A Dedication.

BY C. T. U.

Dear friend of mine, I send to you
This rosary of rose and rue,
More rue than rose—I know not why,
Save that the joy-bird soars so high—
Heart-skies are oftener gray than blue.

In sheltered dale these blossoms grew,
And some had only tears for dew;
Perhaps they will not dim
Your eye.

Dear friend of mine.

And yet a little sunshine, too,
Among the cypress leaves I strew.
And forth they go—content am I
To know that in the days gone by,
Your lips have praised their form and hue,
Dear friend of mine.

The Country West of the Mississippi River.*

West of the Mississippi River lies the larger portion of our country. Its measurement from east to west is about 3,200 miles, while from north to south it is from 1,000 to 1,200 miles. A large part of it was acquired by purchase from France; the region bordering upon Mexico was acquired by annexation, cession and purchase from that country, and the extensive area west of the main range of the Rocky Mountains in the northwest was acquired by exploration and settlement.

THE TERRITORY OF LOUISIANA was purchased from France in 1803. It included Louisiana, Arkansas, Indian Territory, Missouri, Kansas, Iowa, Nebraska, Minnesota, Dakota, Montana, Wyoming, and about half of Colorado. Strictly speaking, an exception should be made as to small tracts on the west borders of Montana, Wyoming, Kansas, and Indian Territory, but they are so inconsiderable that it is hardly worth while to refer specially to them. The consideration paid for that vast territory was only $15,000,000. Thomas Jefferson, who was President in 1803, strongly advocated its purchase. It was feared

that, should France undertake to retain it, the British would manage in some way, their superior naval strength greatly aiding them, to conquer and acquire possession of it. Thus they could secure virtual control of the Mississippi River, and menace the material interests of the young Republic, if not its liberties. At any rate, its growth would thereby be checked and the development of its resources greatly retarded. Napoleon Bonaparte, whose star was even then in the ascendant, shared the popular apprehension that the British would take advantage of the first plausible pretext to invade and conquer the Territory of Louisiana. Very naturally, therefore, he wanted France to get rid of it in some voluntary way, and strongly advocated its sale. He believed it to be much wiser to sell it for $15,000,000 than to run the risk of losing it by war. He saw that to keep it garrisoned with a force sufficiently strong to repel a British fleet and army would greatly weaken France. He knew that to sell it would be proper and honorable enough, as viewed from the standpoint of national dignity, while to lose it by war would be humiliating in the extreme. Besides, the money was greatly needed in France in connection with the schemes of war and conquest which Napoleon had in contemplation. In view of these facts, it is hardly necessary to add that but little difficulty was encountered in agreeing upon terms and perfecting the sale.

Few emigrants, however, settled in that region before 1830, and the scattering towns and settlements in it were confined to a narrow strip bordering upon the Mississippi. In fact, until 1845-6, or about the time of

THE MEXICAN WAR

the increase of population was very gradual and the development of the country extremely slow. Until that time the remote interior was regarded as a great desert and unfit for any use. Numbers of Americans had, however, settled in the eastern and western parts of Northern Mexico, and about the time mentioned they became very restless. Some of them went so far as to take up arms against the Mexican government. These acts were so flagrant and defiant that the authorities felt constrained to resort to extreme measures to suppress them. Serious conflicts ensued, and these were made a pretext for beginning the Mexican war. While the alleged wrongs inflicted upon the Americans were the special subject of con-

* Lecture delivered April 18th by Prof. William Hoynes, A. M.
trovery and the ostensible cause of the war, it was nevertheless very plausibly suspected that the desire to acquire additional territory was the real cause. At any rate, it was a strong motive. The President himself, James K. Polk, began the war by sending the army to Mexico. Had he complied with the provisions of the Constitution, he would have sent his message to Congress, the war-making power, and referred the whole matter to that body, which was then in session. But the slave power was dominant at the time, and Mr. Polk was its obedient servant. Its adherents supposed that the acquisition of additional territory would strengthen it by affording room for expansion in a region remote from the disputed borders, where it met in irrepresible conflict and increasing hostility with the free-soil sentiment of the North. In the war Mexico was, of course, signally vanquished. The victory resulted in the annexation of Texas and the cession to the United States of the region embracing New Mexico, California, Nevada, Utah, most of Arizona, and the portion of Colorado lying south of the Arkansas River and west of the plains. However, to give the transaction a semblance of fairness, it was agreed to pay Mexico $15,000,000 for the ceded territory. In 1853 the southern part of Arizona was purchased, the consideration being $10,000,000. This is known as the "Gadsden Purchase," Gen. Gadsden, of South Carolina, having taken a conspicuous part in concluding the negotiation. Though all that region had been visited by Spaniards and occupied by numbers of zealous missionaries long before the pilgrims landed at Plymouth Rock, yet the greater portion of it proved to be unavailable for permanent settlement and profitable cultivation by the whites, and the great majority of those living there at the time of the Mexican war were Indians.

In 1848 gold was discovered in California by a Mr. Sutter, and the wildest excitement was at once aroused. People flocked there from all parts of the world. Even Chinamen were among the immigrants, and within three or four years 20,000 of them were there. While most of the immigrants went to the "diggings" to engage in the search and scramble for gold, a fair proportion of them turned attention to speculation and trade. Wild and reckless, they formed a society altogether remarkable in its peculiarities, contrasts and paradoxes. Gold found in the "diggings" became plentiful, and the prices of all sorts of goods and services rose to fabulous figures. Quarter dollars were the smallest change in circulation, and no kind of service was rendered for less than a half dollar. Ordinary board cost from $5 a day to $30 a week. Pork was thought cheap at $40 dollars a barrel, while flour sold for $50. Boots sold at from $30 to $50 a pair. Laborers received $1 an hour, and skilled mechanics had from $12 to $20 a day. Lumber sold for $500 per M. A two-story frame building called the "Parker House" in San Francisco, rented for $120,000 a year. The Government paid a rental of $7,000 a month for a custom-house. A tent known as the "El Dorado," which was used for gambling and saloon purposes, rented for $40,000 a year. Speculation and gambling became a passion, and it was not unusual to stake as high as $5,000 or $10,000 on the turn of a card. The prices of real estate rose enormously, and the annual interest on money was greater than the principal. That abnormal state of things very naturally attracted large numbers of outlaws, and crimes in the forms of robbery, burglary, incendiarism and murder, became alarmingly common. To meet that growing evil, vigilance committees were formed in San Francisco and several towns of the interior. These seized, tried, convicted and executed several notorious criminals, and banished many others whose crimes were less flagrant. Such radical measures had a salutary influence. The power of the lawless was broken, and thereafter the laws were enforced with due vigor and impartiality.

The extreme northwestern portion of the United States was acquired by EXPLORATION AND SETTLEMENT.

In the summer of 1803, the President's private Secretary, Captain Meriwether Lewis, was chosen by Congress, at the suggestion of Mr. Jefferson, to command an exploring expedition which it was proposed to send from the Mississippi to the Pacific. Captain Wm. Clarke was selected to accompany and assist him. The party was composed of 30 persons. In the spring of 1804 it started, going by way of the Missouri River. About the middle of November, the following year, the men reached the mouth of the Columbia River, having travelled 4,000 miles. For more than four months they remained, as though held by some mysterious power of fascination, near the grand river and the vast ocean, and amid the dense forests and the towering mountains of that section. The 23d of March they started on the return trip. After encountering numerous perils and suffering many privations they reached the Mississippi River on the 23d of September, 1806, having been absent on the journey of exploration for two years and four months. While they secured much information relative to the soil, climate and resources of the region through which they passed, yet it proved to be of very little practical utility to the public at large, as it did not reach many persons outside of official circles. The Government had no means at the time of publishing for general circulation documents containing such data, and, consequently, for years afterward the country beyond the Mississippi remained almost as obscure and unknown as it had previously been. The expedition commanded by Lewis and Clarke was the first ever sent by the Government to the region beyond the mountains, and most of the aborigines met on the route were awed and alarmed at the sight of white men, having never seen any before. Naturally and properly the territory traversed by the expedition was thereafter claimed as a part of the United States. But more than thirty years elapsed before people began to settle in it. During all that time very little attention was bestowed upon it. Then the Hudson Bay Company took possession of sev-
ereral places on Puget Sound and the Columbia River and claimed the country tributary to them for Great Britain. British soldiers invaded it to make effective the claims of that powerful and aggressive Company. Our Government entered vigorous protest against the outrage, and a bitter controversy ensued. For a time it seemed as though war could not be averted. But, finally, as the result of mutual concessions, our right to the greater part of the disputed territory was acknowledged. By the treaty of 1846 the boundary line was fixed where it now is. In that way we acquired Idaho, Oregon and Washington Territory.

THE STATES

just west of the Mississippi compare favorably with those east of it in the qualities of fertile soil, varied resources, agreeable climate and general attractiveness. For more than 50 miles from the Gulf of Mexico Louisiana is practically uninhabitable. The ground is low, flat, covered with reeds, and subject to inundation. It is uninhabited, except by a few fishermen and pilots, who live at the mouth of the Mississippi. About 75 miles north of the Gulf, or 35 miles south of New Orleans, plantations come into view. Some of these rank as the most productive and beautiful in the State. In numerous places the ground is considerably lower than the level of the river, but it is protected from inundation by embankments or levees. These line all the low places and there constitute the banks of the river. They average 10 or 12 feet in height and about 20 in width. To the west the land gradually rises, but there are no noteworthy hills or bluffs, not to mention higher elevations or mountains, in the State. The common varieties of hard timber grow in abundance on the low lands near the Mississippi. In the western part of the State the soil is thin and poor. Near the Texas line are extensive forests of pine timber. They extend about 100 miles into Texas, and the State is very thinly settled for that distance. The soil in portions of Northern Texas, Southern Arkansas and Northwestern Louisiana is of a reddish hue, and Red River owes its color and name to that fact. The coloring properties of the soil impart a reddish tinge to the water. The chief products are cotton, sugar, tobacco, rice, fruits, and early vegetables for the northern markets.

Though there is a sparseness of population all through Arkansas, the southern part of the State is particularly backward in that respect. This section is well timbered and sufficiently watered, but the soil seems to be below average in fertility. It is more productive, however, along the Arkansas and the White River. North of the Arkansas it seems to be better, richer, and more productive than south of it. Along the Mississippi the ground is very low and subject to inundation. But two or three small towns or settlements can be seen from the Mississippi along the entire length of the State. There is hardly a break in the monotony of tall willows and small trees that line the river for 300 miles or more and extend back 20 or 30 miles before reaching land high enough for cultivation.

The northwestern part of the State is mountainous. There and in Southwestern Missouri are the Boston and Ozark Mountains, which have an altitude of from 2,000 to 3,000 feet above the level of the sea. A large portion of Arkansas is covered with forests of hard timber. Less than a fourth of the land is under cultivation. Many of the people, particularly those living in the northwestern part of the State, are very primitive in their appearance and manners. They wear home-spun clothes, hardly ever make the acquaintance of schoolmasters, live in log houses, have old-time hearths and chimneys instead of stoves, subsist mainly on corn bread and pork, frequently live almost exclusively upon what they raise on their farms, and cultivate their farms in total ignorance of improved agricultural machinery. But in much the same manner live the people of isolated localities among the mountains of Kentucky and Tennessee. As a rule, the women busily and deftly use the antiquated spinning-wheel, and make the clothes needed by themselves and their families. They are blissfully ignorant of the fashions, and even new bonnets appear to have no particular charms for them. Old-fashioned sun-bonnets that totally conceal the head and face, and extend a foot or two beyond, seem to meet the requirements of their Arcadian simplicity. Some of them were never more than 25 or 30 miles from the places where they were born.

Missouri is more populous than Arkansas and exhibits a greater variety of cultivable soil and resources. It is divided into two parts by the Missouri River. The most fertile lands are generally admitted to be north of the river, although throughout the State the soil is rich and productive in a high degree. In the southeast the ground is low and swampy, while in the southwest it is just the contrary, being hilly and mountainous. Cotton, tobacco, wheat, corn, oats, fruits, etc., are the principal production. In the northern and central parts of the State are the greatest manufacturing centres. The lumber business, too, is important. The soil is perhaps a trifle
thin and sandy, and in the central and western parts of the State timber is in scanty supply for fuel, fencing and building purposes. But, on the whole, Minnesota is a beautiful, healthful and prosperous State.

The country west of these States for 150 or 200 miles greatly resembles them in many respects. This is particularly true of the east half of Dakota, Nebraska, Kansas and Indian Territory. The land throughout that section is very productive. Agriculture is the chief industry. For 20 or 25 miles from the Missouri River the country is rolling or bluffy, the rains and storms of countless ages having left on every side gulches and ravines, the trend of which is to the river. No better land can be found anywhere than is comprised in this extensive area. A strong and almost impervious sub-soil is found about two feet below the surface, and to it sinks the rain that percolates through the more sandy and porous soil above. For weeks the water may remain upon the sub-soil, and in periods of drought it returns to the surface and supplies a sufficiency of moisture to the roots of growing plants. Yet droughts are uncommon. Within the past 20 years, or since the cultivation of the land became general, the rainfall has almost doubled. One serious drawback, however, is the absence of growing timber. While it fringes the rivers, growing in narrow strips along their banks, yet it is seldom found through the interior, or away from the streams, except where artificially planted. It is commonly, too, of small size and of the softer varieties, as cotton-wood, maple, etc. As a rule, owing to the scarcity of timber, the farms are not fenced. As several farmers combine in a locality to employ a herder, who daily watches and takes care of their cattle, there is no absolute need of fencing the land. This arrangement greatly conduces to economy. Wheat, corn and vegetables are the principal products. The rivers, of which there are several, generally have a south-easterly direction. They are usually shallow and abound in quicksands, which so treacherously yield under the feet that it is extremely dangerous to attempt to ford them. Even cattle are sometimes swallowed up in that way and lost while attempting to cross them. The largest of the rivers are the Missouri, the Yellowstone, the Niobrara, the Republican, the Platte, the Kansas, the Arkansas and the Red. From the Missouri westward the land increases in elevation at the rate of ten feet to the mile. A careful observer may notice the gradual but steady rise. Two hundred miles west of the Missouri the elevation is 2,150 feet above the level of the sea, and at this or even a lower altitude travellers suffering from pulmonary ailments have frequently to stop over for a day or more in order to become accustomed to the atmospheric changes incident to the increase of elevation. A little further west the soil is too dry and the weather too cold for engaging profitably in agricultural pursuits, and the cultivation of the soil ceases. That state of things defines the western boundary of the agricultural area, and there begins the eastern boundary of the great plains.

In Dakota and Western Nebraska is the remarkable basin known as the "Bad Lands." Though difficult of access, it would well repay the scientific enthusiast to visit them. Composed of clay, sand, marl, etc., they cannot offer great resistance to the erosive action of the elements, and they have been cut by the rains and the winds into fantastic and grotesque shapes. In the distance they look like the chimneys, steeples, cupolas, towers, castles and walls of a great city fallen into decay and ruins. Great sand-hills abound all through that section, and alkali dust everywhere lies heavy upon the ground. No matter how warm the days may be on the plains, the nights are invariably cool. Stock-raising is the overshadowing industry. Hundreds of thousands of cattle there roam at large and subsist all through the year on the short bunch or buffalo grass. The great range begins in Texas, in sight of the Gulf of Mexico, and extends as far north as the British Possessions. In width it averages about 300 miles, including some of the mountain ranges. By thousands the cattle are driven north from Texas every year and sold to dealers or their agents on the plains. These men brand the animals with certain letters or devices which are recognized as belonging to them and so recorded for public inspection in the proper offices. The cattle are then suffered to go at large, and for a year they roam where they will, although watched to some extent by the cow-boys in the owner's service. At the expiration of that time, or early in the summer, the general "round-up," as it is called, takes place. Then the cow-boys, who are commonly daring and reckless men, supply themselves with rations for several days, thoroughly arm themselves, mount their fleet ponies, and start in pursuit of the cattle. Ordinarily they scatter widely, going miles and miles apart, with a view to finding all the cattle having the brand of their employer and driving them to a previously designated centre. Whenever night overtakes them while engaged in this work they dismount, picket their horses, and go to sleep wherever they may be, in the midst of the awful solitude and desolation of the great plains. By means of the brand they identify the cattle they have a right to take. When the animals have been driven together, those fit for sale are selected and sent to market, while the others are branded anew and turned out upon the range for another year. All this land belongs to the public, excepting the alternate sections in vicinity of the railroads, which were given by Congress to aid in their construction, but the Government does not interfere with its use by the stock-men. The kind of grass growing there is commonly known as bunch or buffalo grass. It grows in small bunches which are far enough apart to leave the sand or alkali dust everywhere visible. All concur in pronouncing it very nutritious, and it ceases without being cut. It is the only food the cattle have. They must subsist upon it or perish of starvation. There are no sheds or stables to shelter them from the storms of the summer or the blizzards of the winter. When ice
and snow cover the ground and the terrible blasts of Manitoba sweep along the plains, they instinctively seek shelter by getting into the ravines or hollows. When fatigue overcomes them, they lie down in the snow and seek rest. When the pangs of hunger become too great to be endured, they paw away the snow and perhaps find under it grass enough to maintain life. In severe winters many of them perish of cold and starvation. The poor creatures fare badly. Vast herds of them occupy the plains, the foot-hills and the mountains for 300 miles or more west of the area of agriculture and settlements. Through all that region, except within 50 or 60 miles of the mountains, there are no notable cities or towns. The stations named in railroad maps generally consist of two or three houses for the use of the operators and employés of the company. The most notable places near the mountains are Denver, Greeley, Cheyenne, Georgetown, Colorado Springs, Pueblo and Cabon City. Among the mountains are Santa Fé, Leadville, Gunnison, Rawlins, Helena, etc.

Twenty or thirty years ago the plains were covered with high grass, and over them wandered immense herds of buffaloes. Their chief route in going from the north to the south and returning from the south to the north, lay through Kansas, Nebraska and Dakota. But all this is changed. Years ago they disappeared. The few still living have fled to the mountains of Montana and the Wind River country. They were thinned out and killed to make a sportsman’s holiday. They were wantonly and cruelly killed. Even travellers by the overland trains kept up a constant fusilade upon them from the windows and platforms of the cars, and those killed in that way were left to serve as food for the wolves and coyotes of the plains. Hunting parties followed and killed them as a pastime. These harmless animals had furnished the Indians with an unfailling supply of provisions for generations; but when the civilized Caucasians took possession of the country a few short years sufficed to destroy forever all the vast herds of buffaloes that roamed over the plains. They have gone, towns have been built upon their trails, and the high grass has been trampled down or eaten to the roots. No wonder the Indians opposed the invasion of their lands by the whites, for it invariably deprived them of the chief source of their support—the buffaloes, deer and game generally upon which they had been accustomed to live.

About 30 years ago Gov. Stevens, of Washington Territory, described the plains as

“A level prairie where the horizon is as unbroken as that of a calm sea. Nor are other points of resemblance wanting. The long grass, in places unusually rank, bending gracefully to the passing breeze, as it sweeps along the plains, gives the idea of waves. The flowing outlines of the rolling prairies are broken only by small lakes and patches of timber.”

But no longer is it so. No trees are visible, except where, in stunted growth, they fringe the rivers. No long or rank grasses wave to the passing breeze. Small lakes do not exist. Small water is scarce and generally brackish. The awful desolation of the sea remains, but in vain does one look for its beauties. The land is undulating, and its interminable elevations and depressions may well suggest the comparison of the sea. But one would almost as willingly be adrift on the sea as lost and alone in that awful waste, where nothing is visible but the sky above, the unproductive soil beneath, the rolling prairie in the horizon. No water; no thirst, no food in hunger, no friendly hand to succor in distress, no tree to offer shelter from the rays of the sun or the blasts of the storm, no house or human being within a journey of days! How great the desolation! How awful the solitude!

CONCLUSION NEXT WEEK.

Photography.*

Among the many scientific inventions of the nineteenth century, two deserve special prominence—photography and spectrum analysis. Both belong to the province of optics, and, at the same time, of chemistry. Although spectrum analysis has not as yet entered into the domain of practical life, photography has passed immediately into it, and spread over almost every branch of human effort and knowledge, and now there is scarcely a single field in the universe of visible phenomena where its productive influence is not felt.

It brings before us faithful pictures of remote regions, of strange forms of stratification, of animals and plants; it fixes the transient appearances of solar eclipses; it is of great utility to the astronomer and geographer; it registers the movements of the barometer and thermometer; it has found an alliance with porcelain painting, with lithography, metal and book typography; it makes the noblest works of art accessible to those of slender means. It may thus be compared to the art of printing, which confers the greatest benefit by multiplying the production of thought, for it conveys an analogous advantage by fixing and multiplying phenomena.

The first step towards the invention of photography was made in 1802, by Wedgwood and Davy. They placed flat bodies, such as leaves of plants, upon lunar caustic paper,—which is paper covered with a thin coating of nitrate of silver; light was thus kept from the superimposed parts of the paper, the underly'ng parts remained white, whilst the uncovered portions of the paper were blackened by the light; and thus was produced a white outline, or silhouette, of the superimposed objects upon a black ground. By this process, however, only flat bodies could be copied; and Wedgwood soon seized the idea whether it were not possible, by the help of light, to produce pictures of any bodies whatsoever on sensitized paper. He tried to effect this by the aid of an interesting optical instrument which had the property of projecting flat-shadowed images of solid objects. This instrument is the camera obscura, the principle of which was first applied by Porta, the cele-
brated Italian physicist of the 16th century. It consisted of a box which had a movable, unpolished slide, and on this slide the image of an object in front of the box is clearly visible, if a minute hole is made in the front partition, which answers best if composed of a thin tin plate. These images appear still more beautiful if, instead of a hole, a glass lens or, as it is called, a focal lens, is substituted. This focal lens, at a certain distance, which is equal to that of its focus, projects a distinct image of the objects—which is much better defined and clearer than that which is produced by the hole.

Wedgwood and Davy now employed this instrument with the idea of catching a small picture upon the unpolished slide by means of sensitized paper. They fastened a piece of paper, saturated with salts of silver, upon the place of the image and left it there for several hours,—unfortunately, without result. The pictures were not distinct enough to make a visible impression upon the sensitized paper, or the paper was not sufficiently sensitive. It now became necessary to find a more sensitized preparation to catch and to retain the indistinct image; and this was accomplished, in 1827, by M. Nicephore Niepce, a Frenchman. He discovered that thin plates of bitumen were curiously affected by light; he therefore coated metal plates with a thin layer of bitumen, of the kind called Jews' Pitch, and placed them in the camera obscura, where they were exposed to the same image for several hours. If oil of lavender is poured over the plate it dissolves all the spots that have not been exposed to the light, and leaves behind all those which the light rendered insoluble. Thus, Niepce succeeded in obtaining a picture.

Daguerre soon improved this process by making experiments with iodide of silver plates. He produced, by exposing silver plates to the vapor of iodide, a peculiar and very volatile chemical element. Under this treatment, the silver plate assumed a pale yellow color, which is peculiar to the combination of iodide and silver. These plates are very sensitive to light, and take a brown color when exposed to it, and when placed in the camera, an image is soon produced on them. An exposure of twenty minutes is necessary to this end. The plate is then placed in the vapor of mercury, after which it is plunged into a solution of hypo-sulphide of soda, which dissolves the iodide of silver and renders the image durable. Daguerre's process was published in 1839. The sensibility of the silver plate was still further increased by Mr. Goddard, who suggested, in 1839, the association of the vapor of bromine with that of iodine; while M. Claudet, in 1840, employed chlorine. This reduced the time necessary to take a picture to two minutes.

Two years after Daguerre's discovery, Henry Fox Talbot, an Englishman, carried on further researches which resulted in the invention of the paper process. He saturated paper in a solution of nitrate of silver and then in a solution of iodide of potassium. He thus obtained a slightly sensitized paper, but one that could always be rendered very sensitive, by plunging it into pyrogallic acid and silver. The paper was then placed in the camera; it did not immediately give a picture, but was allowed for some time to remain in the dark, and subsequently treated with pyrogallic acid and silver, after which it came out as a negative, and not as a positive. Thus, in taking, for example, a portrait, the face and white portions of the clothing appeared black, while the black, on the contrary, came out white. The picture was made light-resisting by plunging it in a solution of hypo-sulphide of soda. A negative thus obtained is a picture on a plane of a solid object. Talbot prepared positive pictures from negatives of this kind. He placed the negative upon a piece of sensitive paper saturated with chloride of silver, and let the light work upon it. This shone through the white places of the negative, and imparted a dark color to those parts of the sensitive paper lying under them, while the dark places of the negative protected the paper lying under them from the effects of the light. Thus a positive picture was obtained from a negative. The process could be repeated as often as desired, and many positives could be copied from a single negative. This circumstance exercised an important result on the future development of the art of photography.

Niepce de St. Victor, nephew of Nicephore Niepce, soon conceived the happy idea of substituting glass for paper. He covered glass plates with a solution of the white of egg, in which iodide of potassium was dissolved. The glass plates, after being dried and covered with a coating of the white of egg, were afterwards dipped in a solution of silver nitrate. Iodide of silver was formed in this manner—the whole coating of the white of egg colored yellow, and became very sensitive to light. These glass plates were put into the place of the picture in the camera obscura, and the light permitted to work upon it. Its impression was at first invisible, but afterwards became clearly perceptible when the picture was immersed in a solution of pyrogallic acid. Thus Niepce obtained a negative on glass without the blemishes which appeared on paper negatives. He repeated this negative exactly according to the process which had been employed by Talbot, and he obtained from the fine negative a correspondingly fine positive, which was much better calculated to bear a comparison with the productions of Daguerre.

Niepce invented his method in 1847. However, one great disadvantage of this new process was the easy decomposition of the white of egg. Experimenters sought to avoid this by adopting a more durable substance. This was given them in the discovery of gun-cotton in 1847. Ordinary cotton saturated in a mixture of nitric acid and sulphuric acid assumes explosive properties similar to those of gunpowder; this being dissolved in alcohol and ether, leaves a transparent membrane, which was called collodion. Archer, an Englishman, coated glass plates with collodion, in which salts of iodide had been dissolved; he plunged this in a solution of silver, and thus obtained a membrane of...
THE NOTRE DAME SCHOLASTIC.

collodion saturated with sensitive iodide of silver, which he then exposed in the camera. The invisible impression of the light thus produced became visible by pouring gallic acid over the plate, or the still more powerful chemical agent, pyrogallic acid; or, instead of this, a solution of green vitriol. A very delicate, clear negative was directly obtained by this process, which yielded much more beautiful impressions on paper than the original negative paper of Talbot. A very important improvement was subsequently made in the preparation of the negative paper by coating it with the white of egg, according to the process of Niepce de St. Victor. By this means it received a brilliant surface, and, when exposed to the light, it took a more beautiful and warmer tone, which gave the picture a brighter appearance than those produced upon ordinary paper.

Thus the Talbot type,—which at first seemed hardly worth notice compared with the process of Daguerre,—was gradually so perfected by successive improvements, that it ultimately took precedence of Daguerre’s. After 1853, paper pictures on collodion negatives came more and more into vogue, the demands for daguerreotypes fell off almost altogether. The collodion process was universally employed until the last few years. It acquired an immense impetus through the introduction of cartes de visite. These small portraits were invented by Disderi, the court photographer of the Emperor Napoleon, and obtained a great success.

The collodion process has been superseded almost entirely the last few years by what is commonly called the dry plate process. Thus the art of photography has been improved year by year until it reached its present state of perfection, and the world has been greatly enriched by this most beautiful discovery.

Scientific Notes.

—Sir William Thompson says we cannot be very far wrong in estimating the light of full moon as about a seventy-thousandth of the sunlight anywhere on earth.

—A considerable industry has grown up in San Francisco, manufacturing the petrified wood which is found along the Pacific railroad in the Rocky mountain region. It receives a high polish, and mantels, tiles and a variety of things are made from it.

—The deep sea is illuminated only by the deep green sunlight that has passed through a vast stratum of water, and, therefore, lost all the red and orange rays by absorption. The deep-sea star-fishes are nearly all orange, orange-red or scarlet, even down to 3,000 fathoms.

—The Osservatore Cattolico of Milan says: “The Académie des Sciences has received a communication from a Monsieur San, in Bolivia, containing the statement that the flour from the seeds of the cotton plant cultivated in Bolivia, is an excellent food for man. At present the seeds are almost worthless, but, it is asserted, will soon become of great value.

—A flea, one-sixteenth of an inch in length, can jump a distance of twenty inches. This is 320 times its length. The common gray rabbit jumps about nine feet clear on the level ground. In proportion to length, a horse, to jump as far as a rabbit, would have to clear 64 feet at a jump. There is no quadruped that has such powerful muscles in his quarters as the rabbit, and none excel him in the muscles of his loin and back.

—The largest vacuum-pan ever constructed has just been made for a San Francisco sugar refining company. It is a pear-shaped vessel, made from sections of cast-iron. It is seventeen feet in diameter inside, reaches a height of over forty feet, and will weigh 140 tons when empty. It will boil 100 tons of sugar at once. It contains sixty coils of four-inch copper pipe, arranged in the form of a hollow inverted cone, providing 3,000 square feet of heating surface. To carry off the steam, four openings ten inches in diameter are provided for connecting with the vacuum pumps, and a constant stream of water that fills a ten-inch opening is needed to absorb the heat of evaporation.

—Some interesting discoveries have been made in Florida by Prof. Lawrence Johnson of the United States Geological Survey. Just south of Alachua county line he found several specimens and skeletons of animals which relatively belong to a not far distant period. In piles, and somewhat mixed, there were the remains of a mastodon, two or three specimens of the rhinoceros, a large stag, a camel, fully as large as the Arabian camel, but in structure more allied to the llama; also a tapir, very much like the South American tapir, which lives in swampy places; two teeth of some carnivorous animal allied to the tiger and panther; one set of teeth and bones of a hippopotamus; several crocodiles or alligators, and innumerable other bones not identified. Apparently, the territory south of Alachua was at one time a large fresh water lake.

NEWS FROM THE PUN-JOB.

Oh, tell us what new trouble hatches; Oh, print them as fast as you can, All those latest Cabul despatches From the borders of Afghanistan! Does Russia then wish to a Penjdeh Whole country as far as Herat? And will England really defend the Frontier? and, oh! where is that at? Oh, tell us about Abdurrahman; When Dufferin meets the Ameer Will this be effective in calming’ The excitement about the frontier? Oh, no gentle reader, we think not; Reports from the raging Marghab Have just been received, and they shrink not From calling the talk Ameer gab. But no one can tell quite for certain About things in Afghanistan, Where the folks are each hour concertin’ Some totally different plan. —Boston Courier.
The attention of the Alumni of the University of Notre Dame and others, is called to the fact that the NOTRE DAME SCHOLASTIC has now entered upon its EIGHTEENTH year of its existence, and presents itself anew as a candidate for the favor and support of the many old friends that have heretofore lent it a helping hand.

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The Editors of the Scholastic will always be glad to receive information concerning former students and graduates of the University.

—A monthly publication has been begun in Rome, called La Gerarchia Catallica Illustrata, (The Catholic Hierarchy Illustrated). Besides giving portraits of the Cardinals, Archbishops, and Bishops of the Catholic world, the high dignitaries of the Holy See, and the heads of religious congregations, etc., in indelible photographs in ink, it contains sketches, in English, French, German, and Italian, of the lives of the persons whose portraits are presented. The periodical is 32-pages, and the portraits are about 5 x 4 inches. The first portrait it is, appropriately, that of our Holy Father Pope Leo XIII. For this country the subscription price is 27 francs ($5.40), and it is to be had by addressing Messrs. Loecher & Co., Publishers.

—We have received from Rome the Statutes and By-Laws of the Society of St. Paul for the Spread of the Catholic Press, together with an appeal to Catholics to aid in the object of the Society.

—After reminding Catholics that in Rome the Most Holy Virgin Mary, Mother of God and our Mother, is made the object of the most detestable blasphemies and the grossest insults, the appeal goes on to state that the reparation for these insults ought to begin in Rome and re-echo throughout the world, and for this purpose the Society was established, to effect on the side of good what others are doing on that of evil. As one means of carrying out its programme, the Society offers a premium of one thousand Italian lire (about $300) to the writer who will produce the best popular Life of the Most Holy Virgin Mary.

—There are indications that the contest for the Oratorical Medal will be unusually spirited this year. Quite a number have signified their intention of taking part, and the evidence already given of their abilities promises a close, exciting event. The contest will take place on the Monday in Commencement week, and will be decided by a committee selected from the distinguished visitors to the exercises. The names of the judges will be given in a future number. The conditions for admission to the contest are, that each competitor shall be a student in the University for at least one year, and that his speech shall be an original composition. These conditions make the struggle open to the great majority of the students. It need not be said that all who engage in it will derive unusual benefits from the work of preparation, apart from any consideration of the prize to be obtained which in itself is well worth striving to possess.

—Rev. President Walsh delivered a very instructive address to the Juniors in their Hall, last Thursday morning. Speaking on the work of the year, he said that, on starting out in September, they were told that the work before them was the development and perfecting of their intellectual, moral, social, and physical powers. It was now time to ask themselves how they had progressed in that great work. Were they farther advanced in their studies? were they more refined in their manners? were they stronger physically? above all, were they better than they were at the beginning of the year? These questions many, indeed, could answer in the affirmative, and then he would encourage to persevere. Others there were who would have to answer one or more of the questions in the negative, but there was time still to do better. The Rev. speaker insisted strongly on the importance of forming character and acting according to principle,—a line of conduct which would insure them a successful career through life. In a few days they would enter upon the month of May, which is particularly "The Students' Month," because its devotions originated among students. Let them, therefore, confidently seek the aid of her, who is the Seat of Wisdom, and to whom the month is consecrated, and they would not fail to realize success in their undertaking.

—All at Notre Dame rejoice in the presence once more amongst them of Father Superior-General Sorin, who returned safely on last Wednesday.
morning from his trip to Europe. The extremely early hour at which the venerable Father arrived prevented those manifestations of affectionate joy with which it was intended to greet him as he once again set foot within the hallowed precincts of Alma Mater. However, at a convenient hour during the day, a public reception was tendered him on the part of the students and Faculty. All were assembled in front of the Main Building, on the porch of which the seat of honor had been prepared for Father General. His appearance upon the veranda, escorted by President Walsh and the officers of the University, was the signal for the grand welcome march by the band. Addresses were read by Mr. G. H. Smith, Class of '85, representing the Seniors; F. Hagenbarth, '87, in behalf of the Juniors; and Master Willie McPhee, who spoke for his fellow-Minims. The addresses were well conceived and well delivered especially the beautiful poetic address of the “Princes.”

Father General expressed his appreciation of the kind words of welcome that had just been spoken, and his own joy at being “home again.” He was pleased to see the success attending the College administration, and hoped for a continuance of the same in even greater measure in the future—and that each would do his own part towards bringing about this desirable result. He spoke for some time on the students’ duties, and after reverting to his pleasure in meeting them again, kindly dismissed the assembly.

—It is a common thing, when an eminent man dies, to attribute his death to severe mental labor—congestion of the brain, produced by over-exertion of the mental faculties. After the catalogue of the virtues for which the distinguished deceased was remarkable has been enumerated and held up to view for our admiration, the notice almost invariably closes with the remark that the deceased was the victim of overwork, and then comes a long homily on the fatal effects of too much work, concluding with a grave admonition to the living to be careful lest they meet their death from a similar cause.

To our mind, of all admonitions there is not one the bulk of mankind stands less in need of, and at the same time follows more faithfully, than the warning not to overwork themselves. How picturesque a warning not to overwork themselves—We might as well take the world easy. The consequence is, we imperceptibly contract the small voice of conscience that upbraids us for our duties. The real value of a man’s life does not depend upon the number of years he lives, but rather on the amount of good he performs. It follows, then, that a man who at the age of forty has performed as much as another double that age, has lived to all intents and purposes as long as his senior. We know that many die at an early age who were not remarkable for their industry; indeed, it might be said that some die because they are too lazy to make an effort to live. Again, many live to a ripe old age whose lives have been of continual and uninterrupted labor, and this renders it questionable whether any one dies from the effects of too much labor.

But, admitting that some people die from the effects of overwork, industry is such a great virtue that even the shortening of the span of life a few years is not a powerful argument against it. At best, the longest life is so short,—life in general is so uncertain, and its duties and responsibilities are so great, that no sane person would censure a man for using all the faculties of his mind and body for the purpose of rendering that life a success. Do not observation and experience teach us that a strenuous, laborious life gives a man the same advantage as if he had been born ten or twenty years earlier? Do not the effects of industry give a man an opportunity to come forward and bring into full play all the powers of his mind just at the age when he possesses the vigor of youth and the strength of manhood to use them to the best advantage? How many, at a comparatively early age, acquire reputation that will last as long as civilization itself! Pitt died at the age of forty-seven; Burns, at thirty-seven; Byron, at thirty-six; Wolf fell at thirty-three; Balmes died at thirty-seven, to whom his biographer applies the words of Wisdom: “Being made perfect in a short space, he fulfilled a long time.”

Instead of censuring activity, we should be thankful for the example which teaches us how much can be accomplished by industry in a short time. But lest we might think that an early death is the sure fate of the industrious, we need but turn over the pages of history to dispel so foolish an idea. Sir Walter Scott died at the age of sixty-one; Edmund Burke, at sixty-six; Dr. Samuel Johnson, at seventy-five; Washington Irving, at seventy-six. If we turn to the lives of the saints, it would appear that incessant labor was the sole promoter of a long life. But we think it is evident that a laborious life, no matter how few are its years, is by no means a short one.

—The Cornell Daily Sun of April the 6th gives us a new “Professor” in the person of our esteemed confrère, Mr. W. H. Johnston, of the Class of ’85. The Sun says:

“Instead of censuring activity, we should be thankful for the example which teaches us how much can be accomplished by industry in a short time. But lest we might think that an early death is the sure fate of the industrious, we need but turn over the pages of history to dispel so foolish an idea. Sir Walter Scott died at the age of sixty-one; Edmund Burke, at sixty-six; Dr. Samuel Johnson, at seventy-five; Washington Irving, at seventy-six. If we turn to the lives of the saints, it would appear that incessant labor was the sole promoter of a long life. But we think it is evident that a laborious life, no matter how few are its years, is by no means a short one.”

—The editors of The Haverfordian have stepped down and out, leaving as a last memento of their editorial labors a finely illustrated and well-edited number of their college paper. The out-going board seem to be a sensible lot of fellows; they rigidly excluded the almanac and funny (?) col-
unn slush, and the spooney verses that sedulously tickle the fancy of so many college editors of the invertebrate order.

—the St. Viateur’s College Journal has a good article on “The Spanish Inquisition,” a subject that seems to be fearfully misunderstood by many outside the Catholic Church; so much so, that although the Scholastic reported a lecture and published an article upon it, a good deal of the old-time prejudices still seem to linger. The Spaniards have an adage that “Lies have short legs”; this may be, but they (the lies, not the Spaniards) are as tenacious of life as the snake or the cat.

—An item stating that “Harvard has a brass band of one hundred and eighty pieces” has been, and is still, going round the college of the press. “One hundred and eighty pieces!” Whew! what a volume of sound they must make! A colleague once said of Rubenstein that “whenever he strikes a fortissimo with all his ten fingers at the same time, the very antipodes start up in pain”; what, then, must be the effect of the 180 pieces of the Harvard Band? We leave our readers to conjecture.

—the Georgetown College Journal is publishing in serial form some interesting “Notes of Battle-Fields and Prison—1862-3-4-5” from the pen of a former student of the University. The current number contains thoughtful and well-written editorials on education, reading, and other subjects. The exchange department—that bit noir of many college editors—is edited with fair ability but will, we think, admit of further extension with advantage. The Georgetown editors seem to have taken hold of their paper with a will, and a determination to elevate its standard. We wish them success.

—the Scholastic is a good paper. The last is fully up to the standard of any previous number, contains just as spicy student matter, has every bit as big a roll of honor, exhibits equally as excellent an exchange department, and shows about the same tendency to accept compliments. The Scholastic has the true secret of college journalism. We compare it to the Polytechnic in wit, to the Bayonet in beauty, and to the Rambler in solidity.”—Niagara Index.

We have not seen the Bayonet—if such a paper is really published,—the allusion is a pointed one, however, and bayonets are generally bright. Thanks for your compliment, friend Index. Yes, we have a tendency to accept compliments,—good, bad, or indifferent;—we are neither elated by the one nor cast down by the other.

—President Eliot says: The pretended parental or sham monastic régime of the average American college seems to bring out the childishness rather than the manhood of the average student.—Cornell Daily Sun.

President Eliot wishes to ride a hobby, but his courage gives out with a half-way measure. This is evident in the refusal to abolish the compulsory daily chapel exercises at Harvard, for which the students lately sent in a strong petition only to be refused. We fail to see in what respect Harvard is better than Yale, Princeton or the other colleges that are still under “the pretended parental or sham monastic régime.” The result of Pres’t Eliot’s fussy revolutions will probably confirm the idea entertained by many that he is seeking notoriety at the expense of the best interests of his college.

—we clip the following from The Niagara Index of April the 15th:

“...We owe an apology to the Notre Dame Scholastic. It is the Niagara Index which is a party to the hostilities we mentioned yesterday.”—Cornell Daily Sun. We did not receive Tuesday’s Sun (April 7th), consequently we know nothing of the hostilities spoken of. They will please send on the missing number, or we will consider it a case of foul play in the dark.”

The number of the Cornell Sun above referred to was not received by the Scholastic either. As the matter that called for the apology was addressed to the Scholastic, and not to the Index, there could hardly have been any reason for withholding that number of the paper from our Niagara friends. Moreover, the fact that the apology was made is proof that the editors of the Sun were not aware of the retention (by the mailing clerks, probably) of the number in question.

—the Harvard Daily Crimson has issued the second number of its literary supplement. It contains five well-written essays. We have little doubt that this periodical supplement will become very popular with the patrons of the Crimson. Apart from the literary excellence of the fifth paper, we think that some of the extracts from Boswell’s letters, are not fit for the public eye. Personally, decent people very properly shun a person whose moral character is bad; when that person impresses his character upon his writings these should, for a similar reason, be equally shunned. Boswell, the toady, the intrusive syco­phant, the bur accidental flung by Davies the bookseller on the tail of Johnson’s coat, and which as Goldsmith said had “the faculty of sticking”—this Boswell was a roach, an immoral rake; the less his private character is ventilated the better it will be for mankind. Gentlemen should not sully their pens by descending upon it; much less should it be made familiar to a mixed reading public.

—from an editorial in the College Rambler—Illinois College—we clip the following:

“In Harvard University literary work on the papers is received as a substitute for that required by the curriculum. No sooner did this reach the ears of the Rambler’s editors than they resolved, without loss of time, to present to the Faculty the question of their own release from some of the essays required. We have learned that the Faculty is by no means in­terested by many that he is seeking notoriety at the expense of the best interests of his college.

The editors of The Rambler, like many others, were misled by a canard that had been going round the college press for months, and still continues, notwithstanding an emphatic denial from the Harvard Daily Crimson, some weeks ago, of any foundation for the statement. Although the editors of The Rambler say that they cannot get time to do such literary work for their paper as they would wish, the Rambler is by no means inferior to the larger number of college semi­monthlys.
Books and Periodicals.

—The April number of Brainard’s *Musical World* contains some very interesting vocal and instrumental music, viz: “My Bonnie Boy,” ballad by W. J. Wells; “Listen to Dem Ding, Dong, Bells,” by Sawyer; “Mendolina,” a Mexican serenade by Langey, and “For Ever and For Ever,” waltz by Tosti.

—*Kunkel’s Musical Review* is a splendid periodical for all who are interested in the art divine. The music—of which there are twenty-four pages in each issue—is strictly first-class in every respect. The price of subscription is $2 a year; a $1.25 premium in music or a pocket metronome is sent to each subscriber. The latter is an offer extraordinary to increase the subscription list, and is of itself worth $2. Published by Kunkel Bros., St. Louis.

—The *North American Review* for May opens with articles on the question, “Has Christianity Benefited Woman?” by Mrs. Elizabeth Cady Stanton and Bishop J. L. Spalding. President J. L. Pickard writes on “Why Crime is Increasing,” and David Dudley Field on “Industrial Co-operation,” while Prof. Andrew F. West, of Princeton, contributes an article of great clearness and strength on “What is Academic Freedom?” James Payn, the English novelist, discusses “Success in Fiction,” and T. F. ThithelsonDyer “Superstition in English Life.” The new department of Comments keeps well up to the standard with which it started.

—The *Popular-Science Monthly* for May presents a number of articles rich in thought, and information on living questions of the day. The first paper, “Our Recent Debts to Vivisection,” by William W. Keen, M. D., is a graphic account of the benefits that have been conferred upon humanity during the last quarter of a century, by means of experiments on animals. The article, by Prof. W. K. Brooks, is a significant answer to the very interesting question that intelligent people have long been asking, “Can Man be modified by Selection?” Dr. Max von Pettenkofer’s valuable and timely papers on “Cholera” end in this number, with the fourth of the series, which is mainly devoted to the subject of prevention. “Methods of Teaching Political Economy,” by Professor J. Laurence Laughlin; “A Scientific View of the Coal Question,” by G. Gore; and “Training in Ethical Science,” by Mr. H. H. Curtis; are able articles. The present installment of “The Chemistry of Cookery” is devoted to vegetarianism, which Dr. Williams commends on rather novel grounds, that need not, however, offend the meat-eaters. “The Nervous System and Consciousness,” by Professor W. R. Benedict, illustrated, and “Arctic Exploration and its Object,” by Dr. Franz Bous, are both strong papers in their respective departments; and there is also an article which it is not necessary to characterize, for it is by Professor Tyndall, describing the patient labor, the ingenious methods, and the grand results of “Pasteur’s Researches in Germ-Life.” An extremely readable and instructive article, treating of the antiquity of man, under the title of “A Very Old Master,” followed by a sketch of M. Pierre Berthelot, a distinguished French savant, close the body of the number. “Iliteracy as a Source of National Danger” and “A Test of Philosophy” are discussed in the “Editor’s Table,” while twenty pages of “Literary Notices and Popular Miscellany” give room for large variety in these departments.

Personal.

—John S. Henry, Wm. D. Henry, and John Kraus, all of ’84, reside in Cincinnati, O.

—John Kaufman (Com’t), ’71, and his brother Michael, of ’78, are in business in Cincinnati, O.

—Albert Hinz (Com’t), ’79, is engaged in the jewelry business, with a respectable and prosperous firm at Milwaukee.

—James R. Mariette, and his amiable bride visited Notre Dame on their wedding-tour, and passed a few pleasant days during the week.

—George Schaefer (Com’t), ’84, writes from Lincoln, Neb., and sends greetings. He is now preparing himself for the legal profession.

—Among the visitors of the past week were Mr. P. P. McVeigh (Jr.), Mrs. McVeigh, and the Misses Bernadette and Josephine, of Covington, Ky.

—John J. Harrison, of ’79, is at present a student of St. Francis’ Seminary, Milwaukee, Wis., where he is preparing himself for the sacred ministry. Mr. Harrison was one of the two students who were the first to discover the great fire of ’79.

Local Items.

—“Strike wu’un!”

—Ann Harbor, Ho!

—Beware of the “match-thief”!

—The St. Cecilias are active in debate.

—The new Boat Club medal needs a name. What shall it be?

—The Philopatrians are preparing for their summer entertainment.

—Beautiful hyacinths and crocuses are in full bloom in St. Edward’s Park.

—Look out for the grand Shaksperean entertainment next Wednesday evening.

—The invitations for the grand Shaksperean entertainment are of new and handsome design.

—Our botanical reporter says that the first *Hepatica* was brought in on the 18th inst.

—Through the kindness of President Walsh the students enjoyed a half-day “rec” on last Monday.
THE NOTRE DAME SCHOLASTIC.

—The Scholastic Annual is still in demand. A good order was received the other day from England.
—The next grand entertainment, after the “Shakespeare Night,” will be that given by the Mendelssohn Club.
—The President of Watertown College returns thanks to friends at Notre Dame for recent contributions of literary works.
—In honor of Very Rev. Father General’s arrival the names of all his little protégés appear on the “Roll of Honor” this week.
—Prof. Gregori has just completed portraits of Mr. P. McVeigh, of Covington, Ky., and his two little sisters Bernadette and Josephine.
—The Junior T. A. U. will hold a re-union this evening in the Junior reading-rooms. Music will be provided by the Crescent Club Orchestra.
—The Curator of the Museum is indebted to Mrs. M. V. Regan, of Indianola, Texas, for a donation of beautiful specimens of silk and co-cocine.
—A fine portrait of Richard H. Clarke, LL. D., the distinguished Catholic historical writer, has been placed in the gallery of eminent Catholic laymen.
—The nines are getting in good trim, as the score of last Monday’s game testifies,—considering the fact that they have had such a short time for practice.
—A case will be tried before the University Moot-court next Monday evening. H. Steis will act as attorney for the plaintiff and T. Callaghan for the defense.
—The aquatic men of ’85, are determined to “beat the record” in the June race. The lake now present, quite an animated appearance these balmy evenings.
—A thesis—“The Immortality of the Human Soul”—will be defended by John Guthrie before the Academy at a meeting of that Society, early in May. F. H. Dexter and J. Wilson will be the “Objectors.”
—The Minims have been actively engaged in rehearsing “New Arts.” They intend to present an excellent entertainment this afternoon with which to greet their venerable Patron, Father General, on his return from Europe.
—Those poles of activity—the burros and the army of bicycles—have been very prominent during the beautiful spring days of the past week. They turn up everywhere. The burros, by the way, have been largely reinforced since their last appearance on the College greensward.
—Very Rev. Father General Sorin brought with him from Rome some beautiful copies of the celebrated painting of Our Lady of Genazzano, otherwise called Our Lady of Good Counsel. The copies are as nearly like the original as it is possible for human hand to make them.
—At a meeting of the Boat Club, held on last Sunday, measures were taken to settle upon the hours for access to the lake: on motion of Mr. J. Guthrie, it was unanimously resolved to return a vote of thanks to the donor of the gold medal given to the Captain of the winning crew.
—Rev. President Walsh examined the arithmetic and grammar classes in the Minim department. He expressed himself well pleased, not only with the progress the classes have made since his last visit, but with the thoroughness and intelligence with which the Minims explained the problems.
—At the reception given to Very Rev. Father General on his return from Europe, Master W. McPhee, assisted by Masters F. Crotty and J. Ernest, read a most graceful, affectionate welcome address to the beloved Founder in the name of the Minim department, and Cecil Quinlin presented a beautiful bouquet.
—By special invitation, the gentlemen of the Senior department attended the Crescent Club Sociaible last Wednesday evening. The Club orchestra delighted their guests by the number and variety of the selections rendered on the occasion. Through the kindness of Rev. President Walsh, a choice collation was served.
—The Curator of the Museum returns thanks to Master Hoye, of the Junior department, for a huge panoramic Easter egg containing views of beautiful Swiss scenery; also for a specimen of Louisiana palm, a miniature fac-simile of the Liberty Bell and a miniature bale of Louisiana cotton, souvenirs of the International Exposition.
—Observing a member of the Class of Civil Engineering carrying the striped rod,—which is used in this eminent profession,—a facetious person asked him if he was the Barber of Seville. “No,” he replied, “I am the barber of Seville (Civil) Engineering!” N. B.—The fact that the last speaker was armed saved his life, and so he is still at large.
—The members of the Club Orchestra gave a complimentary reception to Mr. James Marlett, of ’85, on Monday evening last. An address of greeting was delivered by Sydney Dickerson, Class of ’83, on Monday evening last. An address of greeting was delivered by Sydney Dickerson, Class of ’83, to which Mr. Marlett made an appropriate response. During his student life, Mr. Marlett was a prominent member of the Crescent Club and leader of its Orchestra.
—Two first nines of the Minim department were organized April 15th, as follows: SORIN NINE—J. F. Kelly, c. Cap.; W. McGill, p.; C. Campau, 1st b.; B. O’Kane, s. s.; A. McVeigh, 2d b.; I. Grunsfeld, l.f.; J. Moncada, r.f.; F.
The equanimity of the burro with a small boy or girl on his back is quite remarkable; but let a good-sized Prep. or Senior mount and great Caesar! how quickly he bestirs himself! He rolls and rears and pitches like a ship laboring on a stormy sea until the would-be equestrian is hors de combat.

It is fun for the on-looker,—as good as a circus,—but a serious matter for the rider, unless he is a good horseman. The chances are that he will dismount over the burro's head, and not in a stylish way either.

The curator of the Historical Museum has received from Master P. Talbot, of South Bend, a piece of the altar stone of St. Mary's Church burned in the great Chicago fire and an autograph letter of Hon. Schuyler Colfax; from Dr. W. Onahan, of Chicago, an impression from the seal of Charles Carroll of Carrollton, and a valuable pamphlet from Dr. Richard Clarke, of New York, Catholic Met. Directories, 1834, 1836, 1844, 1850, and 1852; from Bro. Xavier, the set of vestments used by the Founder of Notre Dame on his first voyage to the New World.

Following is the score of an exciting game of baseball which occurred on Monday afternoon between two picked nines, on the Senior grounds:

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**Whites**

McCabe, 2d b.; Porter, p.; Marlette, c.; Tully, 3d b.; F. Combe, 1st b.; Coghlin, Capt., i.f.; M. Murphy, r.f.; Goodfellow, s.s.

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**Blues**

McNulty, 3d b.; Guthrie, 1st b.; Sykes, p.; V. Burke, 2d b.; Dickerson, l.f.; Dolan, c.f.; Loomis, s.s.; Kolars, c.; McGill, l.f.

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**Total**

13

**Blues**

17

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A note-worthy game of baseball was played on the 19th inst., between the Juniors' 1st nine and a picked-nine of the Seniors. The game lasted two hours and five minutes. Moody and Benner, the Juniors' "battery," and Dorenberg, the short stop, did good work. Benner twisted the sphere so that the Seniors did not score a tally during the first three "innings." Ruffin, the change pitcher, in the 4th innings, so puzzled the Juniors that they could hardly knock a ball out of the "diamond," but in the next inning they "got on to him" and made things lively for the fielders. The game, at the close of the 9th inning, was 17 to 6 in favor of the Juniors. D. Reach acted as Umpire, and gave entire satisfaction.

The 4th regular meeting of the Scientific Society was held on the evening of the 20th inst., Rev. J. A. Zahm presiding. Papers were read by Messrs. Halligan, on " The Telegraph"; Dexter, on " Benjamin Franklin"; Saviers, on " Coal Formation"; and T. Burke on " Surgery." The next meeting will be the last for the reading of essays. Thereafter practical work will be begun in order to give the members of the society a thorough knowledge in the experimental as well as the theoretical part of the sciences. Preparation will soon be made for the séance which is to take place next month.

A game of baseball was played on Thursday afternoon between the "Star of East" and the "University" nines; the players appeared in uniform and made a fine display. The following is the score:

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**Star of the East**

McCabe, c.f.; Porter, p.; Hotaling, 2d b.; Tully, 3d b.; F. Combe, 1st b.; Coghlin, Capt., l.f.; C. Combe, c.; Murphy, r.f.; Goodfellow, s.s.; McNulty, 3d b.; T. McGuire, 1.f.; F. Murphy, r.f.; McNally, 3d b.; T. McGuire, i.f.; F. Murphy, r.f.; L. Scherrer, s.s.; F. Ruguee, c.f.; J. Bull, substitute. Regan Nine—J. McNulty, c.; F. Crotty, p.; J. Ernest, s.s.; J. Baker, 1st b.; F. Cobbs, 2d b.; H. Blakeslee, 3d b.; N. Sweet, l.f.; O. Mooney, r.f.; W. McPhee, c.f.; H. Perkins, substitute.

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**University**

McCabe, c.f.; Porter, p.; Hotaling, 2d b.; Tully, 3d b.; F. Combe, 1st b.; Coghlin, Capt., l.f.; C. Combe, c.; Murphy, r.f.; Goodfellow, s.s.; McNulty, 3d b.; T. McGuire, 1.f.; F. Murphy, r.f.; McNally, 3d b.; T. McGuire, i.f.; F. Murphy, r.f.; L. Scherrer, s.s.; F. Ruguee, c.f.; J. Bull, substitute. Walsh Nine—J. Ernest, S.S.; J. Baker, 1st b.; F. Cobbs, 2d b.; F. Salmon, c.; J. Doss, l.f.; F. Weston, r.f.; J. Boos, c.f.

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**Total**

127

**Total**

1724

E. Finlay, Umpire; H. L. Austin, Scorer.

The "Little Giants" met with a Waterloo last Monday, and Captain Tarrant is happy. The weather could not have been better if it had been made to order, and the crowd was the largest that has ever been gathered out the Junior Campus on a similar occasion. The "Giants" appeared on the grounds with their strongest team, and feeling pretty confident of their ability to take into camp the nine they had vanquished a week before. The visiting players had not duly considered that the play in an exhibition game, with a sub-player for umpire, is not a positive index of the possibilities. They noticed things, though, before the game was "half" over, for every "Shortie" proved himself a Jack; and the "Giants" were disposed of in one, two, three order mostly every time they went to the bat; so much so, that one of the spectators remarked, in the excitement of his enthusiasm, " Those ' Lilliputians,' or whatever you call them, are immense!" At the end of the ninth inning the score stood 8 to 20 in favor of the "Shorties." Those who deserve special mention are Masters O'Kane, Kelly and Inderrieden, of the "Little Giant" team; and Masters Tarrant, Sokup, Mc- Court, Luther and Grimes of the "Shorties." Inderrieden, Captain of the "Giants," remarked, after the game was over, that his pitcher was not in good form, and that the "Shorties" would hear from him again at no distant date. Sam Holman's umpiring gave entire satisfaction to both teams.
THE NOTRE DAME SCHOLASTIC.

—An entertainment will be given by the Sorin Literary and Dramatic Association this (Saturday) afternoon, complimentary to Very Rev. Father General Sorin, greeting him on the occasion of his safe return from his 43d trip across the Atlantic.

The following is the

PROGRAMME:

Music—Piano.................................R. Oxnard
Song—"Sweet is the Sound of Charity's Voice."—Unison W. McPhee F. Crotty A. Nester, and W. Scherrer, Prologue............................................. E. Kelly

"THE NEW ARTS."

(A Drama in three Acts.)

Dramatic Persona.

Master William (a smart, lively youth) ....................................................... L. Scherrer
Mr. John Smyth (a student of the Graduating Class) ........................................ W. McPhee
Mr. Wright (Prof. of Philosophy, an accomplished scholar, and a gentleman) ................................. Elinor Berry
Mr. Fairbanks (a rich banker of the East) .................................................. A. J. McVeigh
Capt. Jones (a friend of Prof. Wright's) .................................................... C. Smith
Master Richard (a boy full of fun) ............................................................ E. Kelly
Master William (a smart, livelj- youth) ......................................................... L. Scherrer
Master Julius (an exceptionally polite boy) .................................................. J. Baker
Master Edward ................................................................. L. Noonan
Charles ................................................................. F. Crotty
Louis ................................................................... M. McCourt
Otto .................................................................... A. Nester
Water .................................................................... J. Peck
Joseph ...................................................................... G. Landenwich
Mr. Wright's Colored Servants, Sam and Joe, W. Henry and J. Reis

TABLEAUX—A Drama in three Acts.)

Dramatis Personae.

Mr. John Smyth (a student of the Graduating Class), W. McPhee
Mr. Wright (Prof. of Philosophy, an accomplished scholar, and a gentleman), Elinor Berry
Mr. Fairbanks (a rich banker of the East), A. J. McVeigh
Capt. Jones (a friend of Prof. Wright's), C. Smith
Master Richard (a boy full of fun), E. Kelly
Master William (a smart, lively youth), L. Scherrer
Master Julius (an exceptionally polite boy), J. Baker
Master Edward, L. Noonan
Charles, F. Crotty
Louis, M. McCourt
Otto, A. Nester
Water, J. Peck
Joseph, G. Landenwich

Mr. Wright's Colored Servants, Sam and Joe, W. Henry and J. Reis

Liabilities and Orpheonics

Minims' Orpheonics

Roll of Honor.

[The following list includes the names of those students whose conduct during the past week has given entire satisfaction to the Faculty.]

SENIOR DEPARTMENT

Masters Adams, Ackerman, Boos, Bunker, Berry, Bull, Barger, Blakeslee, Baker, Bloomingston, Crotty, Campau, Chute, Carnahan, Cobb, F. Donnellan, J. Nester, Nusbaum, Oxnard, O'Brien, O'Kane, Portillo, Prudhomme, Rugee, Salman, Sweet, Thompson, Wabraushek, Wagoner, Wieting, Zollars, Mas- son, Sedberry.

MINOR DEPARTMENT

Masters Adams, Ackerman, Boos, Bunker, Berry, Bull, Barger, Blakeslee, Baker, Bloomingston, Crotty, Campau, Chute, Carnahan, Cobb, F. Donnellan, J. Nester, Nusbaum, Oxnard, O'Brien, O'Kane, Portillo, Prudhomme, Rugee, Salman, Sweet, Thompson, Wabraushek, Wagoner, Wieting, Zollars, Mas- son, Sedberry.

Glass Honors.

COMMERCIAL COURSE.

Messrs. Meister, Keys, Coghlin, W. Murphy, Marion, Austin, J. V. O'Donnell Garcia, C. Paschel, H. Paschel, Livingston, Hamlyn, Darragh, Johnson, Mullane, Daly, Spencer, Meyers, Berthelet, O'Brien, F. Long, Ruffing, Houlihan, Holman, Hübeler, E. Howard, Harris, Monschein, Dempsey, Dillon, West, Aloysius McVeigh, Covington, Ky $10.00

For the Dome.

Aloysius McVeigh, Covington, Ky................................. $10.00

List of Excellence.

PREPARATORY AND COMMERCIAL COURSES.


* Omitted last month by mistake.
Saint Mary's Academy.

One Mile West of Notre Dame University.

—The Superiors of St. Mary's and Sister Mary of St. Elizabeth, the mother of Sister Mary of St. Cecilia, tender their profound thanks to the numerous friends who have manifested their sympathy in the late sad bereavement.

—On Thursday, at six o'clock a.m., the touching funeral rites took place which consigned the remains of our beloved Sister Mary of St. Cecilia to their last resting place. The solemn Requiem Mass was celebrated by the Rev. T. E. Walsh, President of the University, assisted by Rev. J. M. Toohey, Vice-President, and Rev. J. A. O'Connell, as deacon and subdeacon. The organ, whose mellow tones had so recently responded to the delicate touch of the fingers now cold in death, was played by Brother Basil, C. S. C., the organist of Notre Dame, and the powerful voices of Rev. Father Frère and other members of the choir at the College kindly relieved those whose voices, choked by grief, could not perform their office. Rev. Fathers Saulnier and Regan, and several seminarians, were also present. The impressive ceremonies found their way home to every heart, as did also the short, but feelingly appropriate sermon of the Rev. Father Walsh. Could we give the eloquent discourse entire, gladly would we do so, as every word was so fittingly spoken.

—In Memoriam.

Sister Mary of St. Cecilia—Miss Editha Lilly—died at St. Mary's, Notre Dame, Ind., April 14. The following tribute of affection is inscribed to the bereaved mother of the loved departed:

As a sweet, holy harmony vibrates the air,
Exalts, and enraptures, and moves us to prayer,—
Awakes, and enkindles emotions sublime,—
Uplifting our thoughts above space, beyond time,
And thrills with its melody Memory's domain,
When the music it woke has died over the plain, —
As a sweet, holy harmony vibrates the air,
Exalts, and enraptures, and moves us to prayer,—
Awakes, and enkindles emotions sublime,—
Uplifting our thoughts above space, beyond time,
And thrills with its melody Memory's domain,
When the music it woke has died over the plain, —

O, what was the power that has made her so dear?
Why, why is this void felt, so cold and so drear?
What wonderful might was enshrined in her form,
To illumine the world like a star in the storm,—
That held us, and guided, and drew hearts above?—
Dearest Sister Cecilia! 'twas might of God's love;
That its beauty, its glory, beams out in her smile.
It was seen in the clear, sunny glance of her eyes, 
To know her, one read of her life’s only prize.

Like a mountain-nursed torrent, unchained in its force, 
Her soul, from the first, turned with joy to its Source;
And, speeding so freshly, so brightly abroad,
Wherever she passed, bore the reflex of God.

And O, how it coursed, like the waves of the sea,
When the wings of her genius soared buoyant and free!

The dear little form that for years toiled for heaven, 
To the earth, like the germ of a flower, has been given
And our love has enfolded her fondly in bloom
That our hearts in those blossoms may speak from the tomb;
But the holy example, the sweetness, the power
Of the life she has led shall not fade like the flower,—
Their fragrance ascending shall compass and blend
With our lives, with our hopes, with our trust to the end.

Those small, skilful fingers shall never more press
The keys of the organ to charm us and bless;
Their marvellous touch shall interpret no more
The thought of the masters of musical lore;
Yet the deep, tranquil spirit; Ah! where is it now?
Death sealed her Espousals. They crown her mild brow:
And the harmony,—life of her life here below,—
In ineffable grandeur shall cease not to flow.

“God! bless God!” in her sweet, child-like joy she exclaimed,
When the might of His mercy—His goodness—were named.

“God! bless God! for who else but Himself can repay
The deep debt of love that we owe Him each day?"
And the grand Eucharistic device of her Spouse
Found a voice in her words; found response in her vows
So, blessing and blest, for God’s sake, she passed on;
But the sweetness remains, though the sunbeam hath gone.

We shall cherish each thought and each accent sublime
As an echo of heaven, in our exile of time,
The loved mother whose Treasures in Heaven now rest
Shall await the reunion in land of the blest.

Roll of Honor.

FOR POLITICALITY, NEATNESS, ORDER, AMIABILITY, CORRECT DEPORTMENT, AND OBSEISION OF RULES.

SENIOR DEPARTMENT.


JUNIOR DEPARTMENT.


MINIM DEPARTMENT.


CONSERVATORY OF MUSIC.

GRADUATING CLASS—Miss B. Gove.

1st CLASS—Misses V. Barlow, A. Shephard.

2d DIV.—Misses M. Bruhn, M. Hale, N. Keenan.

2d CLASS—Miss C. Ginz.


4th CLASS—Misses C. Fehr, M. Malboeuf, A. Murphy, H. Ramsey, B. Snowhook, G. Wolvin.


7th CLASS—Misses M. Allwein, M. Blair, F. Carmien, S. Campeau, B. Heckard, M. Helping, F. Herteg, C. Lang, E. Norris, A. Schmauss, G. Sears, V. Stull, A. White.

8th CLASS—Miss C. Prudhomme.

9th CLASS—Misses E. Blaine, E. Chapin, M. Lindsey, B. Murray.

10th CLASS—Misses E. Burris, J. Hammond, D. Lee.

HARP.

2d CLASS, 2d DIV.—Miss M. Dillon.

3d CLASS, 2d DIV.—Miss D. Fitzpatrick.

4th CLASS—Miss A. Shephard.

GUITAR.

4TH CLASS—Miss A. English.

VOCAL DEPARTMENT.

1st CLASS—Misses M. Bruhn, M. Hale.

2d DIV.—Miss B. English.

2d CLASS—Miss S. St. Clair.


5TH CLASS—Misses C. Fehr, C. Lange, B. Heckard.