

# The Normal Review.

VOL. VII. No. 6.

CALIFORNIA, PA., FEBRUARY, 1892.

50 CENTS A YEAR.

Entered as second-class matter.

The Juniors are taking Kindergarten work under Miss Patten.

Miss Patten has had a pleasant visit of some length from her sister.

Miss Lottie Krissinger is teaching a primary school at Stoystown, Pa.

Miss Ray Whitsett, class of '91, has been elected to a position in the schools of Leechburg, Pa.

Mr. George Parker, '88, now of Pittsburg, has passed the preliminary examination for studying law, in Allegheny county.

Mr. Vincent Rader, '87, W. F. Peairs, '88, and Arthur O. McKinley, a recent student, are studying medicine in Baltimore, Md.

Trustee L. W. Morgan and family, since the fire, are living at the Normal. After April 1st they will occupy a house on College Avenue.

The friends of Mrs. Maggie Jennings Wolfe, of the class of '81, will sympathize with her in the loss of her husband, who died on January 8th.

Miss Anna Buffington has resigned her position in the schools of Homestead. It is rumored that she will shortly be married to a gentleman in Brownsville.

Among those taking part in an institute at Leisenring, Jan. 30th, were O. P. Moser, O. A. Anderson, Olive B. Macurdy, Wm. B. McCullough and Geo. B. Jeffries.

Mr. and Mrs. John Sterling, of Masontown, parents of Misses Chat

and Belle Sterling, of the class of '90, celebrated their golden wedding, Saturday, Feb. 6th.

Mr. H. A. Hull, son of Prof. W. N. Hull, a former teacher in the S. W. S. N. S., but now of the Oregon Agricultural college, is superintendent of the schools of Shelton, Nebraska.

Mr. Gibson Binns, one of our State trustees, has our sympathy in the loss of his wife, who died of the grippe on January 18th. Mr. Binns has himself been seriously ill with the same complaint.

The Senior class has elected as officers, Mr. C. E. Carter, president; Miss Lyda Peterson, vice-president; Miss Margaret Hester, secretary, and Miss Flora Horne, treasurer.

Prof. Meese has had a fortnight's visit from his wife and two children. At the first of April he will move his family to town and will occupy one of the new houses on College Avenue.

The names of Carrie McGinnis, Preston Horn, L. C. Crile, James Hathaway and R. M. Day, graduates or students of the Normal, appear as taking part in an institute at Lone Pine, Jan. 16th.

Miss Sigmiller, instructor in Form and Drawing in the schools of Pittsburgh, was a visitor at the Normal a short time ago. Her illustrated talk at morning chapel was entertaining and instructive.

The Seniors are now delivering their original orations at chapel. Thus far they have possessed a

high degree of merit, and we doubt not the same high standard will be kept up through the class.

Hor. Wm. Baker, of the Sixth Congressional district of Kansas, was a visitor at morning chapel recently. He gave us an interesting talk on the doctrines of the People's party. Mr. Baker was at one time a resident of California, and has relatives here.

The Scripture lessons at chapel this term have been from the book of Job. Dr. Noss, by his explanations and comments, makes them very interesting. When the passage, "I would not live away" was reached, one morning, an octette of students came to the platform and sang the familiar hymn beginning with those lines.

The many students who have roomed in "College House," opposite the Normal School buildings, will be sorry to hear of its destruction by fire, and will sympathize with Mr. L. W. Morgan, who occupied the house at the time, in the loss of all his household goods.

The Masontown correspondent of the Uniontown Genius thus speaks of Miss Chat Sterling, of the class of '90: "She has become one of Fayette county's most reliable teachers. When not teaching she attended school at Jefferson, California, and other institutions of merit. She has always been awarded a school near home, and while good teachers may necessarily have to go away from home to get a school, it is no less evidence that her services are appreciated at home."

## EDITORIAL.

Have you paid up your subscription to this journal for 1892? If you have, we extend our thanks, if you have not, we wait—and hope.

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We take this occasion of again inviting suggestions or queries for the mutual benefit of all our readers. If you do not see what you want, ask for it, and as nearly as possible we will comply with all requests.

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Is not this an excellent season to decorate your school house with a flag of our country. The approach of Washington's Birthday suggests this.

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What educational books have you read thus far?

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### Facts and Figures About Population.

The population of the United States June 6, 1890, as ascertained at the 11th census, exclusive of white persons in the Indian Territory, Indians upon reservations and in Alaska, was 62,622,250.

Taking the whole country, the progress of growth has been along the thirty-ninth parallel of latitude. The center of population, meaning thereby the center of gravity of the population of the whole country, each individual assumed to have the same weight, was in 1790 twenty-three miles east of Baltimore, Md. In 1890 it was twenty miles east of Columbus, Indiana, five hundred and five miles west of the point at which it was located one hundred years ago. Four and three-tenths per cent. of the entire population is to be found in the coast swamp area and the alluvial region of the Mississippi river. This population

consists mainly of the colored race. At great altitudes, but few people are permanently living. One-sixth of the people live less than 100 feet above the sea level. The distribution of population relative to mean annual rainfall, indicates not only the tendency of people to seek arable lands, but their conditions as to general healthfulness. The average rainfall in this country is less than 29.6 inches, but the variations range from zero to perhaps one hundred and twenty-five inches. The greater proportion of the people of the United States are living in the regions in which the annual rainfall is between thirty and fifty inches.

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### Sleeplessness and its Cure.

[The constant mental strain to which all teachers are subject is our reason for placing this article, in the hope that it produce some good effect.—EDITOR.]

We live in an age of nervousness. Weakness of nerves is the proof of an over-refined civilization, which over-excites the active life and weakens the vegetative. Whole nations have already been ruined on this account. and Rousseau prophesied the ruin of all civilized Europe. This destruction will certainly be for some time deferred, but it is a melancholy fact that the number of those who suffer from nervousness and sleeplessness is greatly increasing. The animal life cannot continue an unbroken activity either in work or enjoyment; from time to time the nerves are exhausted; life returns periodically into the condition of unconsciousness; man, in the natural order of things, needs sleep as well as food. Sleeplessness emaciates man, weakens him, and a continued loss of sleep leads, under great suffering, to death. It proves this, that in sleep certain conditions of activity must happen in the human organism which are impossible

during the waking hours. The celebrated physician and chemist, Max von Pettenkoffer, has ascertained, from careful experiments, that even by slight exertions proportionally more carbonic acid is secreted than the quantity of oxygen amounts to, which is taken up in that time and used for the production of the out-going carbonic acid. The now absolutely necessary balance is found in sleep, during which not half as much oxygen is consumed but twice as much is taken up. The need of sleep is thus the warning of nature that the time has come when the disproportion between the expenditure, supply and stock on hand of oxygen has reached its extreme limit, and that it is necessary, through frugal use and heavy supply, to replenish the stock. This adjustment is most energetic during the first two or three hours, from which it follows that sleep is then soundest. A healthy normal sleep ordinarily lasts seven hours. The causes of sleeplessness may be different, but they always affect the brain, which is the evil to be kept in mind during an attempt at recovery. As already stated, every disturbance of the brain signifies a sleepless night; and nothing is more wretched and exhaustive than when one hunts for his nightly sleep as a pressing need, and fails to find it. Then arises a feverish heat and restlessness, a wild succession of phantasms appear, and if one falls at last into a short morning slumber, even this is not refreshing, but only exhausting. Even the disturbance of habits excites sleeplessness, a strange bed, strange diet or unusual events of the day. Though this is only temporary, it particularly affects such patients as suffer from chronic sleeplessness. This has its origin in continual physical or mental over-exertion, in great trouble or anxiety. Further, intemperance and gluttony produce sleeplessness, as well as hunger and thirst. For still too many attacks the best cure is a physical and mental strengthening by means of continual measured diet. Sleeplessness arising through

grief, care or sorrow must be cured by a strong will and recreation. Nurture and education of the mind are as necessary and wholesome as that of the body. The will is to be exercised and strengthened, for very much may be done by will power, through diverting the mind from the sorrows and disagreeable occurrences of the day, by compelling one's self to think of indifferent matters. One must not yield to despondency or despair, but consider that trouble and anxiety will not make things better, but weaken the health, which is the first necessity towards a joyful life of usefulness. One already enfeebled by sleeplessness must necessarily change his way of living. Change of place, other associates, other scenes will be healthful and quieting; but if the patient is already completely conquered, then, for entire physical and mental health, careful nursing and good nourishment are needed, and at intervals of from two to three hours light, digestible food must be brought. Also rubbing of the body has been proved healing in the highest degree, because the bodily activity is strengthened throughout, while the mechanical pressure on the brain, muscles, nerves and bowels accelerates the circulation of the blood and the digestion. Hippocrates learned, two thousand years ago, that the body was hardened by vigorous, softened by gentle, and made healthy by moderate rubbing. Both in severe and light cases of sleeplessness should opiates be avoided.

Complete destruction of the nervous system is the certain and enduring result of such habits.—*Translated from the New York Belletristisches Journal.*

#### A Glance Backwards.

The year of 1891 has been crowded with facts of great interest. No great war has devastated a continent, or changed the boundaries between nations. Yet the record of the year past contains events that will be memorable in the history of every continent.

Let us begin at the Antipodes. In Australasia—a century ago almost an unknown world, now a great collection of populous, self-governing British colonies—a movement toward confederation has made great progress. A form of constitution has been proposed. The very obstacles that have been met by those who favor the union only make it more evident that a nation with a mighty future before it already exists on the great southern continent.

South America has been the scene of revolution. In Brazil, after a sharp contest which threatened to become a serious affair, the President of the republic resigned. In Chile the victors in a sharp and bloody civil war overturned the government. Argentina has passed through a year of great depression, uncertainty and anxiety.

In far Asia a rebellion has broken out in China, the bursting into flame of long-smouldering embers, and the consequences may be of a most serious character.

“The peace of Europe has been assured” by the six great Powers ranging themselves in two semi-hostile camps: Russia and France on the one side; while Germany, Austria-Hungary and Italy, on the other, have renewed the Triple Alliance, to which Great Britain lends support so long as its purpose is really peaceful.

The continued persecution of the Jews in Russia, the financial stress, and the famine that exists over a part of the country as the year closes, have drawn the attention of the world to the great northern despotism.

Except that Portugal has suffered a great loss of credit, and has seemed to be, during the whole year, on the brink of revolution, the internal state of Europe has been quiet. France, Germany, Austria, even the Balkan States, have been undisturbed; and Italy has witnessed nothing more exciting than a cabinet crisis, when the ministry of Signor Crispi was defeated.

The state of Ireland still occupies much of the attention of

British statesmen. The most important political events in the United Kingdom were some elections to fill vacancies in Parliament, in which the Liberals were for the most part successful.

Not much has occurred at home to stir popular passion or to excite political antagonisms. The conclusion of reciprocity agreements with Spain, Brazil and other countries, the new apportionment of representatives under the census of 1890, and the going into effect of the International Copyright law are the only public matters that need be mentioned here. The crops of the United States were almost universally good; those of the rest of the world were either barely up to the average, or below it. The consequences of this condition of things will be seen far more distinctly in the record of 1892, than in that of the year just closing.

The list of the dead of the year is a long one, and includes many illustrious names: General Sherman, Admiral Porter, General Joseph E. Johnson, Field Marshal Von Moltke, George Bancroft, James Russell Lowell, Meissonier, the artist, P. T. Barnum—these are a few of the names that will come to every mind.

Royalty has lost King Karl of Wurtemberg, King Kalakaua of Hawaii, Dom Pedro, late Emperor of Brazil, and the Crown Prince of Belgium.

Of statesmen the United States has lost Mr. Windom, Secretary of the Treasury; Great Britain, Lord Granville and Mr. William Henry Smith, Ireland, Mr. Parnell; Germany, Herr Windhorst; France, Jules Grevy; Canada, its veteran premier, Sir John MacDonald.

How shall we classify Charles Bradlaugh; and Balmaceda, of Chile; and Prince Napoleon, the Imperialist pretender of France, and General Boulanger? They were not statesmen, but each of them filled for a time a large space on the page of current history, and all these names are now erased from the roll of the living.

## GEORGE WASHINGTON.

MAY ALEXANDRA FRASER.

"It will be the duty of the historian and the sage of all nations to let no occasion pass of commemorating this illustrious man, and until time shall be no more, will a test of the progress which our race has made in wisdom and virtue be derived from the veneration paid to the immortal name of Washington." — LORD BROUHAM.

George Washington was born in Westmoreland county, Virginia, on the 22nd day of February, 1732. He attended school until he was sixteen years of age, part of the time at a little country school house, where he drilled the boys in tactics, in imitation of his brother Lawrence, who was a captain in the navy. He was a very courageous boy, fond of all sorts of athletic sports, and so just that his playmates brought him their quarrels to settle.

He was careful and painstaking about his personal appearance and all that he did. His composition books have been preserved, and they contain over one hundred "rules for behavior in company," which he not only wrote neatly, but tried to follow in his daily life.

His father died when he was eleven years of age, and Lawrence, the eldest son, inherited the homestead, Mt. Vernon, and the bulk of the property, after the manner of those days, and, indeed, of the present time in some countries. Lawrence was very fond of his manly little brother, and thought

he would like to have him enter the navy, but his mother did not want to part with him, so he staid at school, studying book-keeping and surveying. He must have studied the latter to very good advantage, for when he was only sixteen he was employed by Lord Fairfax, who owned a great deal of land in the neighborhood, to survey for him, at a salary which would seem phenomenal in these



*George Washington*

days, and must have seemed much more so then.

Few, if any, of the early settlers had any adequate idea of the breadth of North America. While the English were settling along the coast from Maine to Georgia, the French had penetrated the interior, establishing missions and trading posts from the Gulf of St. Lawrence to the mouth of the Mississippi. These were necessarily at great intervals. As the thirteen colonies along the coast

grew and prospered, they spread beyond the rocky wall of mountains on their west, only to find themselves menaced by a rival power, which already held many points of vantage along the vast water-ways in the heart of the continent.

Young George Washington's work led him among the wilds of what is now Kentucky, Ohio and western Pennsylvania, and showed him that a contest could not long be deferred. It came, and Washington, though only nineteen years of age, was made a major of militia, and sent out to warn the French off the English territory.

He served through the seven years' war with great distinction. Canada and all the territory east of the Mississippi were secured by the English, and the young officer through whom it was accomplished became the idol of the people. Meanwhile, having inherited Mt. Vernon by the death of his brother, and married Mrs. Martha Custis, a widow, he retired to his home at Mt. Vernon, and continued to live there quietly for

many years.

But Washington was not destined to spend his life as a quiet country gentleman. The oppressions of the English government grew more and more burdensome, until finally the feeling of discontent among the colonists culminated in a great congress, made up of delegates from the different colonies. This congress, of which Washington was a member, demanded the repeal of the obnoxious laws. Not only was this de-

nied, but English troops continued to harass the Americans, until at last, war broke out in the vicinity of Boston, without the intervention of Congress. Seeing that it was impossible to obtain justice at the hands of the mother-country, the colonists decided to fight for their rights. A head was needed for the army. Who was there so well fitted for the position as he who had already led the way to victory? George Washington was made General and Commander-in-chief of the American forces. He immediately marched against the English troops at Boston, and soon made it so uncomfortable for them that they took to their ships and sailed away.

On the 4th of July, 1776, Congress, by the famous "Declaration of Independence," declared the American colonies no longer subjects of Great Britain, but free and independent States. The English government sent a fleet to attack New York, and Washington marched to its defense.

The scope of this paper will not permit an account of the engagements that followed—marches and counter-marches over bad roads or no roads at all, through all sorts of weather, with insufficient food, shelter and clothing. We, amid our unlimited credit and resources, can hardly realize the difficulties which beset that scanty army of resolute men—can have but faint conception of the perils and privations of that Revolution, amid the throes of which was born this Republic, the United States of America.

After almost seven years of struggle, Great Britain acknowledged the independence of the United States, and General Washington went back to his home, but not to stay. A convention met in Philadelphia in 1787, and adopted a Constitution, by which it became necessary to choose a President. Again his country needed a head, and to whom should she turn but to him, her hero, her defender, the first love of her heart, "First in war, first in peace, and first in the hearts of his countrymen."

President Washington was inau-

gurated in 1789, re-elected in 1792, but refused to serve a third term. He died at Mt. Vernon in 1799.

"The first, the last, the best,  
The Cincinnatus of the West  
Whom envy dared not hate,  
Bequeathed the name of Washington,  
To make man blush there was but one."

The birthday of the "Father of his country!" May it ever be freshly remembered by American hearts! May it ever re-awaken in them a filial veneration for his memory. . . . He was the first man of the time in which he grew. His memory is first and most sacred in our love, and ever hereafter, till the last drop of blood shall freeze in the last American heart, his name shall be a spell of power and of might.—RUFUS CHOATE.

WASHINGTON'S MAXIMS.

"Labor to keep alive in your heart that little spark of divine fire called conscience."

"Let your conversation be without malice or envy."

"'Tis better to be alone than in bad company."

"Deride no man's misfortune, though there seem some cause."

"Let your recreation be manful, not sinful."

"Sit not when others stand."

"Be not curious to know the affairs of others; neither approach to those who speak in private."

"Do not be hasty to believe flying reports to the disparagement of any."

"Sublime matters treat seriously."

"When you speak of God or His attributes, let it be seriously and with words of reverence."

"He was first, last and always a soldier when military duty was to be done."

"Washington, whose sword was never drawn but in the cause of his country, and never sheathed when wielded in his country's cause.

"Washington, the warrior and the legislator! In war, contending, by the wages of battle, for the independence of his country, and for the freedom of the human race—ever manifesting, amidst its horrors, by precept and by example, his reverence for the laws of peace, and for the tenderest sympathies of humanity; in peace,

soothing the ferocious spirit of discord among his own countrymen into harmony and union, and giving to that very sword, now presented to his country, a charm more potent than that attributed in ancient times to the lyre of Orpheus."

Coast Defense.

Senator Dolph has labored and studied to perfect his knowledge in the comprehension of the whole subject of coast defense, on land and along the enormous coast lines upon the Atlantic and Pacific, and will report a bill from the committee during the session, to provide for the great work. An immense amount of property is involved in the common peril, in the event of war with any power which possesses an effective or formidable navy. The harbors and cities of Boston and New York, upon the Atlantic, and of San Francisco and the cities of Puget Sound, are in greater danger from foreign attack and destruction of property than any others, yet there is small and totally inadequate protection against this danger by coast defenses in view of the modern methods and engines of offensive warfare. There is not a seaport in the United States, nor a city upon the Great Lakes, sufficiently fortified against hostile attack to withstand the war-vessels of the great powers of Europe, or even those of Chile. That Congress ought to make suitable provision against this common danger, by the construction and arming of coast fortifications and floating batteries, with swift, strong-armed vessels beside, for the protection of the vast aggregate of life and property exposed and imperiled, is the common sentiment of the people.—*San Francisco Argonaut.*

NOTICE OF REMOVAL.

The General Offices of the N. Y., C. & St. L. R. R. Co., formerly occupying the Hoyt Block, corner of Bank and St. Clair streets, will on and after Monday, Jan. 25, 1892, occupy the fourth and fifth floors of the Hickox Block, northwest corner of Euclid avenue and Erie street. Temporary entrance, north end of building on Erie street, Cleveland, O.

# Geography.

## American Cities.

In the United States the general progress of the people has found its most eloquent expression in the great centers of commercial activity. Though producing food material enough to supply half the globe, Americans are not by instinct, taste or education an agricultural people.

Trade and commerce in all their aspects claim the best energies, the best thought and the most intelligent application of the people. Marvelous cities have marked the progress of civilization as it has extended across the American continent. The pioneers of the age have built towns—settlements they were called, first of all. The country has grown around them later on. This is a reversal of the order which obtains in the upbuilding of European nations. These American cities will attract the attention of the great majority of strangers who will visit this country during the forthcoming Exposition. Imperial among these great cities is New York, the metropolis of this mighty republic, in many respects the most remarkable city on the globe. It is the great financial and commercial center of the United States. Within easy access is the magnificent scenery of the Hudson and the Catskills, the beautiful city of churches across the bridge, and the delightful summer resorts which dot the coast.

Then, there is Philadelphia, which until a few months past has been recognized as the second city of this continent. It is one of the historic cities, as well as one of the great commercial centers of the Union. Here American Independence, born at Lexington, cradled in Boston, attained its manhood.

Washington, the nation's capital, not far away, is, without question, one of the handsomest cities on the earth. The magnificent national buildings alone have failed to make it so. Its people do not encourage the industrial arts;

in most instances they have fled to Washington to escape them. It is a city given over almost wholly to political and social duties and pleasures. Baltimore, the monumental city, is close by, and from an American point of view, it is an ancient city. It is the most northern of the southern cities, and the most consequential one. Before turning one's face toward the west, we must touch upon Boston, the home of American culture and the cradle of American Liberty; a city made famous abroad by Bunker Hill, by Fanueil Hall, by Longfellow, Holmes and Lowell, by so many events, by so many men, demands attention. It will be a relief to the European to find himself in a city which, although the most distinctively American of American cities, bears the unmistakable English impress.

In the ordinary course of travel the next stop will be Pittsburgh, which is often called the American Birmingham. The output of its mills and factories in iron, steel, brass and metal generally, is greater than that of any other city in either hemisphere.

Now we come to Cleveland, a beautiful and bustling city, by a great unsalted sea. Here is located the home of the celebrated Standard Oil company—a company that practically controls the petroleum production and traffic of the United States, and the illuminating market of the world. In the magnificent city of the dead, which overlooks the lake, lie the remains of President Garfield, and on the way to this silent city you pass along Euclid avenue, pronounced by all travelers the grandest in the world. Cleveland is a manufacturing city of considerable importance, besides having a large shipping trade.

In the southern part of Ohio is Cincinnati, a semi-southern city, where northern and southern types meet and mingle. For years it was pronounced the Paris of America, but that was before there were cities in the northwest to dispute the title. Her river traffic still continues to be great.

St. Louis is the fifth city of the

Union, and one of the most important centers upon the continent.

The Mecca of the traveler during the next three years will be Chicago. One hundred years ago there was no such name on the map of the world. Less than seventy years ago it was a border, fur-trading village, where were collected a few rude huts and rude people, red and white. At the outbreak of the civil war it had grown to 100,206. At the war's close it had grown to 200,418. In 1870, just before two-thirds of the city was destroyed by the most dreadful conflagration of modern times, its inhabitants numbered 306,605. The population at the present writing is estimated at 1,250,000. The manufactured products of the city in 1890 were valued at \$96,200,000. But these figures show the material advancement only of the city.

The amount of money invested in the Chicago public school system to-day is \$50,000,000; the number of pupils attending these schools daily in 1890, was 135,000; the number of teachers employed, 2,842, and the cost of maintaining the system in 1890, was \$3,787,222. There are in addition to this, private schools, seminaries and universities, having over 62,000 pupils in attendance. Chicago has the most elaborate, and in many respects, the grandest of all park and boulevard systems, forming a semi-circle around the city. Her park area is 2,006 acres.

Chicago's real commercial empire extends from the Alleghany mountains to the Pacific ocean, from British America to the Gulf of Mexico. Her products and manufactures find a market in every part of the world. She is the greatest lumber, grain and meat distributing point in the world. To convey an idea of the business done in Chicago, the following items will be useful: In 1890, the value of dry goods and carpets sold at wholesale, \$93,730,000; of groceries, \$56,700,000; of clothing, \$21,500,000; of boots and shoes, \$25,000,000; of

jewelry, watches and diamonds, \$20,400,000.

The aggregate annual cost of the municipal government is about \$14,000,000. Chicago's geographical position, her accessibility to all parts of the nation and of the world, her facilities for the accommodation of large crowds, had very great weight in the contest for the selection of a location for the World's Columbian Exposition.—*The Exposition Graphic*.

### The Interoceanic Canal of Nicaragua.

In a volume of some 200 pages handsomely illustrated with pictures and maps just published by the Nicaragua Canal Construction Company, are represented in an interesting manner the history of the Nicaragua Canal undertaking, the work so far accomplished and the financial aspect of the enterprise, together with the speeches on the subject by Senators Morgan and Sherman, and copies of the United States charter and the various concessions, treaties, reports, etc. As finally located the canal is to have a length of 169½ miles, of which twenty-six and three-fourths will be excavated channel, and 142⅔ miles will be in lakes, rivers and basins. The summit level will be that of Lake Nicaragua, 110 feet above the sea. By the erection of suitable dams and embankments the level of the lake will be extended to within twelve and three-fourths miles of the Atlantic and to within three and one-half miles of the Pacific, the total length of this reach of smooth water being thus 153¼ miles. There will be three locks near either end. The first, nine one-fourth miles from the Atlantic, will give a lift of thirty-one feet. Some one and one-fourth miles further on is the second lock, giving a lift of thirty feet, and two miles beyond is a third, with a lift of forty-five feet. The vessel that has passed this third lock will then have before it, as already stated, the lake level for a distance of 153¼ miles, with ample spaces for anchorage and for passing other vessels. To hold the

waters of the river San Jaun up to the lake level the Ochoa dam, a formidable work, will be constructed. This dam is to be 1,900 feet long, with a maximum height of seventy feet. The "Eastern Divide," cut through the main Cordillera, 298 feet above the summit level, is perhaps the most difficult piece of labor on the entire route. This cut, mostly through rock, is to be two and nine-tenths miles long, with an average depth of 141 feet. From the lake to the Pacific there are seventeen miles. Three locks and a dam 1,800 feet long, and seventy feet high are required here. Of the twenty-six and three-fourths miles of excavated channel thirteen and one-fourth have a bottom width of but eighty feet, which, however, is eight feet wider than that of the Suez Canal. The remainder will have a bottom from 120 to 150 feet wide. It is estimated that the speed of vessels in the narrowest channels will be two and one-half miles an hour; in the broader channels, five miles an hour; in the basin, seven miles an hour; in the San Juan, eight miles an hour; in Lake Nicaragua, ten miles an hour. With lockages of from six to forty-five minutes each, the entire time of transit would be twenty-eight hours. The cost of the canal is estimated by the chief engineer at \$80,084,187; by certain distinguished engineers who were consulted at \$107,799,570. Five per cent. interest on the first of these estimates would require \$4,042,083, whereas the estimated net earnings on a business of 6,500,000 tons amounts to \$14,750,000. If the second estimate be the correct one, \$5,388,979 a year would pay interest charges. It is believed, however, that 9,730,290 tons of shipping will be attracted to the new interoceanic route during the second year of its availability. Its advantage to the world's commerce is obvious. The trade of the United States—and particularly of the Gulf States—would, it is thought, be greatly increased by the easy communication the canal would supply between the eastern and western coasts of the two American conti-

ments. At present the work is, it is believed, in the hands of American capitalists. They desire the Federal Government to indorse their bonds in order to raise money at easy rates, the plea being that the canal will thus be most cheaply built and the tolls charged would be less than they would be if capital had to be raised on private credit. Should Congress refuse to indorse the company's bonds or buy its stock the prospect, it is thought, is that the canal will be built by European capitalists, who are said to be anxious to obtain the company's concession. In any event it is likely to be built within a brief period, which is the main consideration.

### The Arid Lands Problem.

Nebraska and Kansas are deeply interested in the arid lands problem. Should the project of conveying these lands absolutely to the States be carried out these two States may be seriously affected. All our water-courses of any consequence rise in Wyoming and Colorado. If these latter States are given absolute control of the irrigation question as it applies to the arid lands of those States, they will have it in their power to deprive us absolutely of the water which now courses across the State in the Republican, Platte and Niobrara rivers. They may choose to store it, and so prevent us from obtaining any benefit from the sources in the mountains. The people of Colorado have already taken possession of the headwaters of the South Platte, and at times that stream is dry. In Colorado and Wyoming are the watersheds of this country. It is not surprising that they should be enthusiastically in favor of State ownership of the arid lands and State regulation of the question of irrigation. With such authority they could readily develop every fertile acre within their boundaries, but in doing so they might impoverish western Kansas, western Nebraska, part of South Dakota, all of New Mexico, and parts of Utah, Idaho and Arizona.—*Bee*.

# Clionian Review.

MOTTO—Pedetentim et Gradatim Oriamur.

ETTA MAY McCLURE, Editor.

We are sorry to hear of the illness of Miss Nettie Storer, a former member.

Mr. and Mrs. W. D. Brightwell were with us at the joint meeting on February 19

A committee has been appointed to procure a powerful hanging lamp to displace the chandelier.

The joint meeting promises to be a great success, especially the oration class, which is something new.

Some faint rumors of a new carpet for Clio are floating through the air. May they grow stronger.

Miss Bertha Carroll, an earnest Clio, will be with us next term. We shall be glad to have her place filled.

We are now free of debt and have quite a neat sum to our credit in the First National Bank of California.

Quite a number of last year's class are expected back for a short visit the 22d. We are always glad to welcome our old friends back.

Miss Hattie P. Burke, now of Cornell university, is taking a special course in English Literature and is enjoying her work thoroughly.

Our work so far has been very satisfactory; our attendance is very large, and the question now is, how will the hall accommodate all next term?

Prof. Meese was chosen as an honorary member a few meetings since, after which he was called on and thanked the society and gave a few words of advice.

Quite a number of our Clio alumni expect to take the Post-

graduate course next term and we are glad to know they will again be members of Clio. We have a warm welcome for them.

Our constitution has been remodeled and new clauses inserted. The work to be done in the future will undoubtedly show the advisability of such measures.

Miss Pearl Lewellen favored us with a vocal solo, Feb. 12. Why can't more of our Preps. take such an interest in the work? Their contributions are always acceptable.

It really does one good to see the bright, interested faces that greet one every Friday night in Clio hall. And our prayer is, "May the good increase, and we be made more worthy workers."

On Friday, Dec. 12, the question, "Resolved, That the study of the grasshopper is more beneficial than the study of arithmetic," was ably discussed. Mr. Mitchell produced a grasshopper, which was fearfully and wonderfully made, and by which he ably illustrated his points.

Supt. Hugus, of Westmoreland, visited the Normal a week or two ago. His remarks in the chapel were highly appreciated, and we hope that we shall be again favored with his presence in the future. Mrs. Hugus, who accompanied him, was at one time a student of the Normal.

An interesting institute was held at the Jefferson school, Franklin township, on Saturday, Feb. 5th. Among those taking part were Prof. Chubb, of the Normal; Prin. Lee Smith, of Uniontown; J. O.

Arnold, of New Haven; J. D. Horabake, of Vanderbilt; W. H. Martin, of Ursina, and others.

An educational convention was held at Monongahela City, Feb. 5th and 6th, in charge of Supt. Tombaugh. Among the speakers were Dr. Noss and Prof. Bryan, of the Normal; Supt. Hugus, of Westmoreland; Prin. Kendall, of Homestead; Prin. Smith, of Belle Vernon; Prin. Porter, of Bridgeport, and others.

On Tuesday, Dec. 24th, '91, Mr. C. L. McKee, formerly a student in the Normal, and now a student in the Western Theological Seminary, Allegheny, and Miss Francis R. Junk, of Laurel Hill, were married. The officiating clergymen were Rev. Reed, of Laurel Hill, and Rev. D. H. McKee, '79, of Bridgeville. The attendants were Jos. McKee, M. D., and Miss Sadie Long. The newly married couple spent their honeymoon at West Point, O., where Mr. McKee is stated supply of a Presbyterian church.

The District Institute held recently at West Alexander, conducted by Supt. Tombaugh, was a complete success. Teachers and others discussed the topics of the program. The talks given were interesting and showed that considerable interest exists in school management. Miss Bertha Carroll, of Beham, rendered a recitation which won great applause. Miss Annie Ankrom, of Claysville, with a class of children, gave an exhibition of what may be accomplished in gaining and enlarging a vocabulary. Among those present were J. I. Blayney, E. E. McGill, T. H. Sutherland and Irene Armstrong.



# Philomathean Galaxy.

MOTTO—Non Palma Sine Pulvere.

ORLANDO HUSK, Editor.

Philo was favored by a visit from two staunch members of '90 and '91, Misses Momeyer and Reed.

Mr. Hart told us in his inaugural, that if he made any mistakes, they would be of the head and not of the—heart.

We are often given a treat in the shape of a vocal solo by our friend, Mr. Jobes, though not as frequently as we would like.

Miss Ella Teggart, of Fayette City, '89, died on Friday the 5th inst., and was buried on Sunday. A good worker gone home.

We are very glad to hear that Mr. L. S. Weaver, who left school last year on account of ill health, has recovered. Philo sends congratulations.

Miss Hattie Westbay, an ardent Philo, is teaching at Reynoldton and having good success; also Miss Bentley, a successful contestant, at Elizabeth.

There is some talk of an excursion by the Senior class to Washington D. C. some time in the spring. No doubt but that it will be a good thing for all.

The name of Miss Sig Miller, supervisor of drawing in the Allegheny City schools, has been added to our list of honorary members, and Miss Patten, of Connecticut, a sister of our Miss Patten, has also joined our ranks.

We were pleased to receive a visit from Messrs. Henderson and Gabby, who visited their sons, who are students here. The sons are Philos and now the fathers are also Philos, having been made honorary members. They each made a

The officers elected at the last election are: President, Mr. Hart; vice-president, Miss Greenwood; secretary, Miss Longdon; attorney, Mr. Henderson; critic, Mr. Colebank; treasurer, Miss Musgrave; marshal, Mr. Husk.

Mr. O. S. Chalfant, who was recently admitted to the Washington county bar, was a welcome visitor a few evenings ago. He was an active Philo and is now an honorary member. He gave us a short talk on the question, "Should Maud Muller have married the Judge?"

Mr. C. H. Dils, who is attending Col. Parkers's school in Chicago, paid our school a visit on Monday, the 8th inst. Mr. Dils seems determined to excel as a teacher, having graduated here last year and almost immediately entering school again. Philo would like him to call before returning and give one of his entertaining speeches.

We were summoned in called meeting on the 9th inst. to take action on the death of one of our active members, Mr. C. J. Nichol, who died on the 17th. Although but a short time with us, we shall miss him, and the society extends its sympathy to the family. A committee was appointed to draft resolutions of respect for Mr. Nichol.

The question has been asked, "Why do we want honorary members?" This is why. They are either graduates of the school or else engaged in some other professional work and are very often the means of sending us active members. If a Philo knows of anyone coming here to school he says, "Join Philo." and they very often

The NORMAL REVIEW appears once more. Every issue seems more anxiously waited for than the last. Why? Because it becomes better every issue. We might say the same of Philo. Every Friday evening sees better work done by its members. The classes are full and the hall is full, which speaks well for us. For if the performances were not good, our visitors would not come back to spend the evening with us.

The joint meeting held by the two societies on Friday evening, Feb. 19, was a genuine success and was well attended by the citizens of the two towns. The performers were about evenly divided between Clio and Philo. The "Monologue" given by Miss Dalbey of Philo, was very good and, being something entirely new, was well received. Miss Lytle's (Clio) essay, "The Cincinnati of the West," was fine and well rendered. The original oration given by Mr. Washabaugh showed careful preparation and except for some little hesitation was well delivered. Miss Wilson's essays are always a treat, but this time she did better than ever. But the crowning performance of the evening was the debate, Resolved, "That the Eight-hour System should not be established." The affirmative was represented by Messrs. Mitchell and Hart; negative, Messrs. Powell and Carter. Profs. McCullough, I. L. Smith, J. E. Masters, Walter Hertzog, Wm. Howe, Chas. Phillips and W. D. Brightwell, former students, visited us. Mr. Brightwell was accompanied by his wife.

Miss Carrie Wilson will teach

## Language.

### On Teaching the Effective Use of English.

No accomplishment excels a thorough mastery of English. Those who have acquired it are the most cultivated and scholarly men and women of our age. This superiority frequently passes unnoticed; for it has a certain subtle quality like the delicate odor of roses. On reading or listening to the best English, we never think of the form of expression; and not till afterward, when the clearness of our conception reveals itself, do we notice the beauty and appropriateness of the language. To use English appropriately, elegantly and forcibly, implies not only a thorough knowledge of the language itself, but also a broad culture. It implies both connected, logical thought, and the ability to clothe the thought grammatically, rhetorically and connectedly in fit language. A style as massive and majestic as that of Burke or Macaulay renders any man immortal. The power to use the English language perfectly cannot be attained in the early years of life. It comes only with mature discipline and ripe scholarship. But the power to use the English language well, that is, to employ the language appropriate to the degree of advancement in thought and culture, to suit the expression to the thought and the thought to the expression, in all the elegance of the simplicity of our noble mother tongue, should be trained simultaneously with the developing faculties of the child. And if this development is natural and correct, nothing once learned will ever need to be unlearned. The language of the child, grown to a larger stature, will be the language of the man; the early English will be the foundation, the bed-rock, so to speak, of the later English. Accordingly the best writers exhibit their most effective style when they write from the plane of the child's understanding. Hawthorne's "Tales of a Grandfather," for example, present

historical truth, in a most impressive way, to grown people as well as to children; and his "Wonder Book," by the simplicity and directness of its narrative, reveals the ancient fables, legends and myths, to the minds of both youths and adults, much more vividly than the more elaborate styles in which these tales are usually expressed. To know the fine shades of meaning conveyed by the different forms of expression, and by the several words employed and their location in the sentence, requires a careful study both of the language itself and of the thought it conveys; and to understand thoroughly how these fine shades take on different colors when the expression is slightly modified—by changing from the active to the passive or the reverse, for example, or by the rearrangement of words and expressions, and by the substitution of other words—this requires both a wide range of reading and an exhaustive study of the subject matter treated in the literature. The mastery of English must be sought indirectly and by successive easy steps, and not at one bound; but the aim should always be towards this end. For what the pupil can express, is the only sure index of his progress and thought. Language is first learned through the ear, and used orally and unconsciously by the child, just as he breathes. The child imitates. If the language of those about him be correct, his will be correct. The child must be taught, from his first entrance at school, to speak correctly; not by precept, but by example. He need not at first be told why one form is correct and another incorrect; but keeping his attention upon what he really wishes to say, the teacher should tell him how to say it properly—in good colloquial, everyday English. No bad language should be allowed to go uncorrected. It should not be emphasized; it should be thrown aside at once; and the right expression should be substituted and impressed upon the mind. New ideas should be awakened by the teacher and expressed appropriately, with the

teacher's aid if necessary. This is a large and ever-present task in school—in all schools from the first to the last. Sometimes the thought suggests the expression, and sometimes the expression suggests the thought; but they should never be separated. One of the greatest faults in the teaching of language is that speech is allowed to be used without reference to the ideas which it should convey. Expression should not be stimulated beyond the thought to be expressed; but it should always accompany the thought. When at a subsequent period language is learned through the eye, the whole field of literature, the fossilized thought of humanity, is laid open to the mind. Here the language suggests the thought. In the early stages of studying language in this form, the first object is to apprehend the thought; the second, to give vocal expression in the language of the author; and the third, to express the thought in one's own language.—*Prof. Albert P. Marble, in the Educational Review for January.*

### Hints in Language Teaching

S. O. S., WEST CLEVELAND, O.

It is conceded generally nowadays that the use of the English Language cannot be learned by rules, but that this requires ceaseless, patient, systematic, well-directed reading, writing and speaking it in established and approved forms.

Teaching good English consists therefore, of a variety of well aimed exercises, each one being a part of a well conceived plan and having a definite purpose. Random exercises are the bane of our teaching in this department, and the method, or rather want of method, in conducting the so-called "Language Lessons," especially in the lower grades, is probably open to more just criticism than that of any other department. Teachers look up a "Lesson" and think it is a good thing, and go forth to their school-rooms equipped with

it, and for once they are "going to give a *first-class* lesson in 'Language.'" The lesson is given, and the teacher congratulates herself that she has done a good thing. By and by it occurs to her that this lesson ought to have borne fruit. She did her part well, and apparently the pupils grasped the thought. The difficulty with all this lay in the fact that the lesson, in itself good, formed no part of an intelligent and well formed scheme for giving the pupils possession of good English.

The teacher wishes to give the pupil practically a grasp of our great language. She must first herself have a clear view of its salient features, and common difficulties, and every exercise must have a definite aim — either to correct some common error or establish some approved usage—and the value of each exercise must be tested by written work. These written exercises have two objects: (1) To fix the facts of usage. (2) To enable the teacher to direct intelligently the daily language drill.

That pupils use what they have learned each day and constantly thereafter, is essential to successful teaching in any branch, but this applies with peculiar force to the teaching of language which can be taught successfully in no other way.

By various well-graded and systematized exercises, the pupil grasp one by one the main facts in the correct use of English. He must, by composition work, get the notion of its usefulness and of its completeness as an instrument of expression, and go, step by step, through the field of correct forms. So from the day when he enters school until the day he leaves it, intelligent exercises, which teach approved usage, and written production and oral expression, which give him power to apply what he has learned, must go hand in hand. The ear must be trained to distinguish correct forms; the eye must be taught to recognize them; the tongue to use them, and the hand to write them.

The first is accomplished by conversation, oral expression and class-drill; the other by writing and by tireless drilling on well aimed exercises and by encouraging pupils to extensive reading.

The teacher must learn the art of conversation (and most teachers may learn much here). Some teachers are decidedly formal and repelling in their manner. A teacher should maintain the attitude of sympathy and approachableness, especially in the First Primary grade, so as not to repress the child's efforts. It is better to encourage him, though he make many blunders; and afterwards by degrees she may become more exacting in her demands for more correct forms.

The conversational exercises should be such as will excite thought and make the conversations possible. The teacher must be an expert in leading the conversation in the lines desired, and must be careful not to let one or two pupils monopolize the whole time.

The teacher should become a good story-teller. A beautiful story beautifully told, is one of the most powerful implements in the hands of a teacher. Stories furnish substantial food for the imagination, and touch the sympathies of children more readily and with more telling effect than any other one thing. A teacher is not well equipped for her work if she has not learned and learned *to tell* a good fund of stories. These should always be adapted to the age and mental advancement of the pupils, and, above all else, should not be of an inferior or trashy character. The standard and classical stories that have come down to us through the ages, such as Cinderella, Puss in Boots, Jack, the Giant Killer, etc., will supply the necessary material. I might here caution my readers to beware of stories with a *moral appendage*, though many are desirable yet they should be sifted with great care before using.

While a special recitation period is set apart for the special study of language, yet it should be remembered that every recitation is inci-

dentally a lesson in language and that care should be exercised in securing good expressions all the time. Little attention may be paid to this the first year, the teacher growing more exacting as the pupil approaches the higher grades, where she should require all thoughts to be expressed in good and correct English. In short, all lessons should be language lessons, and the special language period should be devoted to fixing some particular and well-defined points. The effectiveness with which this work is done will determine in great measure the effectiveness of all other teaching, and the intellectual vigor of the man.

The planets Jupiter and Venus are evening stars throughout January. During the month they approach each other, and on the 5th of February they will be in conjunction. At this time they will be very near each other, the distance being only a minute. During January the other planets, Mercury, Mars, Saturn and Uranus are to be seen in the evening, the last two in the constellation Virgo, and Mars in Libra during the first, part of the month and in Scorpion during the latter.

The island of Madagascar has two distinct climates, two classes of natives and two classes of fauna and flora. The island is about the size of France. Along the coast it is tropical and malarious, and the natives are darker and larger than in the interior. The interior is a high table land and mountainous. There the climate is cooler and the natives smaller and lighter in color than on the coast. But in the interior they are more intelligent and they rule the island. *Pittsburg Dispatch.*

Statistics of the progress made in heating passenger cars by steam from the locomotive have been recently published, showing that 7,391 cars, or about one-fourth of the entire passenger rolling stock in the country, including passenger and sleeping cars, are now equipped for steam heat.

## CURRENT EVENTS.

**Death of the Khedive of Egypt.**

The death of the Khedive of Egypt is an important event to the oldest country in the world, where a sovereign, despite the tributary condition of Egypt and the limited power of its nominal ruler, is a greater personage in the eye of the people than some Western Kings with more authority would be in the estimation of their subjects. Were it not for the Eastern superstition about Kingship, the Khedive would be a small sort of person, but as it is, he is a very large shadow in the land, and the throne which once held the master of all Islam is likely to be a sacred object in Egypt for some generations yet. Nevertheless, great changes are taking place along the Nile, and if the Pharaoh who was swallowed up in the Red Sea could rise from its waves and see his ancestral domain again, he would fail to recognize it as the country over which he once ruled. The position of Egypt is subject to such a variety of complications that the death of Tewfik Pasha may cause some uneasiness and considerable controversy in Europe, where the ancient land of the Nile has for several years been a bone of contention among three important nations. Egypt has two masters, one nominal, the other real. The former is Turkey, the latter is England. Almost beyond a doubt the English are in Egypt to stay. Their own interests demand it, for the Egyptian debt is very large and is held in England without the chance of payment, unless English troops remain in Egypt and see that the revenues are properly handled. The English advance in the country is similar to that made by them in India, and the Khedive is very much in the position of some of the native Indian princes, while Turkey is thrown out of the question altogether. Certainly, it is much better for the country that they should remain there, for wherever she has gone in the East, England has established order and raised the condition of the native

masses. Thus, Egypt may virtually be set down on the map as a province of the British Empire. Old England has her in her grip, and when she gets anything there she rarely lets it go.

Our beautiful national hymn, America, was written by the Rev. Samuel F. Smith in 1832, while he was a student at Andover, without any idea that it would ever become famous. It was first sung in public at a children's celebration in Park street church, Boston, July 4, 1832. Its popularity was assured from that time. Dr. Smith, who was eighty-three years old the 21st of last October, lives in a pleasant home at Newton, Mass., whose piazzas and bay windows look toward the sun. It will be remembered that Dr. Holmes, at the annual reunion of the class of 1829 held in 1859, wrote thus of Dr. Smith:

"And there's a nice youngster of excellent pith,  
Fate tried to conceal him by naming him Smith,  
But he shouted a song for the brave and the free,  
Just read on his medal, 'My Country, of Thee.'"

Andrew Carnegie began life as a messenger boy in a Pittsburg telegraph office, and his first upward step was taken when he learned telegraphy well enough to become an operator. His opportunity came when he was transferred to the service of the Pennsylvania Road, where his worth was soon discovered by Thomas A. Scott, who advanced him rapidly.

Miss Kate Sanborn, the author of "An Abandoned Farm," is said to pride herself on the fact that she has supported herself ever since she was seventeen, her first venture being a school in a big room at her home. She seems, however, to have found lecturing the most profitable of all her various undertakings, and, perhaps, one of the pleasantest. Miss Sanborn's mother was the favorite niece of Daniel Webster.

One of Vermont's curiosities is a floating island in Sodoga Pond, near Jacksonville. The pond is a mile in length, and the island, which

covers one-third of it, is two feet thick. It bears a fine crop of cranberries. — Jewish Messenger.

Another substitute for gutta serena has been discovered in South America, being in the form of a fluid of solidifying properties. It is insoluble in water, and hardens and softens with cold and heat. It will retain any molded shape, can be cut into very thin sheets, and will take the minutest impression upon its surface. It is derived from a plant growing wild in the Concau district. — New York Sun.

Girton College has a fire brigade which includes nearly all the girls in the institution. This is divided into three corps, each having a captain and sub-captain, all of whom are subject to a general head captain. Each week there is a pump and bucket practice, and in summer there are frequent "window practices," when the girls who volunteer are lowered out of the first-floor window to the ground by means of a rope knotted with one loop over the arms and the other around the hips.

**The Cause of Earthquakes.**

At a meeting of a geological society in New England, one of its members who has given the subject great study, stated that the globe was nine miles smaller in diameter at the poles than at the equator, and that the earth rotates on its axis about 26,000 miles every twenty-four hours, which is nearly equal to the speed of a cannon ball. Another thing ascertained was, that the axis of the globe is gradually altering by becoming more oblique, and that it requires about 39,000 years before this alteration arrives at its maximum.

When the great velocity at which the earth rotates is taken into consideration, it is evident that a large amount of centrifugal force must be exerted, and as Nature never did anything without a motive, it will be seen that this force is the cause of the globe's being nine miles different at the equator and the poles. As the axis got grad

ually more oblique, so the direction of the equator would alter. It is supposed that the crust of the earth is only about fifteen or sixteen miles in thickness, and below that distance there is a mass of incandescent minerals. This has been proved in one way by mining, where they find in sinking the first 1,000 feet that the temperature rises very perceptibly, and becomes greater as they get lower. It is known, too, that centrifugal force acts not only at right angles to the earth, but has also a lateral motion.

Astronomers have told us that the deviation of the axis arrives at its maximum every 39,000 years, consequently the south pole, when the climax occurs, will occupy the place where the north pole now is. It is supposed that the last great climax was a glacial one, as there are plenty of evidences which prove it. In the Amazon river district, now exactly on the equator, there are many evidences of glaciers, and they are to be found also in latitudes farther north. It is supposed that at one time the space now occupied by the Atlantic and Pacific oceans were large continents, and when naturalists go up mountains, they frequently come across specimens of conchology, which could have got there only by the upheaval of oceans. These changes are the cause of earthquakes, the dislocation and overlapping of strata and the submerging and upheaval of continents.

#### The Aristocracy in the United States.

The aristocracy in the United States is not at all, as in France, an aristocracy of race, having behind it a past history; but it is above all an aristocracy of work, an elite of eminent citizens, whose individual actions made a vivid impression on society in its onward march. "There are, in American society, superior and inferior elements; the battle of life operates incessantly in choosing between these, assuring to some the command, precipitating others into dependent positions, creating for each branch of

activity a veritable hierarchy." There has been formed, in every part of the Union, a class of great patrons, who are stamped by their love of public good, combined with their effective action on society, as members of the new aristocracy. By aristocracy in this connection is meant "a collection of individuals playing an elevated and disinterested role, consecrating to the public good a notable part of the advantages which they have conquered for themselves, a selection of eminent and devoted men." That which distinguishes this aristocracy is the desire to raise to itself all the social elements capable of such elevation. "All those men who, having reached the top of the ladder, generously extend the hand to those who are also striving to reach it, and make them really a part of themselves, are here included, and such men are not rare in the United States. Besides the individual patronage, which many rich Americans exercise toward those less fortunate, they give other proofs of their devotion to the public good, by creating libraries, museums, schools, universities, and even parks. Thus, quite recently, Andrew Carnegie, the great manufacturer of Pittsburgh, gave two millions to found a library in that city. To Chicago another millionaire bequeathed two millions for the same purpose. It is the same with the universities, of which the most celebrated, Harvard, founded in 1638, is to-day immensely wealthy. Many other educational institutions are due to private enterprise, and sometimes have very large incomes. Girard College is an instance of this. The museums, if not entirely founded by individuals, are not the less increased by valuable private collections, bequeathed or given by the owners thereof. There is nothing easier than to establish in America a university, a library, a hospital, a museum. Nothing easier than to firmly establish whatever one may wish to create; it is only necessary to name, in one's will, a Board of Trustees, to whom is intrusted the administration of affairs, and power given to fill

vacancies which may occur in their ranks." By means of such useful gifts, the rich class of America contributes to the public welfare. "To-day," M. de Rousiers concludes, "American aristocracy exists only in a latent state, but it is easy to discover its constituent elements, to see their birth and watch their development. At present, these events play an effective part in the social constitution and form a useful complement to American democracy. They provide for the administration of a number of general interests, as soon as they come to the surface, without waiting for the public funds to provide for them. For one who knows the corruption of American government, the credit of this is not slight. Thanks to this, the United States pursues its progressive march in spite of its corrupt politicians. These corrupt everything they touch, but they can only reach a few things. The voluntary and spontaneous government of the natural aristocracy retains its sphere and limits their influence.—Translated from the Paris Revue des Revues.

Venezuela has fifty-six holidays every year.

There are eighty-two national cemeteries in which are buried 328,115 soldiers.

There are now fifty "tank" steamers plying between this country and Europe, carrying oil in bulk. They carry about 5,000,000 barrels of oil annually.

Russia has bought 60,000 tons of cement in Silesia to be used in the construction of fortifications in various places on the Austrian frontier.

Frederick Douglass has bought the church edifice in which he once worshiped, and to which he is much attached, in order to help the congregation pay off its indebtedness.

In Corfu sheets of paper pass for money; one sheet buys one quart of rice, or twenty sheets a piece of hemp cloth.

# Arithmetic.

## Two Months Work in Numbers

BY S PT. G. W. M'GINNIS, W. CLEVELAND, O.

In my last article I dwelt upon the importance of rapid work. This does not imply that pupils are to be rushed along in an unintelligent and haphazard sort of way. On the contrary, pupils must be made sure at every step. Whatever has been attempted must have been perfectly learned. If children have learned one thing well they are the better able to attack another.

If addition has been taught in spirit, and with the degree of thoroughness indicated, the pupil is ready to take up subtraction and here, as in addition, the teacher's first work is to secure a correct concept of the thing to be done.

Let all the pupils take in hand ten objects each. Let them say, with the teacher, "Here are ten objects." Then, as each pupil removes one he, with the teacher, says, "Here are left nine objects." "One from ten leaves nine." Again. "Here are eight objects." "One from nine leaves eight," etc., down to 0, or until all are removed. Two or three exercises of this kind, with objects, are sufficient.

Then, let pupils count downwards from 10 without objects until all can do so as fast as they can talk. In a similar way count from 20 downwards, and thus through all the decades to 100.

Let the teacher take, say, two objects in hand, and holding them up, ask: How many must be added to 2 to make 7? Pupils readily answer 5, and the teacher places them with the 2. How many will be left if 2 be taken from 7? (Teacher removes them) class answers 5.

Repeat the above exercise with other small numbers until every pupil sees that to subtract any number from another he has only to find what number he must add to the smaller to make the larger. His skill in addition will then ena-

ble him to make any subtraction readily and quickly, and his readiness here will give him a consciousness of power over numbers that will greatly stimulate his efforts in this, to him, new and interesting field.

Next, let pupils name results only, and subtract orally by 2's from 100 to 0, from 161 to 1; by 3's from 100 to 1; from 101 to 2; from 102 to 0; by 4's from 101 to 1; from 102 to 2; from 103 to 3, etc., etc.

To get variety and secure interest put questions like the following, but at first do not use more than one form at the same sitting:

What number with 5 gives 12?

What number taken from 12 leaves 5?

5 is one part of 12, what is the other?

The following is a useful slate exercise:

The teacher supplies only the first two numbers.

$$6 \times 3 = \quad 9 - 6 = \quad 9 - 3 =$$

Confine this work to minuends below 19 and subtrahends below 10.

In subtracting one number from another, no matter how large, the pupil will have no mental operation involving a minuend larger than 18, or a subtrahend larger than 9. Therefore the following should constitute the drill table for subtraction, as it contains all the operations necessary.

Let the teacher concentrate the attention on one or two of these at a time, taking the mind off the particular ones in hand, only to bring it back again and again until fixed for all time.

10	9	10	9	10	9	10
9	8	6	7	5	4	2
8	10	6	8	9	8	7
7	8	5	6	6	4	5
9	7	8	9	7	10	8
2	6	5	5	3	3	2
7	10	6	8	10	7	9
2	7	4	3	4	4	3
5	4	3	5	11	4	5
4	3	2	3	2	2	2

18	16	14	15	12	12	14	11	13
9	8	6	9	6	5	8	9	8

12	17	12	16	14	13	16	11	12
3	9	4	5	9	5	7	6	8

17	13	16	13	11	13	14	15	11
8	6	9	4	8	9	6	7	3

15	11	13	12	14	11	12	11	12
8	4	7	7	7	5	9	7	7

Let pupils name differences only. Drill on the first thirty-five until pupils can name in any order all the differences in forty seconds. Then drill in the next thirty six until all can give the differences in any order in forty-five seconds or less.

The pupil is now ready to learn to borrow. Much has been said and written on borrowing, and eminent pedagogues have been arrayed in mortal combat. One very excellent superintendent says: "I recommend that the process be adopted of taking from the upper number altogether, as this is explainable.

However, I teach pupils to add ten to the upper figure when it is smaller than the lower, and that when he has added to the upper he must add one to the next figure below. Let pupils solve several problems in this way, making sure they know what is done.

The teacher must exercise the greatest care at this point. She must not, *absolutely must not* explain. Tell the pupil what to do, and have him say, We added 10 to the upper figure, we must now add to the next figure below and then subtract, and at the same time, suiting the action to the word, do it.

A few problems done in this way will enable pupils to perform the work readily. The teacher need not hesitate to teach this method, fearing she may be called upon to explain, and in the effort meet with defeat. This method is as simple, logical and philosophical as the other, and as "explainable" also.

After the child has become somewhat skilled in the use of his faculties, and can follow a short course of reasoning, you have only to show him that the same difference between two numbers exists after

they have each been increased by 10, that existed *before* they were so increased, and the work is done. This may be accomplished any time after the child has learned the principles of notation.

It is a good plan to time pupils frequently. Let them practice upon a particular problem till they can make fifty combinations per minute. Then take another and another. Pupils are fond of this, and in the hands of a skillful teacher it is a healthy and powerful incentive to effort.

Pupils may tell, and should be encouraged to tell, "number stories" as soon as they have learned the necessary combinations involved, but should never be given such work before, as it tends to confuse and discourage, distract and mystify.

If a pupil is once confused he has had a lesson in dissipation of energy, and incorrect form of thought, and his mind must be brought back to the correct form—must be reformed. He will require to be led over and over again this same line of thought, wherein he has once lost his balance, until he is perfectly clear and out of danger.

There must be no mental treadmill, no senseless cramming to check his activities. His intelligence must be fostered into strength and efficiency, not deadened by the introduction of facts which he can not understand, and which are foreign to the point to be made.

The teacher's work here will determine whether the young minds under her manipulation and care shall develop into vigorous and healthy maturity, or into imbecile and sickly immaturity. To insure the former she must lead them to attempt only that which is easily within the limits of their power.

To give a pupil practical problems involving combinations of numbers which he has not previously learned, is a violation of this law, and the injury done him by so doing is incalculable. After a child has learned that 9 and 8 are 17 he may solve such simple problems as involve these combinations, but such problems must

not be relied upon to teach that 9 and 8 are 17. They are designed to teach him how to use this fact which he already knows.

Pupils under the care of a perfect teacher from the beginning will never become confused, but if they are required to divide the attention between the logic and the numerical combination (which he does not know) confusion and ruin will follow closely on.

When a pupil has become proficient in addition and subtraction he should be encouraged and required to solve problems, involving both operations, and should explain in every instance which operation is used, and why. Very simple oral problems should be given at first.

There are some simple processes which are useful for class drill, and which I urge teachers to use repeatedly, both for the sake of variety and because they facilitate the work and hasten the advancement of the class.

Work by decades. When a child has learned that 8 and 5 are 13, let him learn that 18 and 5 are 23, and that 28 and 5 are 33, etc. He must be led at once to see that the units figure in each decade is always the same. This once seen he will add or subtract readily without further drill.

Teach the proper expression for processes as soon as the pupil has the correct concept. Do not say, 4, take away 1 leaves 3, but having learned the meaning of the proper expression, say, 4, less 1 are 3.

At this age pupils are expected to devote about forty minutes daily to numbers. In making a daily programme I would divide this into four periods of ten minutes each, and then use ten full minutes in combining numbers. I should hardly be satisfied with my efforts if I did not get my class to make three hundred combinations (they should make four hundred) during each recitation. Of course many of these must be review, and many would be repetitions of the particular combinations set apart to learn during that particular recitation.

At the city fire department,

horses are hitched three times daily lest they should forget to come to time. Just so with the pupil. He must repeat daily all the combinations he has learned, lest he, too, should forget.

My readers will, I think, agree with me that ordinary children of ordinary minds, ought at least, to learn three combinations each day, so they can name them instantly. Agreeing in this, and bearing in mind that there are only seventy-one essential combinations to be learned in subtraction, a small amount of mathematics leads to the conclusion that twenty-three and two-thirds days ought to complete the task, and it will.

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#### Reminiscences of Early Normal Life.

MR. EDITOR:—In response to your kind invitation I send you some recollections of my first term in the California Normal School. It was on Monday evening, March 22d, 1875, that I landed in California. I came up the river on the "Packet"—the railroad was not built until several years later.

I found my way to the "North Dormitory," where I was met by Dr. C. I. Ehrenfeld, who gave me a very cordial welcome. I liked him at the first glance and have held him in high esteem ever since. After a visit to the dining room for supper, I was introduced to my roommate, Mr. C—, who ushered me to our quarters in the main college building. The ladies and faculty lived in the North Dormitory, but the South Dormitory was far from being completed. The boys occupied the unused recitation rooms of the main building. Our room was on the second story of the south wing—the southeast room, now occupied by Prof. Bryan. The only inviting feature about the room was that we had plenty of room. It contained two beds, being intended for four boys, but we had it all to ourselves. There were a number of boys scattered through the main building, and lively fellows they were. They came in that evening to get acquainted with the new student. They entertained me with interesting accounts of how they had succeeded in rousing the whole town by ringing the College bell at midnight and other Normal pranks. After a while some one invited Mr. K— to come in and bring his violin. Now, K— was a tall, limber fellow, with fierce eyes and a long, black beard. He soon came with his violin and the fun began. K— fiddled; O how he fiddled! He fiddled all over—fierce eyes, long beard, big feet and all. The boys took the floor and how they did dance. They jumped, they pounded, they stamped, they yelled. The bare floor and bare walls echoed and re-echoed the noise. Where was the principal, where were the teachers, I thought. But the boys knew that good Dr. E. was far away in the North Dormitory and that there were no teachers about to molest. At last the boys subsided and bade us a respectful good night. C— and I said our prayers and went to bed on a mattress that seemed as hard as the floor. But before we went to sleep the boys paid us another visit and renewed the serenade. They were just getting limbered up. The violin shrieked even louder than before. The boys emphasized their dance by smashing the chairs and breaking the unused bed-

stead. Again they retreated. We had had enough of music (?) for that night, so we tried to barricade the door—we had no key to lock it. It was no use. They burst in upon us again. This time they had a bottle of whiskey. They wanted to give the "new fellow" a taste of Normal life. When we both refused to drink they hauled our bed out of its corner and proceeded to pour it into C—, but the bed-clothes got more of it than C— did. They kept up the serenade for a large part of the night.

The next morning K—, the violinist, came in to set things right. He had a private key to the chapel. He took all the broken chairs into the chapel and exchanged them for good ones. The chambermaid reported next morning that she smelled whiskey in the "new student's" room. I went to the principal the next day and begged the privilege of hunting a boarding place down town. It was granted, and I was soon safely domiciled at "Uncle Tommy Johnson's" on Second street, where I spent one of the happiest terms of my school life.

I was not favorably impressed with my first night of Normal life, but when I entered the classes and met my teachers the next day I liked it better. The faculty consisted of Dr. Ehrenfeld, Prof. G. G. Hertzog, Mrs. Smythe, Miss McCalmont and Miss Oakley.

Wednesday afternoon was given up to the literary societies. I somehow dropped into the Philo society. It had been organized a few months before by Fulton Phillips. I remember very well my feeling of disgust when I entered the room, the room over the reading room. The furniture consisted of an old school desk and a number of the chapel chairs. No carpet, no curtains, no pictures, no organ, no nothing but a good lively set of boys and girls. But we had a number one society. If the modern Philos do as much good, solid literary work as we did they are doing well. I soon became an ardent Philo. My zeal in her interests was all-consuming. Lessons were a good thing, but they had to stand aside for society interests. In those days we performed at every session; often twice at a session. It was during this term that the first copy of the Philomathean Galaxy was published. The first regular contest between the societies was held this term. If I remember rightly the following persons were the contestants: Recitation—Philo, Maud Early; Clio, Kate McCalmont. Reading—Philo, Sue Ammons; Clio, Anna B. Willson. Oration—Philo, A. W. Newlin; Clio, T. R.

Wakefield. Debate—Philo, S. S. Paterson; Clio, A. B. Cope. The contest was close; but great was the rejoicing in OUR ranks when the Philos came out a little ahead. Let me say that the practice gained in literary society has been of incalculable benefit to me ever since.

It was during this spring term of '75 that the first shade trees were planted on the campus. One Thursday afternoon was given to us as a half-holiday, providing we would spend the time in setting out trees. We boys worked very lustily while the girls and lady teachers looked on and applauded. Many of the trees and shrubbery that now adorn the campus were planted that April afternoon. I am glad to learn of the continued prosperity of the Normal.

Very truly yours,

A. W. NEWLIN.

Elder Bruff, of Uniontown, was a visitor at morning chapel recently. He gave an interesting talk to the students.

Rev. Leroy Lewellen, of Allegheny, Pa., preached in Elwood's Hall, Charle-roi, Sunday and Sunday evening, Feb. 7, in the absence of the pastor. He was the guest of Miss Carrie E. Wilson, being her classmate in the class of '85, at the California Normal. The sermon was good and the afternoon talk to the children interesting and instructive.

R. C. Crowthers, the faithful secretary of the Pittsburgh Coal Exchange since its organization in April last, and river editor of the Post, has resigned both positions. He has accepted a position with the Lysle coal company at a much better salary, and will leave next week to take charge of that company's interests at Cincinnati. While here, Mr. Crowthers has been very successful and has hosts of friends among newspaper and river men who wish him good fortune in his new work.—Pittsburg Post.

Letters like the following, from a graduate of the class of '82, now practicing medicine in Toledo, O., are always welcome:

Enclosed find 50c. for the REVIEW for one year. Having been successful in this city in my profession, I feel that 50c. is nothing and the REVIEW is everything, a real letter, as it were, coming directly from home, and that to get along without it would be to live without the best of news. I cannot forget the happy days spent at the Normal, and would love to go over them all again.

Yours very truly,

E. E. SCOTT.