internal rottenness which the writer pretends to believe exists. It too plainly appears that the pretended examiner's secret motive is a malevolent spite against the College authorities for their action in the Johnson trouble. What has the following, for example, to do with discountenancing the appearance of "whisky

ads." in the *Harrow*: "It may be more consonant with the moral standards that determine the action of the said Board (of Agriculture) to demand the resignation of an incompetent professor, in the absence of any evidence proving incompetency, than to offend a patronizing liquor-dealer or exclude the saloon influence from the College. It looks as though a Board that will perpetrate the absolute tyranny that characterized the treatment of a late member of the faculty, will be incapable of those delicate moral instincts that would guard the youth of the College against contact with the saloon. The moral obliquity that would admit as evidence a 'secret circular,' anonymous and as full of false statements, misrepresentations of facts, and libelous insinuations as any document of recent times, would hardly be expected to apply a prohibitory law, even to an institution of learning. The printing of the said circular, its secret circulation, and its presentation as a filed bill of accusations without sending a copy to the accused that he might meet the charges, was an indication of 'rottenness' and of unparalleled maliciousness, to say the least of it." Here, in his frenzy, the writer unconsciously drops the mask of moral zeal behind which he has been serenading, and unintentionally reveals his true color. The author, if he really did inquire into the affair, purposely misrepresents, or else his assumed name of "Examiner" is a misnomer.

Since writing the above we have received the following, which more plainly indicates the truth in the matter:

On account of the misrepresentations made in the *Michigan Farmer* of October 19, 1889, in an article headed "Something Rotten in Denmark," directed against the President, Faculty, and students of the Michigan Agricultural College, concerning the two liquor advertisements published in the *Harrow*, we wish to state that the President and Faculty, and the students not on

the board of editors of the *Harrow*, knew nothing whatever about the advertisements to be published, and therefore certainly had nothing to do with their publication. The members of the *Harrow* Board were elected by the Sophomore class (class of '91), and were given unlimited control, both in regard to finances and contents. The liquor advertisements were taken from a business point of view, as do other similar college publications, and the undersigned, as Editor-in-Chief and Business Manager, respectively, are the ones upon whom the blame should fall.

J. L. POTTER.
F. W. ASHTON.

COLLEGE NEWS.

The term closes November 15.

Prof. Anderson remains here during the vacation.

The Zoological Department has a live owl and a live hawk.

The bear and coyote skins will be mounted in the museum.

Prof. Durand expects to recreate in the East when school closes.

Miss Mary Carpenter, '88, is spending a few days on the grounds.

Dr. and Mrs. Kedzie will spend part of the long vacation in Washington.

George Petrie of Ola, spent a few days with his brother, Wm. Petrie.

C. E. Burns, with '91, is working in the Detroit Electric Light Works.

Miss R. M. Proud, Mrs. Beal's sister, starts soon for a visit in Philadelphia.

Prof. Carpenter will probably spend part of the winter at Cornell University.

Mr. H. C. Conkling from Tecumseh recently visited his son-in-law, Mr. Dewey.

Drs. Beal and Kedzie visited the Experiment Station at Grayling, the 3d ult.

Dr. Beal expects to finish the second volume of his work on Grasses this winter.

Two things don't fail to do—pay your board bill, and subscribe for THE SPECULUM.

Dr. Beal visited the Experiment Stations of Baldwin and Walton about three weeks ago.

The *Lepidoptera* of the McMillan collection have been transferred to the regular college cases and the *Coleoptera* put in their cases.

The skeletons of a chimpanzee, manatee and porpoise will reach the college in a few days.

The Eclectic Society gave an entertainment at the Capitol Grange, Nov. 1. A very interesting program is reported.

An auxanometer, a machine for measuring plant growth, has been made in the shops for the Botanical Department.

Pres. Clute gave a reception to the instructors and experiment station assistants, Oct. 11. A very pleasant time is reported.

Prof. David Howell, with '66, was elected one of the vice-presidents of the State Y. M. C. A. at the convention at Coldwater last month.

The Y. M. C. A. sent three delegates, Chas Ferris, J. H. F. Mullett and J. R. McColl, to the State Convention at Coldwater, Oct. 10-13.

Hallowe'en night passed quite quietly, but not without a pig pen, a few agricultural implements, cordwood, etc., slightly out of place.

The October and November numbers of the Farm Journal contain the biographies and excellent likenesses of Dr. Beal and Prof. Cook.

Many things which otherwise would be bought for the Botanical Department, such as handles and various articles of wood, will be made in the shop.

Prof. Davenport, at the end of the term, will visit the Fat Stock Show at Chicago and from there will visit the Kansas and other Agricultural Colleges.

Prof. Cook has received an invitation to attend the New York Farmers' Institutes, about fifty in number. He contemplates putting in two weeks there.

Dr. Beal is getting up a collection of photographs of botanists, among which is a fine, large likeness of Prof. Asa Gray. He expects to include foreign botanists as well.

It is quite probable that President Clute and perhaps one of the other professors will attend the meeting of Colleges and Experiment Stations at Washington soon.

The report of the Michigan Horticultural Society for 1888 contains addresses and biographies together with excellent cuts of ex-President Willits, Dr. Kedzie and Prof. Cook.

About 140 of the photographs of lumber camps and scenes of Northern Michigan are now put up in the Botanical Laboratory just outside the Botanical Museum proper.

Over thirty college boys attended the First Presbyterian Church in Lansing, Sunday evening, Oct. 27th, to hear Rev. Mr. Jordan's sermon on "The Young Man and Society."

Dr. Beal has presented his fine collection of 2,000 species of plants to the college. The collection has occupied many years in gathering from Maine, New York, Michigan, Europe and various sources, and contains many rare and valuable specimens.

The library has purchased 213 bound books, some dating back as far as 1799. Twenty five bound volumes and twenty-nine unbound volumes have been donated to it.

Prof. Taft and Dr. Beal attended the Grange at White Oak, a drive of twenty-seven miles. Among the papers read was one by J. D. Towar, '85, and one by R. H. Wilson, '89.

The Hesperian Society have come out with a new pin. It is of a very unique design, consisting of a star with a ruby in the center, and attached to a chain, a crescent, also set in rubies.

Mr. C. F. Wheeler from Hubbardston comes here at the end of the term to take up the Botanical Department of the Experiment Station. He brings with him a fine herbarium which he gives the college.

The stewards of the different boarding clubs for next term are elected as follows: "A," J. H. Freeman; "B," B. O. Johnson; "C," F. W. Ashton; "D," H. L. Bunnell; "E," Chas. Ferris; "F," H. Z. Ward.

E. R. Lake, '85, professor of botany of Oregon Agricultural College, writes that the college there has opened with a large increase of students and more extensive equipments in the line of professors, buildings and additions.

F. N. Clark, '89, is at Harrison working in a railroad office at good wages. In a letter he expresses his intention of going into the fruit business when sufficient capital is at his command. As all M. A. C. boys are, Fred is ever loyal to the college and its concerns.

A complete list of all varieties of garden plant seeds is coming into the Botanical Department for the Botanical Museum. J. C. Vaughan of Chicago, J. M. Thorburn & Co. of N. Y., D. Landreth & Sons of Philadelphia and D. M. Ferry & Co. of Detroit are the contributors.

Without comment we copy the following from the Orange Judd Farmer: "Prof. Samuel Johnson, lately of the Michigan Agricultural College, is mentioned as the farmers' candidate for governor of the Wolverine Commonwealth. He is eminently fitted for the high position."

The Eclectic Society held a successful banquet and hop the 4th of October. The Olympic and Union Literary Societies indulged in similar recreation after the oratorical contest, Oct. 25th. The Phi Delta Theta fraternity celebrated the evening of November 1st in a like enjoyable manner.

J. R. Mott one of the sec's of the National Y. M. C. A. and a graduate of Cornell University, was here over Sunday, November 3d. He addressed the college in place of the regular afternoon services, after which he met the members of the association in a conference, discussing various phases of the Y. M. C. A. work. The evening meeting was also led by him, in which he gave the already started missionary project more definite plan. He not only laid open greater possibilities in this line but especially increased the probabilities of M. A. C. for missionary work in the Japanese field.

The new Agricultural Laboratory is rapidly reaching completion and will probably be finished by the first of January. The plan has been carefully studied, making the building both commodious and convenient, and its already imposing appearance promises a handsome structure. The heating will be done by a hot water apparatus planned by Prof. Carpenter and made in the shops.

Officers in the societies have been elected for the next term as follows: Olympic—president, M. E. Greeson; vice-president, J. W. White; secretary, P. F. Lawton; treasurer, J. W. Lamb. Hesperian—president, T. A. Sanderson; vice-president, J. A. Shotwell; secretary, L. E. Plumber; treasurer, C. H. Spencer. Phi Delta Theta—president, H. E. Bunce; secretary, B. F. Hall; treasurer, C. F. Rittinger. Union Literary—president, O. A. Turner; vice-president, E. Bradford; secretary, T. Bradford; treasurer, E. Waldron. Eclectic—president, R. B. McPherson; vice-president, E. G. Cooney; secretary, H. V. Shattuck; treasurer, W. S. Howland.

One important event of the college year, was the oratorical contest, given in the chapel, Oct. 25th. The contestants representing the three societies, the Olympic, Union Literary and Eclectic were six in number. After the calling to order by Pres. G. B. Church, the following program interspersed with fine music by the college orchestra, was rendered. Cremation Preferable to Inhumation, H. Z. Ward; A Reading Knowledge Should be an Essential Qualification of a Voter, W. A. Fox; Our Political Institutions, Warren Babcock; Indifference to Crime, H. J. Hall; Some Influences of the Puritans, K. L. Butterfield; Woman's Heroism During the Rebellion, A. L. Waters. The decision of the judges has not been fully determined yet.

From THE SPECULUM of August, 1885, we copy the following: "Our efficient engineer, Mr. James Wiseman, will take the position of foreman of the iron shops. Mr. Wiseman is, perhaps, as well fitted for this position as any man in the State. He served an apprenticeship of five years in the Glasgow machine shops; was a journeyman two or three years, and for the ten years prior to 1880 was the chief engineer on one of the largest steamers belonging to the mail and passenger line from England to Calcutta. He left this position voluntarily, because of the complete isolation from his family. He could reach his home only once in seven years. Mr. Wiseman is a man of very temperate habits, not even using tobacco." The proficiency of Mr. W. for the position he has filled for over four years is recognized by all those who have been under his charge. He has not only shown skill as master of the machine shops, but a large engine, shaper, wood and iron lathes, small engines, tools, and an almost unlimited list of various other articles and repairs commend him as utilizing the students' labor to instructive, practical and profitable ends. Mr. W. has accepted a position as boiler and machinery inspector for the American Boiler and Machinery Insurance Company, and

his territory will be the State of Tennessee, Nashville being his headquarters. He left for his new field of labor, Oct. 31. The day before leaving the mechanical students gathered in the shop and presented him with an elegant silver water-service as a token of appreciation of his labors among them. He carries with him the well wishes of many friends for success in his new work.

PERSONALS.

We desire the earnest co-operation of every person who has ever been connected with the college in trying to make this department an interesting one. Let every alumnus and every person who has been with classes here send in news to the editor of this department, often, thus making his work much easier and the department more interesting to all.

'68.

J. Swift sends in the best correspondence received since we have been Personal Editor. He writes: "My present occupation is that of enduring a bad spell of rainy weather. As soon as possible I expect to resume my former occupation of landscape and practical surveyor, together with farming and book-selling to fill in odd times. I have five boys and one girl on the road to fame—through the Agricultural College if possible." Mr. Swift sends us good advice, and suggests a doctrine of which he will find us an ardent, though youthful, supporter.

'69.

R. Haigh, Jr., is oil inspector and life insurance agent at Kalamazoo. He says that when he does anything remarkable or strikes something rich, he will notify us at once. We remain expectant.

'71.

R. M. Slocum is head over heels in Dakota politics. He says. "I think the older states could pattern after us with profit. We have carried Prohibition, adopted a good constitution, and elected a straight Republican ticket." Mr. Slocum has been tendered the position of county clerk at Vedette, and he thinks of publishing a thoroughbred Republican newspaper also.

'74.

L. F. Ingersoll is a surgeon and physician at Grand Junction, Colorado. He says: "I would not return to Michigan to live for the best farm in the State. I always have a kindly thought for my Alma Mater, and will perhaps some time visit you."

C. S. Ingersoll is junior partner in the firm of Ingersoll & Perry, attorneys at law, Garden City, Kansas. They also do business in insurance, abstracts of title, and farm and city loans.

'78.

We see by looking over *The Orchard and Garden* that Prof. J. Troop is one of the special contributors to that journal. He has also recently issued a "Descriptive list of the grasses of Indiana," which is sent out as Bulletin No. 28, from the experiment station.

Prof. C. C. Georgeson and family have returned from Japan, and he is now connected with the firm of T. Lovell & Co., of Little Silver, N. J., nurserymen and publishers of *Orchard and Garden*.

E. D. A. True writes from Armada, Mich.: "I am still farming. Tell the boys that I am getting bald, and am still a bachelor. I am also clown for the town of Armada, and the biggest fool in Michigan, except one or two of the boys of '78." E. D. would make a splendid Sophomore.

E. O. Ladd is a successful farmer and fruit grower at Old Mission. He was a delegate to the last session of the State Grange, and takes an active interest in Grange work. He is now special agent for Grand Traverse and Leelanaw counties.

'79.

C. P. Cronk of Baltimore sends us in something to jingle, and pay up old scores. He says: "I enjoy the news THE SPECULUM brings me of my friends and of the College too well to think of doing without it. Charles Sumner called upon us a week or two since. He was on his way to New York in attendance upon important legal business. Charley looked prosperous and happy—just what he is—and his figure has lost none of its old-time rotundity."

'80.

C. T. Crandall is an attorney, with a lively practice, at Crystal Falls, Mich. He is now serving his third term as County Prosecuting Attorney.

'81.

The State Republican convention of Nebraska nominated J. L. H. Knight for Regent of the University of Nebraska for a six-year term, on the 8th inst. The nomination is equivalent to an election.

W. S. Delano sends in a renewal for THE SPECULUM, which attests that he hasn't forgotten his Alma Mater. He is a prominent seedsman at Lee Park, Neb.

S. Upton says that he has lost track of THE SPECULUM or THE SPECULUM of him, and wishes to renew. Although "it is not best for man to be alone," he is still unmarried. He says it pays. He is a successful furniture dealer in Elm Creek, Neb.

'84.

C. E. Kelly is running an apiary and vineyard at Lisbon, Mich. He was a pedagogue for nearly a dozen years but was obliged to drop the profession on account of poor health.

WITH '84.

R. R. Briggs was acting as "printer's devil," from '81 to '83, but is now farming at Romeo.

'85.

Willard Brumfield has been engaged in the Signal Service at Roseburg, Oregon, for nearly six years.

'86.

A. C. Himebaugh is a farmer and shipper of baled hay and straw at Bronson. He was a delegate to the Democratic County Convention at Coldwater in August.

In the October SPECULUM we said that W. E. Gammon netted last year \$7,000 from his 100-acre fruit farm in Cal. The facts are only about sixty acres are devoted to fruit growing, while the receipts from this industry were \$9,000. We beg pardon.

WITH '87.

H. S. Thiers and A. M. Woodmansee are president and secretary respectively of Ellsworth County (Kan.) Teachers' Association. H. S. teaches at Langley and A. M. at Venango. Both are living in single blessedness.

'88.

And a voice spake from afar off, saying, "Send two copies of THE SPECULUM to 12 S. State St. until further notified." Signed, W. J. Hinkson and W. R. Rumler, students in law and literature, Ann Arbor, Mich.

Clark Hubbell has been studying law for almost a year at Port Huron, Mich., and will soon hang out a shingle.

WITH '88.

W. E. Greilick is a merchant at Norrisville, Mich., and wishes the boys to come and see him sometime. He reports himself as doing splendidly, weighing approximately 300 pounds.

'89.

A. G. Wilson of Mason was on the grounds lately and seems to be rather badly crippled up, in fact looks as if a hurricane had struck him.

Clinton, Curtis and Lightbody are engaged in rural business.

We understand that H. A. Martin has taken unto him a wife. We wish you luck and happiness, Harry. Perhaps we will get married sometime and then you can return the favor.

WITH '89.

C. M. Underhill has been engaged as merchant and lumberman for five years at Pentwater, Mich. Chas. has become quite a prominent citizen and has a goodly official and political record.

Chas. Leipprandt is a farmer and dairyman near Hayes.

J. J. Howard is a teacher at Iosco, Mich.

WITH '90.

Geo. D. Mena died at home, Sept. 18th, from a hurt received from falling from a scaffolding. George was a splendid fellow and no one can appreciate the loss more than his college friends. We extend the sympathy of THE SPECULUM to the bereaved family.

W. H. Culver is book-keeper and stenographer at 89 Euclid avenue, Cleveland, Ohio.

W. E. Snyder, who used to be a pedagogue, is a cabinet maker at Constantine, Mich.

B. L. Jenks is now in the employ of Woods, Jenks & Co., Cleveland, Ohio.

WITH '91.

Harry Doty is engaged in the shoe business at Detroit.

COLLEGES.

Michigan should be proud of the University it being the only Western educational institution to which the Pan American Congress made an especial visit.

From the exchanges it may be seen that the colleges all over the country are increasing materially in attendance, while improvements in other directions seem to keep pace with the number of scholars.

Harvard has 365,000 volumes in her library; Yale, 200,000; Cornell, 150,000; Columbia, 90,000; Brown, 66,000; Princeton, 65,000.—Ex.

Prof. Todd, of Amherst College, is to lead the Government expedition to Southwestern Africa to observe the total eclipse of the sun on Dec. 22.—Ex.

One hundred and seventy young Americans were in the University of Berlin last year.—Ex.

EXCHANGES.

Each mail is bringing in exchanges, both old friends and new. However several exchanges have failed to put in an appearance as yet this year, but we hope to see them all with us before the term closes.

The unique cover of the *Fordham Monthly* forms a pleasing contrast to the exterior of many of our exchanges. In its literary department the articles are well written and appropriate. The article entitled "An Unworked Vein," contains some good anecdotes and suggestions for those who would win fame by novel writing. The writer showed one essential of a good novelist in his choice of a title for the article.

A striking defect in the *Hesperian* is the absence of a literary department. Unless the paper is published simply for the purpose of allowing the editors to talk, this should be remedied. This paper, like several others, has fallen into the habit of trying to imitate some of the great humorous writers and the result is not decidedly satisfactory in every case. The paper would undoubtedly be much improved if it were changed to a monthly.

The *College Index* for October is an interesting number. However, on looking over the article on Poe's "Haunted Palace," the effect of two much paragraphing is apparent, giving a decidedly unsubstantial appearance. The article reads too much like the notes in a school reader.

In the *Kentucky University Tablet* is an article entitled, "Whither Are We Tending," which presents many of the most crying evils of the day and asks that American citizens take hold and suppress them. The article is well written and deserving of praise. In the exchange column we note the following which it will be well for all of us to take to heart: "We are willing to be criticised for it is the only way through which we can approach the heights of perfection and success."

The *Dakota Collegian* is out in a new cover and with the contents increased to twenty pages. This shows a spirit of prosperity in the D. A. C.

Other exchanges we would gladly notice but space prohibits.

ATHLETICS.

Saturday, Oct. 19, the College ball team played a game at Lansing with a team composed partly of local and partly of State league players. Up to the seventh inning the College team had the game well in hand, and appeared to be sure winners; but at this point, while all eyes were centered on the game, the mascot of the Lansing team, unloosed from its place of confinement under the grand stand, that bleary-eyed monster familiarly known to the base ball fraternity as "Old Razzle-Dazzle," rushed upon the unsuspecting College players with appalling ferocity. The poor players in vain attempt to appease his wrath by presenting the opposing club with several runs. The pitcher and infield suffered most from his attacks, and before the monster could be quieted and led back to his den the fateful ninth inning had passed and the small boy had chalked the winning run on the scoreboard for the Lansing team. The score by innings is as follows:

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | R | BH | E |
|----------|---|---|---|---|---|---|---|---|---|----|----|----|
| M. A. C. | - | - | 1 | 3 | 0 | 1 | 3 | 1 | 0 | 10 | 12 | 10 |
| Lansing, | - | - | 0 | 0 | 0 | 1 | 0 | 0 | 4 | 3 | 6 | 7 |

Two-base hits, M. A. C., 1; Lansing, 1. Struck out by Burnett, 7; Fowler, 1. Time of game, 2 hours and 20 minutes. Umpire, Morrison.

Saturday, Oct. 26th, the college team again played the Lansings, and though they indulged in some very erratic playing, managed to win the game, a result that the very poor playing of the opposite team did much to bring about. The poor playing of the College team appears to be due principally to a lack of good, thorough practice, and to an apparent lack of knowledge of the points of the game. Also, the captain of the team should have a thorough knowledge of the playing rules so as to prevent being bulldozed by the players of the opposing club. The score by innings was as follows:

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | R | BH | E | |
|-----------|---|---|---|---|---|---|---|---|---|----|---|----|
| M. A. C., | - | - | - | 1 | 0 | 2 | 6 | 2 | 0 | 1 | 3 | 15 |
| Lansing, | - | - | - | 0 | 0 | 1 | 2 | 2 | 0 | 3 | 0 | 8 |

Two-base hits, Gibbs. Three-base hits, Fowler. Home-runs, Cordley, 2. Double play, Foster to Gardner. Struck out by Burnett, 8, by Fantz, 3; by Manassau, 2. Time of game, 2 hours.

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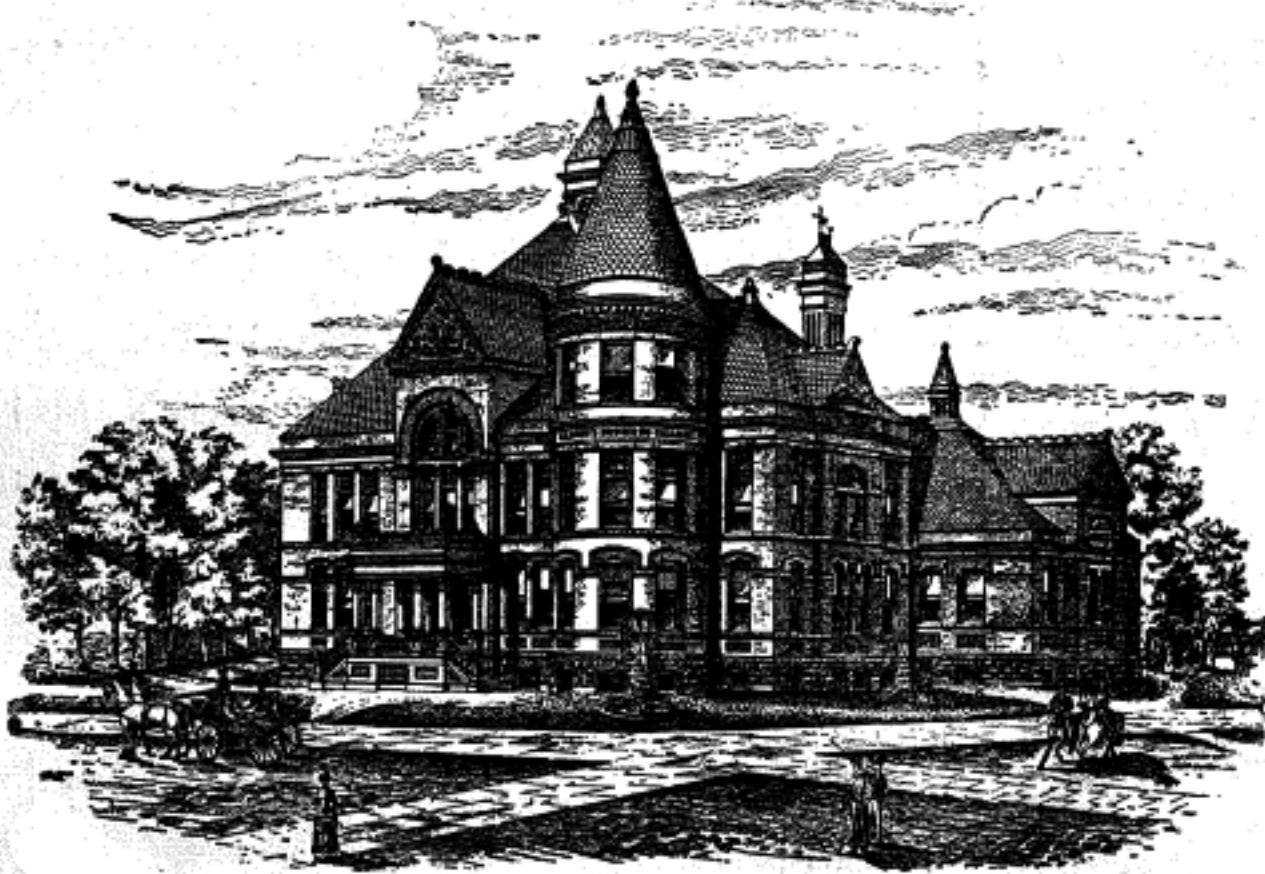
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