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[Selected.]

Introduction to an Album.

BY CARDINAL NEWMAN.

I am a harp of many chords, and each
Strung by a separate hand;—most musical
My notes, discoursing with the mental sense,
Not the outward ear. Try them, they will reply
With wisdom, fancy, graceful gaiety,
Or ready wit, or happy sentiment.
Come, add a string to my assortments of sounds;
Widen the compass of my harmony;
And join thyself in fellowship of name
With those whose courteous labor and fair gifts
Have given me voice, and made me what I am.

The Hawaiian Islands.

V.

In my last letter I promised to write you about the leprosy and the lepers of these islands; but before doing so, I shall give you a brief account of some matters that will, I am sure, possess an equal interest for your readers. The topics I would refer to are naturally suggested by my present surroundings, and I could not now, without doing violence to my own feelings, pass them over in silence. Such topics are,

EDUCATION AND RELIGION IN HAWAII.

Among a people who are regarded as pagans, barbarians and cannibals, one does not expect to find much of education or religion, and does not look for churches, schools or colleges; and yet, for some unaccountable reason, the majority of people, even among those who should be better informed, are under the impression that the Sandwich Islanders are ignorant savages, and speak of them accordingly. But such an impression is as false as it is unjust.

It is the educational status of the Hawaiian Islands that is more surprising than anything else.

I have had peculiar facilities for examining into this matter, and I must confess that what I have seen here has gone far beyond my expectations. I knew that the Hawaiians are wont to boast of the number of their schools, and of the thoroughness of their educational system, but I was not prepared to find nearly so much as I have actually seen.

It will, I am sure, astonish most people to learn that the percentage of those in these islands who can read and write is as great, or probably greater, than that of any other country in the world. According to the late census, fully ninety per cent. of the native population is educated. Can the same be said of any other nation? It is questionable. I do not think it can be said of our own country, high as it stands on the educational scale, unless it has wonderfully improved within the last few years. According to the latest available statistics, if my memory is not at fault, the percentage of illiteracy in the United States is twice as great as it is in the Sandwich Islands. The number of illiterates in the little kingdom is not more than ten per cent., whereas in the United States it runs up to twenty. This is rather startling, is it not? Yet, surprising as the statement is, I am convinced that it is substantially true.

I would not, however, have my readers infer from what I have said that one will find here anything at all comparable with the many excellent and noble institutions of learning which are justly the pride and the ornament of our own glorious land. Such an idea would be simply preposterous. But what I mean to say is that the percentage of those who can read and write, of those who have studied the more rudimentary courses, is greater here in Hawaii than it is with us.

PROVISION FOR SCHOOLS AND TEACHERS.

It is not difficult to understand why such should be the case, when one is informed that education here is compulsory. Then, besides, there is a liberal provision for schools and teachers, there being on an average one teacher for every twenty-five, and one school for every forty pupils in the kingdom. In these schools, as might be expected, only the elementary branches, such as reading, writing,

arithmetic, geography and composition, are taught; but these receive due attention, and are taught fairly well—sometimes by native, and often by foreign teachers.

Instruction is given both in the English and in the Hawaiian languages. English, however, is more generally used, and the greater portion of the younger people speak it with comparative fluency. The older people still cling to the vernacular, and one will meet many of them whose knowledge of English is limited to only a few words.

Under the direction of the Government are both common and select schools. In the latter are taught some of the higher branches of the arts and sciences, and one may meet, now and then, students who have attained therein tolerable proficiency. Shortly after my arrival here, I had the pleasure of attending the commencement exercises of the Royal School—the pet educational institution of the Government. I was agreeably surprised at the intelligent manner in which each one performed his part. The music, both vocal and instrumental, was quite good, and some of the elocutionary exercises were really excellent.

Besides the Government schools there is quite a large number of private institutions of learning, most of which are under the auspices of the various religious denominations. By far the most popular and best patronized of these institutions are those conducted by the Sisters of the Sacred Heart, from France, and the Brothers of Mary. The Academy of the former here in Honolulu is quite extensive, and the attendance is proportionally large. All the pupils seem to have marked talent for vocal and instrumental music, as also for drawing, painting and fancy work. They do well, likewise, in their other studies, but seem to have a preference for the accomplishments just mentioned, rather than for more serious and necessary branches. The Sisters named have been here twenty-six years, and are, at present, twenty-three in number. Their mission is an important one, and their benign influence has blessed many a Hawaiian home. They are held in the highest estimation by all classes, irrespective of creed, and their pupils, one and all, are devotedly attached to them.

The Brothers of Mary have schools in Hilo and Wailuku, which are very highly spoken of, but their chief establishment is the

COLLEGE OF ST. LOUIS,

from which I send this communication. It is situated in Kamakela—intended, I presume, as a suburb of Honolulu; but it is so close to the city itself that it can, I think, fairly be considered as a part of it. It numbers several fair-sized frame and brick build-

ings, and the grounds, which are one of the most interesting spots of the capital, comprise several acres.

The college, although conducted by the Brothers, belongs to the mission, which is in charge of the Fathers of the Sacred Heart, from Picpus, France, and is under the immediate supervision of the Bishop of the Hawaiian Islands, Mgr. Hermann. In 1883 Brother Bertram and seven companions, three for Wailuku and four for this place, started from Dayton, Ohio, the head of their Province in the United States, and in due course of time landed in Honolulu. They were warmly welcomed by Bishop, priests and people, and entered upon their labors without delay. The first day they had seventy pupils; by the end of the year the number had swollen to 250. The second year they started with 230 and ended with 320. This year—the third—they began with 330 and closed with 380. During a portion of the year they had an attendance of over four hundred, eighty-six of whom were board-



ST. LOUIS' COLLEGE.

ers. The greater number were day scholars, and a certain number half-boarders. The number of Brothers at present engaged in the college is fifteen, and three more are shortly expected to assist in the work consequent on the rapidly increasing number of pupils. The indications now are that the number next year will be much larger than it has ever been before, and preparations are being made for new buildings which, owing to the unexpectedly large attendance of the past year and which will certainly be greater the ensuing term, are found to be indispensable.

In view of the excellent work done by the Brothers, the Government has been quite liberal towards the college. It has already granted one subsidy—a very handsome one it was—and has virtually promised another. With the first, the directors of the college were able to erect one of their largest buildings; and with the second, should it be forthcoming,

as it is hoped it will, they purpose putting up a similar structure for class-rooms, libraries, cabinets, laboratories, etc. This will give St. Louis' College quite an imposing appearance, especially as one does not expect to find such a large group of buildings for educational purposes in a country which is supposed to be beyond the limits of civilization.

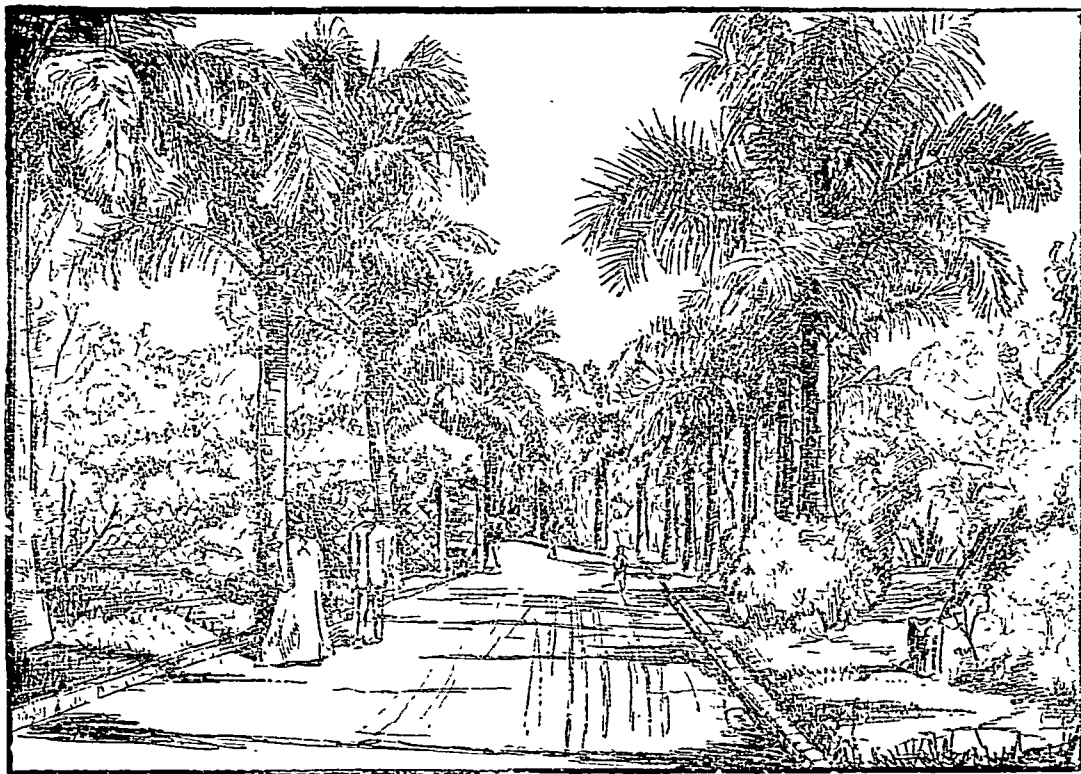
In the near future the Brothers contemplate adding to the college a school for manual training. An institute of this kind is quite a *desideratum* in these islands, and I have not the least doubt but that it will be productive of the most happy results. The natives are quite ingenious in their way, and could, with proper training, become skilful artisans.

I have seen here an exhibition of their work in linear, architectural and mechanical drawing that was in every way most creditable. And from the taste which many of them evince for machinery, combined with their skill in drawing and sketching, I am disposed to think that they could, had they the ambition to do so, attain to considerable proficiency in the mechanical arts and engineering. I have

is it in all kinds of tropical plants and trees, and rare exotics from the temperate zones. Among them are trees laden with the most delicious fruits almost the entire year, and plants and shrubs that are clothed in perpetual bloom. There are stately, royal palms; whose trunks are as smooth and as round as if they had been turned on a lathe and carrying on their summits mammoth-pinnacled leaves twenty and thirty feet in length and of proportionate width. The beautiful algaroba, with its graceful leaves; the monkey-pod, the most charming of shade trees; the traveller's palm and fur palms, pepper and eucalyptus trees abound in every part of the premises. Among flowers are magnificent oleanders and fuchsias and geraniums, and morning glories, which for size and luxuriance eclipse anything of the kind to be seen in the United States, except, perhaps, along the perennially temperate coast of California. The fruit-bearing trees, brought here from almost every part of the tropics—from Mexico, from South America, from the East and West Indies—are even more numerous. Among them are date and cocoa

palms—there being no less than five different species of the latter—chirimoyas and mammee apples; mangoes, bananas and pomegranates, and tamarinds and bread-fruit. And then there are, besides, two other remarkable species of trees: the rose-apple, producing a delicious fruit of the taste and fragrance of the rose; and the alligator-pear, transplanted from the West Indies, and producing a large, pear-shaped fruit, weighing a pound and more. The latter fruit has within its rind a yellow pulp, which, when crushed and mixed with salt and pepper, has a taste not unlike that of certain kinds of cheese, and which one soon finds quite palatable.

Yesterday was the last



AVENUE ROYAL PALMS.

put in the proviso "had they the ambition to do so," because the natives are naturally an indolent and listless race; and, with few exceptions, do not seem inclined to specially exert themselves in anything. But the tropical climate, with its invariable temperature the year round, has a most debilitating influence, and even foreigners are more or less affected by it. It is not, therefore, surprising that the natives, for whom nature has provided so bountifully, and who have, consequently, so little need to work in order to gain a livelihood should be, as they are, constitutionally inactive and devoid of ambition.

FRUITS AND FLOWERS.

Even on the college grounds, just in front of the room in which I am now writing, one has a fair sample of this bounteousness of nature, to which I have just referred. The campus is more like a beautiful conservatory than anything else—so rich

day of

COMMENCEMENT WEEK.

The exercises, which were very varied, were most creditable in every way, to teacher and pupil alike, and were largely attended by friends and invited guests.

There were, it is estimated, fully 2,000 people present in the spacious exhibition hall and on the adjoining grounds. Among these were the king and his cabinet, many members of the royal family, and the most influential citizens of the capital. The prime minister, the Hon. Walter M. Gibson, was the orator of the day; and he spoke in glowing terms, and justly so, of the evidences of thorough work which he had just witnessed. Parents and friends were enthusiastic over the manner in which the boys acquitted themselves. All the exercises—dramatic, literary and musical—were of a superior order, and I must confess that, at times, while list-

ening to the music and the speaking of these dusky lads of the Pacific, and witnessing such striking evidences of progress, I found it difficult to realize that I was actually in the Sandwich Islands, and not in some older and more favored land.

SCIENTIFIC APPARATUS.

A few days ago, a large consignment of chemical and physical apparatus was received here from Paris for the scientific department. Chemical and physical apparatus for Hawaiians! Scientific laboratories for Polynesians! Think of it! Verily, "*Tempora mutantur, nos et mutamur in illis.*" And what a change in only a few decades! Within the memory of those now living, the only instruments—if such I may call them—the natives were acquainted with were rude implements of war and ruder fishing tackle, and now they call for the most improved and the most delicate form of optical, electrical and electro-magnetic apparatus, and these for purposes of scientific investigation! This is no fancy picture. Among the apparatus referred to were many that would make a valuable addition to some of the more pretentious physical cabinets of the United States. A large Ruhmkorff coil, in particular, attracted my attention. A noble instrument it was, of the best Parisian workmanship, and one of which any professor of science might justly be proud. Truly, wonders never cease in this our age of wonders!

RELIGION.

The principal religious denominations are the Catholic, Anglican and Congregational. The first-named counts the largest number of communicants, and has chapels and churches in all the settlements and towns of the kingdom. The Bishop in charge is Rt. Rev. Hermann Koeckemann, a Westphalian, who resides in Honolulu. He is an accomplished scholar and an indefatigable missionary; and, aided by the Fathers of the Sacred Heart, has accomplished wonders in the cause of religion and education. Both the Bishop and his devoted band of co-workers are held in the highest esteem, and justly so, by all classes. The value of their labors in ameliorating the material, moral and intellectual condition of the natives is fully recognized, and the sentiment that they have deserved well of the country is universal.

(CONCLUSION NEXT WEEK.)

"Lead, Kindly Light," Latine Redditum.

[This excellent Latin metrical version of Cardinal Newman's well-known beautiful poem has been sent us by a friend. We do not know the name of the author.]

Alma Luce semper duce,

Adsis comes, fautor, Deus!

Nox nigrescit; via crescit;

Adsis tamen, fautor meus.

Pro amore Tuo rege pedes meas, Tua lege:

Haud excelsior adspiro: solum ducem Te requiro.

Sicut olim esse nolim,

Cum nec amor eras meus:

Nunc casurus, sum dicturus,—

"Adsis semper, fautor, Deus!"

Tunc amabam mundi lumen, mala timens Tuum Numen:
Tu ne memor sis ætatis actæ:—solvar a peccatis!

Semper Cruce viæ duce,

Sis per dura fautor Deus!

Donec, duce Tecum, luce

Plena surgat dies meus,

Qualis præbeat redemptas formas Morte jam peremptas,—
Cœlitum subrisu gratas,—olim, heu! desideratas.

J. P.

The Inductive Method.*

The intellect of man has a natural inclination to observe resemblances. As there are too many objects falling under its notice to be retained by the memory, it is compelled to arrange them in classes—placing together those that have common properties. These numerous objects with their properties are thus found to proceed from a few elements, which are the outcome of some causes producing always and everywhere the same effects, and according to a Divine purpose. Our inclination to generalize is rewarded by finding that unity and order pervade the universe. By rising in this manner from particular facts to general ideas, judging causes from effects, establishing laws from observed phenomena, we follow what is called in Logic "the Method of Induction." That Induction, being the method proper to the physical and moral sciences, gives us certitude, is the proposition which it is the purpose of this paper to establish.

The syllogism, however important it may be in Mathematics or other sciences, is useless as an instrument of discovery, since it is employed to deduce particular facts from general principles. But these principles, or general laws, are the very object of the physical sciences, and the particular facts only are given as foundations to build on. Wherefore, it is plain that the method to be used must not only differ from the syllogistic, but be directly opposed to it. This requirement is found only in Induction—the little use of which accounts for the slight progress of the sciences in ancient and mediæval times. It is true that Induction was known to the philosophers of those ages, since Aristotle, Plato, Albertus Magnus, and others, make mention of it; but the method was used in such a loose manner, without plan, and general conclusions were drawn from few observations with such precipitancy, that, besides being an insufficient ground for certitude, it led to the most fantastical errors. The much sought-for philosopher's stone and elixir of life afford a good example in which also the imagination was given full scope. It was left for Bacon, in the beginning of the seventeenth century, to reform and make it, strictly speaking, the true Inductive method—a powerful instrument of discovery. He, better than anyone before him,

* Thesis defended by HUGO C. ROTHERT before the St. Thomas' Academy, Wednesday evening, Feb. 9.

organized and formulated the rules of Induction, entering into minute details concerning it, and showing its necessity in the sciences; hence it is called Bacon's method. Through it he effected the "Great Restoration of the Sciences," as he called it. It is owing to that careful investigation of nature, guided by precise rules, that subsequent scientists have been enabled to make those wonderful discoveries which, glorious in themselves, shall be handed down to posterity as a precious inheritance.

Without making here a systematic classification of the various sciences according to their object, I will divide this subject into three main parts: considering Induction as related, first, to the physical and natural sciences, secondly, to the Moral Sciences, in order to arrive, finally, at a higher conclusion by means of what is called metaphysical Induction.

The physical and natural sciences are based on real, actual facts, called phenomena, collected by means of observation and experiment. By Induction we determine the relations existing between these facts, and discover certain forces governing these relations, which we call the laws of nature. Induction is sometimes confounded with analogy, with which it is closely connected. By analogy is meant the resemblances which we are naturally inclined to trace between different objects. It leads us to judge of unknown things by their relations to those that are known. When the physician prescribes quinine for your fever because it helped others in like circumstances, he judges by analogy. We notice resemblances between two objects, from which we conjecture that a certain property of one of these objects is also found in the other. Thus, a person seeing two fruits that resemble each other externally would infer that they tasted alike; and if the fruits, upon being dissected, resemble internally, he would say that they were but different individuals of the same species. But in the method of Induction, the mind, after a sufficient number of observations, affirms that certain relations are essential, and that they necessarily imply general and permanent laws. Thus, after a great number of experiments, the following law in chemistry was propounded: Any given chemical compound always contains the same elements in the same proportions by weight.

Now, in the first case, what right have we to judge of the taste of the fruit? And in the second, how do we know that water always contains 88.89 per cent. of oxygen and 11.11 per cent. of hydrogen by weight? or, likewise, in any other chemical compound, that the elements it contains are always the same and have the same relative weight? In the latter case, must we experiment with every chemical compound that has been, is, or will be known to chemists in order to know with certainty whether this principle will hold good?

The answering of these questions will afford another and a better opportunity of showing the essential distinction between Analogy and Induction. The certainty of analogy is founded on the regularity and the constancy of the works of nature;

it supposes the following principles: similar things, in the same circumstances, have the same properties; like causes, under like conditions, produce like effects. The certitude of Induction rests on the universality of the principle of causation, which is, "There can be no effect without a cause, and the cause must be of the same nature as the effect." But the axiom, the laws of nature are constant and uniform, this is the lowermost foundation-bed of the legitimacy of Induction. Supposing a sufficient number of observations and experiments to have been correctly made, a general proposition inductively obtained from these is true only when the falsity of the generalization is inconsistent with the foregoing principles.

Thus far, general laws only were referred to as being made certain by Induction; but this method may also give certitude in regard to the laws of nature in particular. For we perceive clearly, we know with certainty, we affirm without any fear of error, the existence of some of the laws of nature in particular; for instance, that quartz easily fuses when mixed with potash or soda; or that a chloride of silver will be precipitated from an argentic salt by hydro-chloric acid.

It would, perhaps, not be out of place here to examine the requisites of a good induction. In determining a law of nature by the Inductive method, we proceed in this manner: first, we make a number of observations and experiments; next, we arrange and classify the results we have obtained; and, finally, we generalize the same, extend the common qualities thus verified, and formulate the laws. Observation is the serious application of the mind by means of the senses to a phenomenon, in order to ascertain some facts concerning it. Not only must the observer be free from prejudice and predisposition, and be able to see things clearly, but the observations themselves should be *exact, varied and complete*. Sometimes the phenomena we wish to observe do not take place ordinarily; then we make use of artificial means, or what is called experimentation. Cuvier said that, "while by observation we spy and explore nature to take it by surprise, by experimentation we compel it to unfold and reveal its secrets." The requirements stated above concerning observation, pertain also to experiment, which should, besides, be conducted methodically, repeatedly, and under various conditions; and, finally, may be renewed in the inverse order. Moreover, the proverb "Haste makes waste" is not to be disregarded by the experimentalist.

To arrange and classify the results of the investigations is the next step in the process. To do this, we must examine the results obtained in all their details, and note what is common and what is exceptional, what is essential and what is merely accidental. To distinguish these properties, Bacon proposes a system of three tables, namely: (1) the table of presence, containing all the facts which exhibit the properties in question; (2) the table of declination, or of absence in the analogies, upon which are marked the similar circumstances in which the same properties are not found; (3) the table of comparison, affording a means of ascer-

taining the different degrees and modifications by which the property is shown forth. These tables, by constantly bringing before the mind the facts which are being examined, and thus giving aid to both senses and reason, enable us to gather common and essential qualities, and to exclude what is exceptional and accidental. After thus collecting the circumstances in which the fact was found as constant and uniform, all that remains is to apply the principle of Induction, according to which all the forces of nature follow, always and everywhere, the same direction; or, in other words, to extend to similar objects the common property discovered by the scientific observer.

Above all, it is supposed that enough facts are at hand on which an induction can be built. But this is not always the case, and we then make use of hypotheses, the utility of which, in all sciences, cannot be called in question. In the physical sciences, the term "hypothesis" denotes the supposition of a cause, in order to explain some natural phenomena, the true cause of which is hidden—as, for instance, the nebular hypothesis, which accounts for a great number of circumstances and apparently fortuitous coincidences of our solar system. We should distinguish between fantastic and serious hypotheses. The former are the outgrowth of extravagant imagination; and, generally, their absurdity is so apparent as to find no entrance into the realms of Science. The latter, however, need to be examined and kept under special rules. It is evident that hypotheses should not be brought forward when *certain* conclusions have been reached. There is a faulty tendency, common nowadays, to invent a hypothesis and then investigate as to its plausibility; and sometimes in announcing the same, only the favorable particulars are given. Can it not be applied to the high-sounding hypothesis of Transformation of Species, which, resting only on unverified conjectures, is supported by more or less ingenious analogies? The hypothesis should follow observation and be founded on ascertained facts, by which it should be supported. Besides, it ought to explain all, or most of the circumstances, (the greater the number, the more probable the theory) and be in contradiction to none. It is to be remembered that a hypothesis is simply a conjecture and not a truth. When taken as positive notion, the effect of hypotheses is to impede the progress of science by giving to error the appearance of scientific truth, and by discouraging further researches. The purpose of a well-formed one is to explain facts otherwise unaccountable, facilitate the teaching of relevant laws, and to induce inquiries as to the true cause. Sometimes a hypothesis is verified by subsequent investigations; it is then to be considered as a law—as is the case with Kepler's laws concerning the elliptic orbits of planets.

"In the undulatory theory of light so many cases of analogy support the hypothesis, that we must admit one of two things: either that it actually takes place in nature, or that the reality must run so close a parallel with it as to give us a right to make use of one and the same word to express both."

This is, substantially, what Herschel says; and

Bacon warns us against the dangers of Induction, when saying: "Let scientists fasten to the understanding, not wings, but a leaden weight, to keep it from flying up too rapidly to the highest principles."

Induction, which is of such great value to the physical and natural sciences, is also of primary importance in the moral sciences; so much so that some of them are constructed entirely by this method. The moral sciences are those whose object is God and man. Man cannot know God directly, but he can get an idea, or form a concept of what his Maker is, by observing and knowing himself. And how does man arrive at any knowledge of himself? By reflecting upon his own soul. The science of the soul is called Psychology. Each one of us is conscious of himself: in psychology, the different operations of the mind are attentively observed, their relations established, their laws formulated. Here, as in physics, observation and experiment are both used; likewise we reason from effect to cause, from mental phenomena to the laws governing them, from these laws to the essence of the soul itself. Whilst in physical inquiry the senses are the agent of observation, in mental research self-consciousness is employed. Thus, after observing, by means of the same self-consciousness, our sensations, feelings, deliberations and resolutions, we endeavor to find the reasons for their existence in us by examining that in which they resemble or differ. Then we are able to classify them. Thus, again, we see that in certain exercises of the mind past experiences are brought before it by what we call memory; or, we feel that some act of ours is a bad one: to this we give the name of conscience. These, amongst others, are known as the powers of the mind. What has all this, you may say, to do with obtaining general principles by the Inductive method? A great deal, because from the observations made of these various powers and their action we reason to the generality and stability of the different laws of human nature. Hence we come to the conclusion that "like tends to recall like." And as in dealing with physical objects we succeeded in discovering their laws, so, too, in applying to our soul the process of Induction, we should never lose sight of the principle: the laws of nature are constant and uniform.

Were we not limited by time, we might also consider how Induction is a most powerful instrument in historical researches, whether the author wishes to discover facts, criticize manuscripts, or infer as certainly as possible from the most complicated events the causes by which they were produced. For, what is History, after all, but a struggle between human passions, or an immense battlefield in which all nations take a part, to rise or to fall? Or is it, rather, a kind of stage on which great or small heroes appear as so many characters for the instruction of posterity? And what is the scientific process calculated to make us profit by the lessons of history? Induction.

But Law, another of the moral sciences, is, perhaps, even more than Psychology and History the fruit of Induction. If law in general is a rule of

action, human law may be defined a right command regarding persons and property. In order to frame good laws, the method of Induction is doubtless to be followed; for the authorities ought to be guided by their own experience and that of their subjects. A monarch, vested with absolute power, who pursues his own interest or caprice, and is not actuated in governing by the wants and needs of his people, is a tyrant. In limited monarchies and republics the power of making laws rests in a body of legislators, chosen from amongst the people, together with the chief executive. To take our own country for an example: first, a bill is proposed in Congress when it appears that something is defective or wanting in any direction. It is then discussed, and the reasons *pro et con* publicly given out. What way do either the advocates or opponents of the bill follow? Induction again, since they take their respective arguments from the needs of society. Now, suppose the bill passes and becomes a law, will Induction be of any further avail? Yes. If the law is violated, the offender is tried before a court. He is defended and prosecuted by lawyers, who collect as many facts as possible concerning the case, from which they draw their conclusions. They also cite decisions made in similar cases, wishing thereby to influence the judge or jury; what is this but analogy? It is, moreover, the duty of the judge to interpret the law, which he does in passing sentence on the accused, or in charging the jury. In this he is also aided, to some extent, by the Inductive method, inasmuch as he relies on the similitude of cases. The hypothesis may also come into action, for a jury can render a verdict resting on circumstantial evidence alone. This, of course, does not give the same certainty as direct evidence; but sometimes a previous hypothesis is confirmed by subsequent confessions. So it is that in preparing, enacting, enforcing laws, the same method of Induction affords most precious advantages to law-givers, judges and lawyers.

From what has been said, we may infer: (1) that Induction is the proper method to be followed in both physical and moral sciences; (2) that, when duly controlled, it becomes for us a reliable motive of certainty. This does not mean, however, that in any of these fields of investigation the result will be as evident as in pure mathematics, but only that, after sufficiently observing and controlling the facts, a physicist or moralist is entitled to draw a general conclusion which is as certain as the subject itself permits. The former rests on the principle, that the laws of nature are constant and uniform; the latter relies on the truthfulness of human nature and testimony. In short, we trust Induction, because, as St. Thomas says, "all that is natural is never false."

Yet, before closing, it will be well to call your attention to another higher process, to which Plato and all great philosophers gave the name of "Metaphysical Induction." It is true that in our days of so-called "positive researches," metaphysics has often been turned into ridicule, and its defenders looked upon as dreamers of a by-gone age. Is it

not for this reason that we see nowadays such absurd theories as those of transformation of species, eternity of matter, spontaneous generation, and the like, renewed or invented, to account for the origin of the world? Is it not because the existence of an Infinite Being, Personal, Almighty and Creative, has been called in question, that matter itself has been deified by sciolists?

We, on the contrary, assert that the Baconian Induction is for the true scientist the first step to arrive at another not less certain induction, which consists in concluding the infinite from the finite, and from nature actually existing, the reality of God, its omnipotent Maker. It is a fact, revealed and demonstrated by all sciences, that unity reigns supreme throughout the universe, as being the undeniable result of the harmonious co-ordination between the physical and the moral order. Poets themselves—and we know that poets have sometimes sublime intuitions—proclaim that

"Order is Heaven's first law; and this confessed,
One is, and must be, greater than the rest."

All the laws that regulate the cosmos must, of necessity, be ruled over by a higher will, and guided by an infinite wisdom, by virtue of which all the best means are given to the various beings by their supreme, independent Law-giver.

Thus we see that Induction makes known, not only the laws and unity of the universe, but also the First Cause, which laid down these wonderful laws and effected this incomparable unity. Such is the beautiful sentiment expressed in these lines:

"Whoever plucks a flower on the way, listens to the song of a bird in the forest, follows with his eyes a bright insect making its bed of a rose, cannot more refrain from feeling God in the smallest objects than admiring Him in the immensity of the heavens."

But when analyzing "his sensations, desires, aspirations and grand longings," man attains at once by means of Induction, the heights of science and contemplation. Then his destiny is no longer a problem; its solution is written, with the sweetest characters, in the recesses of his soul. He realizes to some extent, as St. Paul says, that "the invisible things of God are perceived from the spectacle of creatures." He firmly believes that life is worth living, and, certain beyond doubt that there is a blessed hope for good deeds, he affirms with an unshaken faith, based on an indisputable Induction, that he was born for immortality.

Among the first curiosities shown the visitors to the Capitol are the whispering stones in the Statuary Hall, which used to be the old House of Representatives. There are several sets of these stones, and a person standing on one can hear a second person whisper, if that person is on the corresponding stone on the other side of the hall. One of the most curious of these stones is the long distance one. The stone is near the north door of the hall, while the person who talks must stand on the threshold of the doorway of the south entrance, some twenty feet away. Any one standing on the stone near the north door can hear the whispers uttered on the steps of the south door.

NOTRE DAME SCHOLASTIC.

Notre Dame, February 19, 1887.

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 the TWENTIETH year of its existence, and presents itself anew as a candidate for the favor and support of the many old friends who have heretofore lent it a helping hand.

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Editorials on questions of the day, as well as on subjects connected with the University of Notre Dame;

Personal gossip concerning the whereabouts and the success of former students;

All the weekly local news of the University, including the names of those who have distinguished themselves during the week by their excellence in Class, and by their general good conduct.

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

—Should the Law Class continue in the future to grow in numbers as steadily as in the past two or three years it has grown, a separate building for it will soon be necessary. And many indications point to its steady increase and progress. Of course, the success of an institution very largely depends upon its reputation, and the Law Department is too new to have become widely known. But there can be no doubt that it is steadily making and firmly establishing an excellent reputation. Those who have completed the law course here and entered upon the discharge of professional duties, everywhere bear witness to the thoroughness of the system of study pursued at Notre Dame. In that way a reputation is established. Indeed, it is not a little singular that students in some instances take, in addition to the law, three or four classes in the undergraduate courses of the University, and yet easily finish the law in two or three years. Though that is the time regularly given to the exclusive study of the law in other institutions, nevertheless the graduates of those institutions sometimes fail to meet the test of an examination for admission to the bar, while not a graduate of Notre Dame has yet been subjected to that humiliation. Such facts, and the fact that when a young man of fair ability completes his studies here he is qualified to

“put out his shingle,” go far to insure continuing progress and prosperity to the Law Department.

—We live at a time when, more than ever before, a general taste for reading prevails among persons of all ages and conditions of society. To say, then, that the material provided to satisfy this general demand should be good and suitable and not deleterious and poisonous, is to assert a self-evident truism. Reading is one of the ordinary means by which the human mind is nourished, its growth and development fostered. Thoughts are communicated, ideas engendered, judgments formed, not alone through social intercourse with our fellow-man, but also, and to a great extent, through the ideas, judgments and thoughts of others as expressed and presented before us on the printed page. We are all more or less imitators. Mind does and will ever exercise an influence upon mind when placed in contact through the medium of written or spoken language. The superior mind will attract and draw after it the inferior; the mind incapable of forming its own guiding judgments, or liable to be influenced by passion or prejudice, will be led to the formation of those opinions, correct or otherwise, which it will be taught by leading minds, or which will conform to passion and inclination. And is it not the case that this latter category of minds include the vast majority of mankind? How few there are who of themselves, independently of instruction and training, are fit to be leaders of the people! How important is it, therefore, if we consider the welfare of the people and of society, that the mind of the individual should receive its proper support and nourishment through such reading material as will aptly conduce to that end.

Economy.

We believe that, as a rule, the young man who commences his career in life on his own resources, backed by a good education, is far better off than those who have wealthy parents to start them in life. He so manages what he saves that it may become productive, and he thus becomes a capitalist in a small way, and is supported by the interest of this capital and by the reward of his labors either as a clerk, mechanic or a professional man. Accordingly as he manages with prudence his affairs, his capital will augment until he is enabled to possess, if not affluence, at least sufficient wealth to enable him to live comfortably. This is man's lot, and if he will be but so persuaded, his happy lot. Throughout his whole life it gives to him pleasant employment—that of making his condition better. When wealth is acquired suddenly, by speculation or otherwise, this purpose is defeated, and, much as the sudden acquisition of property adds to his security, it takes from the interest and pleasure of life by banishing from it the spirit of enterprise.

No young man, then, should regret that he may have to commence the work of life with little or

nothing. In the order of Providence it has not so happened without design. It is this which best develops and disciplines character; it is the best protector of virtue, and the only way of educating his powers for good to their fullest capacity. Ample means are withheld from him when young, because he is not to be trusted with them. Five out of every six become ruined because they have full control over money before they have reached the age of thirty. Before that age the free control of money usually leads to idleness, drunkenness, gambling and ruin.

Hence it is necessary for a young man to accustom himself to habits of economy. Without this virtue, industry and perseverance will be of no avail to anyone. It would seem that it was the design of Providence to bring up young people to this virtue by placing a limit to their means of expenditure. This effect, however, is not invariably produced by the discipline of early life. The foolish indulgence of parents often gives to the young man those habits of expense which in after-life are fatal to his comfort, his respectability, and his peace of life. No mistakes are to be more regretted than the foolish and wanton waste of money in youth. It is simply a matter of habit; and that young man who does not correct himself in this particular will have cause for regret all his life. But how many a promising young man fails to set his habits right in this particular! His real wants being few, he imagines they will always be so. Having no one to provide for but himself, he never thinks that others may in time be dependent on him. Having health, youth, energy and strength, he fails to remember that they will not last. He expends his money freely. The idle, frivolous and transitory pleasures of the day use up his money, and sometimes even pleasures pernicious in themselves empty his purse. He does not give heed to the importance of that period of his life when he is capable of energy in his business. He suffers the golden opportunity to pass unimproved, and he finds himself later on with his energy spent and a habit of spending money acquired which he cannot overcome. He has laid up nothing, and must forever be a drudge. He has given himself up so completely to pleasures in his youth, and pleasure has ruined him. When full manhood comes it finds him unable to purchase even the innocent pleasures which aid in making life happy.

Every young man, then, even while at college, should endeavor to acquire habits of economy, for the habit will follow him after he leaves, and will assist him on his way through life. B.

Pleasant Hours With the Scientists.

I.—MULTIPLE MANIFOLDNESSES.

One of the most interesting and, at the same time, exquisitely simple subjects that can engage the attention of a student of Science, is multiple manifoldnesses, and their inter-connection with processes of thought. Can we represent a syllogism geo-

metrically? The only example hitherto known is the cyclic syllogism; but from this one example it is evident that we can always conduct our argument on the boundary of any flat manifoldness. The most notable results are obtained when the mental process is linear and sibireciprocal, and its generator function travels along loops in a flat continuum; this enables us to represent fully the important and little understood mental exercises involved in "jumping to a conclusion." Several effective methods of doing this may be developed. In a flat of three dimensions, infinite only to a limited and restricted extent, and bounded by a curve of extreme anfractuosity, if we choose any orthogonal co-ordinate system of quali quantitative megacercs, then two of the co-ordinates represent the premisses, and the third will obviously represent the conclusion. Controversial arguments will be represented by multipartite manifoldnesses, which in some cases require a quadripartite infinitely extended surface.

A new light will be thrown on this subject if we consider the intercorrelation of motion and dimension. And first, as regards space, at least, the word "dimension" is utterly misunderstood by most persons. Endopsychic thought may easily be confounded with exopsychic mental phenomena, and in scientific matters we ought to attack our problems subjectively if they are to be separate objective entities. Noumenally regarded and abstracted from all considerations of extension, the real dimensions in space are proportional to the velocity of light *in vacuo* and the velocity of electricity in a perfect conductor. Space is also of minus one (-1) dimensions in force; whence it follows that space itself is a velocity. Heat and magnetism are angular velocities about the axis of symmetry of the Force-cosmos. Angular velocities about axes perpendicular to this produce polarization, double refraction and coercive force. To grasp the full meaning of these terms we must consider for a moment the fundamental forms of pure mathematics. The notions we form of things depend not only on the *locus in quo*, but also on our perceptions concerning their relativity. If every perception *per se* were obliterated, it is at once evident that we have a fundamental form *an sich*. Pure forms are those whose graphometric relations are linearly expressible by means of three degrees of freedom. A multiple pure form *quâ locus in quo quoad hoc* gives us a means of investigating other sub-multiple *loci*. The subject of gemination of new forms and the genesis of restricted media we hope to treat of in a future article.

J. F. THUCYDIDES.

P. S.—These things Thucydides, an Athenian, hath compiled, believing that the search after scientific truth is for most literary persons a matter of indifference,—which, indeed, is a very terrible thing—but not by any means escaping his own notice, having a small acquaintance with the discipline of science, he had adopted the tone suitable to one of slender faculties and narrowly-extended knowledge. It seemed good to him also to make trial of pericyclic

methods of thought, not, indeed, believing that, as scientists shout out all together, love and the religious feelings are a secretion of the mucous membrane of the small intestine—whatever that may be; at the same time, however, not refusing to accept the opinion that it is also most important that, both for others also and not least for the lover of literature, the mind should be, as far as possible, both unprejudiced and able to judge right judgments.

J. F. T.

Books and Periodicals.

POEMS. By Marcella Agnes Fitzgerald. Published for the Author by the Catholic Publication Society Co. New York. Pp. 504.

In all respects meritorious and praiseworthy is this handsome volume. Originality, good taste, and the inspiration of true poetic genius, mark its contents; while suitable paper, excellent typography and substantial and tastefully ornamented binding, combine to make it attractive in appearance and worthy of its contents. The range of subjects, too, is comprehensive and distinguished by pleasing variety. In proof of this, a few of the poems may here be mentioned, as "The Lord's Prayer," "The Voice of Flowers," "The Women of the Revolution," "Evening at Notre Dame," "Sunset Beside the Sea," "Bird Song at Midnight," "Easter Bells," "Daniel O'Connell," "Harvest Home," "The Mountain Spring," "Bridal Wishes," "The Storm," "Donner Lake," "Irish Music," "Our Flag," "St. Patrick's Day," "The Rosary," "Ave Maria," "A Mother's Love," "A Christmas Legend," "Philip's Mother," "The Martyrs of Memphis," "The Haunted Dell," "California's Welcome to Most Rev. P. W. Riordan." These are but a few of the poems, legends and ballads that appear in the book, and they are taken at random from the table of contents. The gifted writer expresses herself with singular charm and felicity, and there is probably not in the entire work a single stanza fairly open to the criticism of the prosodist. Elegance of diction, vigor of thought, and beauty and sweetness of sentiment, distinguish the contents of this meritorious work. Some of the legends—"Philip's Mother," for example—are as pathetic in sentiment as they are charming in style. Miss Fitzgerald evidently has bright prospects in the domain of literature.

LA CYTODIERESE CHEZ LES ARTHROPODES. Etude Comparée du Noyau et du Protoplasme à l'Etat Quiescent et à l'Etat Cinétique. Par le Chanoine J. B. Carnoy, Professeur de Biologie Cellulaire, à l'Université Catholique de Louvain.

LA CYTODIERESE DE L'ŒUF, ETC. (seconde partie). La Vésicule Germinative et les Globules Polaires de l'*Ascaris Megalocephala*.

LA CYTODIERESE DE L'ŒUF, ETC. (seconde partie, continuée.)

I.—La Vésicule Germinative et les Globules Polaires chez divers Nématodes.

II.—La Segmentation chez les Nématodes.

With the third *fascicule* on cytodieresis, Prof. Carnoy finishes the report of his long and patient

researches in the field of cytology which before his time had received but little attention. In the first of the three *fascicules*, bearing the date of April 1, 1885, Canon Carnoy treats of cell-division among arthropods. He selected this class of animals, because before him, few had explored this rich mine of cytology. He was soon convinced that no problem existed in cytology that could not be solved by observations collected from this class of animals, and therefore he does not hesitate to say that the anatomy of the cell can be written by collecting the cytological data presented by the arthropods. After a short introduction, stating the method he employed in his researches and the reason he undertook this study, he divides his work into three parts. In the first part he treats of the direct or acinetic division; in the second, of the indirect or cinetic division, and in the third part he shows the relation existing between the two kinds of division. In this part the terminology is fixed and determined. The terms caryodieresis, plasmodieresis and cytodieresis, as well as those of cinesis and stenosis, with the compounds of caryocinesis and caryostenosis, receive their exact meaning, and will add greatly towards constructing a permanent and rational terminology in cytology. He is the first to call attention to the fact that in the cells of arthropods, just as in those of plants, stenosis may be effected by means of a cell-plate. All his observations tend to show that cell-division in arthropods may be effected (1) by means of the cell-plate; (2) by means of constriction (stenosis), and (3) by the two together. He reaches the general conclusion that cinetic division takes place in all groups of arthropods, and that the polar crowns or asters in the cell are formed in a direction which is diametrically opposed to the principal axis. This part is illustrated by eight plates with 314 figures, and sometimes we are at a loss which to consider the more clear, the text or the figures.

The second and third *fascicules*, bearing, respectively, the dates of May 15, 1886, and December 15, 1886, form the second part of the whole memoir on cytodieresis; and in it are treated the germinal vesicle and the polar globules in the cells of *Ascaris megalocephala*, the germinal vesicle and the polar globules exhibited by diverse Nematodes, and concludes with a study on the segmentation of the egg in Nematodes.

By these researches Canon Carnoy has erected a monument in cytology, which will point out the way to many who come after him. In this memoir, by careful observations and experiments, as well as by the use of a more trustworthy coloring reagent for the nucleus (methyllic green), he has arrived at conclusions which differ greatly from those obtained by others. Not only has he controlled, modified and verified the observations of MM. Nussbaum and E. Van Beneden, but, to a great extent, he has corrected their statements, especially those relating to the nature, constitution and expulsion of the polar globules.

It is impossible for us here to enumerate all the conclusions Canon Carnoy has drawn from his observations; but let it suffice to state that we may

trust the observations of so distinguished a scientist. Anyone having seen him at work is at once convinced that he does not shun difficulties, but rather seeks them; and, having found them, he explains them so clearly, that even the uninitiated in cytology may understand him. Now, that the author of *Cellular Biology* has finished the great work on cell-division, we hope that he will find time to complete the "*Biologie Cellulaire*," which all cytologists are anxiously expecting. A. M. K.

—The Editorial, Publishing and Printing rooms of *The Paper World*, *Good Housekeeping* and *Work and Wages*, have been moved from Holyoke to Springfield, Mass.

Personal.

—J. J. Ney (Law), '70, is the Honorable Judge of the Criminal Court of Dubuque, Iowa.

—Thomas P. White, '74, is a prominent and most successful physician in Cincinnati, Ohio.

—Edwin Carqueville (Prep.), '74, is connected with the Shober & Carqueville Lithographing Co., Chicago.

—Robert Emmet Boyle and his brother John, both of '68, are the proprietors of fine stock farms in Brown County, Ohio.

—Among the welcome visitors during the week were Rev. John Crowley, of Laporte, Ind., and Rev. W. Crossom, of Oxford, Ind.

—Aloysius Reinboldt (Com'l), '76, has chosen a life on the boundless prairie, and taken charge of a large cattle ranche, near Pecos, Texas.

—The sincere sympathy of many friends at Notre Dame is extended to John Kauffman, of '71, Michael Kauffman, of '76, and Charles Kauffman, of '84, who were recently called upon to endure a sad bereavement by the death of their brother Frank, at Cincinnati.

—Charles Braunstein (Com'l), '66, is conducting a very successful business in Cincinnati. He was one of the bright Juniors of a comparatively olden time, and in the musical memories of Notre Dame Charlie will ever hold a prominent place, both as vocalist and instrumentalist.

—Charles A. Tinley, '84, is now one of the leading lawyers of Covington, Ky. His indefatigable industry, aiding natural talents and a great store of knowledge acquired, has served to place him in the foremost rank of his profession. His many friends at Notre Dame, though not surprised, are still pleased to hear of the success which is attending him.

—We learn from the Cincinnati papers that Bro. Albert, C. S. C., has finished and placed on exhibition a companion painting to his "*Birth of Christ*," which, at the time of its exhibition last November, created much favorable comment. Bro. Albert is Director of the Art Department of St. Joseph's College in Cincinnati, and a successful Professor of Drawing and Painting.

—Charles P. Walters, '74, for a number of years one of the leading and most respected citizens of Ft. Wayne, Ind., recently returned to that city from Florida, whither he had gone to seek improvement for his failing health. We regret to learn that his expectations were not realized; but we hope, with his many friends at Notre Dame and elsewhere, that the amelioration which a Southern clime did not give, may be found in the loving care and attention of home and friends.

—Father Zahm, of Notre Dame University, Notre Dame, Ind., on Sunday a week, delivered one of the most incisive, comprehensive, cogent lectures that have been given for many a day in the College Chapel. Whether we think of him as a Church man or as a general scientist, his propositions and his arguments were well taken and admirably sustained. The scholarship evinced, the investigations made, and the conclusions deduced, all showed the thoroughness and the acuteness and the discrimination which are results of the training given by the Catholic Church to her priests. Unlike many a Protestant Minister, Father Zahm knew what he believed, where he got his belief, and how to sustain himself in the same. He and his Church make no concessions to infidelity, skepticism, or the vagaries of science; and this is the secret of the power and advancement of the Catholic Church. The large audience was a compliment to the lecturer, his Church, and the tolerant spirit which invited him to the rostrum of this University.—*Bloomington (Ind.) Progress*.

—On Monday, the 14th inst., the students of St. Joseph's College, Cincinnati, tendered a reception to Very Rev. Father Provincial Corby, C.S.C., on the occasion of his official visit to that institution. The exercises took place in the College Hall, and though somewhat impromptu in character, showed to advantage the good training to which the students are subject, and the proficiency attained by each one. We learn that, in particular, the three addresses to Father Provincial, from each of the departments of the College, were delivered with taste and feeling, and elicited encomiums, both as regards composition and delivery. We are pleased to append the following programme which will show the variety and nature of the exercises:

PROGRAMME.

Song—"Welcome".....	College Choir
Address—Collegiate Dep't.....	J. Hoehne
Address—Preparatory Dep't.....	F. Kushman
Address—Minim Dep't.....	W. Wendel
Chorus—"Alpine Shepherd".....	College Choir
Recitation—"The Confession".....	O. Ibold
Rienzi's Address.....	H. Eilers
The Toast.....	L. Langenbrunner
The Collier Child (Personation).....	C. A. Hummel
The Gladiator (Oratorical).....	H. Haarman
A Comical Selection.....	J. Steidle
Finale-Chorus—"Invitation".....	College Choir
Closing Remarks.....	Very Rev. Father Provincial

St. Joseph's College, we learn, is in a very flourishing condition, under the energetic and competent direction of Rev. James Rogers, C.S.C., of '76, who, at one time during his student days, was the genial Editor-in-chief of the SCHOLASTIC.

Local Items.

- Lent is coming.
- Next Wednesday is Ash-Wednesday.
- The Thespians are actively at work rehearsing.
- Seats are at a premium in the Junior study-hall.
- Do your duty without thought or fear of any man.
- There will be no trial in the Moot-court this evening.
- A gentleman will acknowledge a salute by whomsoever given.
- Think not that superiority in talents will ever justify an act of disobedience.
- We take it all back about the ground-hog. He hath greatly deceived us.
- Realize the truth that there is no man living who should not acknowledge some superior.
- The opening competitions of the second session will be held during the coming week in the Preparatory Course.
- A grand rally of the T. A. Societies is announced for the near future. We bid the good work a God-speed.
- Rev. Father Morrissey went to Chicago last Thursday to secure costumes for the Thespian play on the 21st inst.
- The Thespians are under obligations to their censors, Messrs. Houck and Mulkern, for favors rendered at the rehearsals.
- An important case, in which his legal services have been retained, will call Prof. Hoynes to Chicago in the early part of the coming week.
- We regret to notice that in the minds of some in this locality the SCHOLASTIC is only "small potatoes." We hope it will not ever be thus.
- Great interest is manifested in the courses of Christian Doctrine. Competitions will be held in the various classes in the course of a few days.
- Plans for an addition to the Main Building of the University, rendered necessary by the increasing number of students, are being considered.
- New swords for the officers of the H. L. G. will soon be procured. The military fever is evidently not dying out, and the companies have come to stay.
- The Director of the Historical Department is greatly indebted to Very Rev. Father Provincial Corby for valuable favors received during the past week.
- The course of lectures on Political Economy for the second session will be inaugurated in a few days. The course, as before, will be conducted by Prof. John G. Ewing.
- From the progress and proficiency exhibited by the members of the Elocution classes we may expect a number of interesting entertainments before the end of the year.

—The exhibition by the Thespians, in honor of Washington's Birthday, will be given at 4 o'clock p. m., on Monday next. It is expected that the exercises will be of a very high order of excellence.

—The drawing classes, which were somewhat disorganized during the illness of Prof. Ackermann, are again in working order. They are as numerously attended as ever, and good work may confidently be expected.

—The twelfth number of the *Scholastic Annual* is a demonstration of the thorough training in English of the students of Notre Dame University, and of the exquisite taste of Prof. J. A. Lyons, the Editor.—*Catholic Review*.

—The great cause of the evils which afflict society to-day is contempt for authority. Learn, therefore, to love, respect and obey that authority whose existence is essential to the stability and perpetuity of the social body.

—There are indications that navigation will soon open. We speak thus guardedly, because we have learned to be cautious as to any statement in regard to atmospheric mutations in this locality, weather prophets to the contrary, notwithstanding.

—"A mugwump can't be caricatured," says Eli Perkins, "for he can't be exaggerated, he is too utterly —." What is a *mugwump*, anyhow? and does the term admit of general application in the social order? There's a lesson for somebody.

—"Midshipman Bob," the new story for boys reprinted from the pages of the *Ave Maria*, has received the most favorable notices from the press at large and, so far as we have learned, has created a great *furor* among youths of all sizes and even *ages*.

—The ice palace at St. Paul, Minn., is a beautiful structure, if there be any verisimilitude in the chromos of it that have reached our University. Yet it is quite possible that the architect of this remarkable edifice would not know a dado from a *freeze*.

—The beautiful devotion of the Forty Hours' Adoration of the Blessed Sacrament will begin tomorrow (Sunday), and close on Tuesday evening, with the chanting of the Litany of the Saints, procession and solemn Benediction of the Blessed Sacrament.

—The recent floods on our river have developed a new and important feature in hydrodynamics. When a river gets very high, and the current becomes extremely swift, it has to stop occasionally to catch its breath. Hence the expression: "High water pants."

—The Band has been energetically practising for the past week or two. It will make its *début* next Monday, and there is prospect of its *rentrée* being a brilliant success. Its *repertoire*, though as yet not very extensive, is still sufficiently large and varied to meet the patriotic requirements of the day we are going to celebrate.

—The different courses at the Science Hall are attended by nearly two hundred students daily. The greatest enthusiasm reigns in several depart-

ments, notably in the department of microscopy. The attendance in the section of practical mechanics has also sensibly increased. Prof. Albert Zahm and his assistants are making this department a pronounced success.

—The *Scholastic Annual*, for 1887, contains a portrait of the venerable Father Sorin, founder of the Congregation of the Holy Cross, and some of the choicest articles that appeared last year in the NOTRE DAME SCHOLASTIC, as well as the usual calendar of feasts and fasts. It is worthy of the imprint of the great University from whose press it comes.—*The Catholic American*.

—There were some *valentines* last Monday. Perhaps the following, from the *Catholic American*, may suggest a thought and a lesson:

"The younger folks may be excused for sending one another sheets of lace paper containing doggerel verses in a tender strain; but only the mean and malicious mail to their acquaintances caricatures intended and apt to wound their feelings. At best, the modern celebration of the day is a folly."

—At the 19th regular meeting of the St. Cecilia Philomathean Society, held Feb. 16, Masters E. Blessington, J. Clark, and T. Darragh were elected to membership. Master McPhee read an interesting criticism on the exercises of the previous meeting. Masters Falter, Morrison, Boland, Hayes and M. O'Kane read well-prepared compositions. Master McPhee closed the proceedings with a spirited recitation.

—Rev. Father Spillard, Rector of St. Aloysius' Seminary is making many improvements in the establishment under his care. He contemplates erecting an addition to accommodate the increasing number of students. The Seminary Library is to receive in the near future a valuable addition of historical and theological works which will prove a great acquisition and an aid to the students in the prosecution of their studies.

—The following officers have been appointed for Company "B," Hoynes' Light Guards: 1st Lieutenant, J. Doss; 2d Lieutenant, L. Macatee; 1st Sergeant, S. Campbell; 2d Sergeant, G. Meehan; 3d Sergeant, M. O'Kane; 4th Sergeant, L. Preston; 1st Corporal, I. Bunker; 2d Corporal, W. Welch. Companies "A," and "B," H. L. G., will have battalion drill next Tuesday out of doors, provided the weather is suitable.

—At the 10th regular meeting of the Columbian Literary and Debating Society, held Feb. 5, the following officers were elected for the new session: Rev. T. E. Walsh, C. S. C., Director; Rev. M. J. Regan, Rev. A. Morrissey, C. S. C., Assistant Directors; Prof. —, President; Prof. J. F. Edwards, Honorary President; P. V. D. Brownson, 1st Vice-President; Geo. Craig, 2d Vice-President; P. E. Burke, Recording Secretary; A. Gordon, Treasurer; Thos. O'Regan, Corresponding Secretary; H. Long, Critic; Geo. O'Kane, Historian; L. C. Bolton, 1st Censor; J. V. O'Donnell, 2d Censor; Jno. B. Meagher, Sergeant-at-Arms; A. Finckh, Prompter; F. L. Jewett, Marshall.

—The archives of the Bishops' Memorial Hall have been enriched with a large number of pre-

cious letters, written by Rt. Rev. Mgr. Simon Gabriel Bruté—one of the greatest of our American prelates—to Rev. M. François who was formerly the pastor of the Catholic Church at Logansport. The letters cover a period extending from the early part of 1836 to June 1839, the month of the Bishop's death. Many of the letters refer to Fathers Baden, De Seille and Petit, who were missionaries among the Indians around Notre Dame before the University was founded by Father Sorin. They were all written in French, and they plainly show the cultured mind and kindly heart of the saintly prelate.

—The Light Guards, it is gratifying to notice, are in a most flourishing condition. The manual of arms and all the ordinary exercises in marching they know very well; and in about a month or six weeks, or when the weather shall have become mild and pleasant enough to admit of drilling on the campus, they will be instructed more thoroughly in the bayonet exercise, skirmish drill, battalion drill, etc. They are now so numerous that additional rifles are necessary, and for some time Col. Hoynes has been in correspondence with the State authorities in reference to the matter. They have finally consented, as he has just learned by letter from Senator Howard, to send on the additional arms. They will probably be here within two weeks. It is very likely that in the Spring Notre Dame will have a military organization unsurpassed in efficiency by that of any other University in the country.

—The Sorin Literary and Dramatic Association held a special meeting for the election of officers for the second session, which resulted as follows: Rt. Rev. Joseph Dwenger, Bishop of Ft. Wayne, and Very Rev. E. Sorin, Superior-General of the Congregation of the Holy Cross, Honorary Directors; Rev. T. E. Walsh, C. S. C., Director; Rev. J. A. O'Connell, C. S. C., Promoter; Prof. J. F. Edwards, President; Bro. Cajetan, C. S. C., Gen. Critic; C. Mooney, 1st Vice-President; J. McIntosh, 2d Vice-President; W. Martin, Secretary; F. Crotty, Corresponding Secretary; R. Graham, Treasurer; W. Rowsey, Librarian; J. Connors, Marshall; H. Huiskamp, 1st Monitor; E. Jewett, 2d Monitor; W. Williamson, 3d Monitor; L. Riordan, 4th Monitor; C. Boettcher, 1st Censor; R. Boyd, 2d Censor; H. Silver, 3d Censor; T. Falvey, 4th Censor; A. Williamson, Sergeant-at-Arms; A. Sullivan, *Chargé-d'Affairs*, R. Munro, Standard-Bearer. Charles Koester, J. O'Donnell and L. Dempsy were elected to membership.

—The fifteenth regular meeting of the St. Stanislaus' Philopatrian Society was held Feb. 15, for the purpose of reorganizing. The following are the officers: Director, Rev. T. E. Walsh, C. S. C.; President, Prof. J. A. Lyons; Honorary President, Prof. J. F. Edwards; Promoters, Bros. Alexander, Leander and Marcellus; 1st Vice-President, J. Doss; 2d Vice-President, M. McCart; Treasurer, I. Bunker; Recording Secretary, J. McIntosh; Corresponding Secretary, F. Cobbs; Historian, G. Brabrook; 1st Censor, A. Redlich; 2d Censor, B.

O'Kane; Librarian, E. Berry; Sergeant-at-Arms, A. Hoyer; Marshall, W. Konzen; 1st Costumer, I. Casey; 2d Costumer, J. W. Henry; 1st Prompter, L. Monarch; 2d Prompter, H. Walker. Masters F. Noud and C. Roper were admitted to membership.

—Prof. J. A. Lyons, of Notre Dame has again placed us under obligations by sending us a copy of his *Scholastic Annual* for 1887. We have become so accustomed to receive this *Annual* about the beginning of every year that we look for it as naturally as we look for the salutation of "Happy New Year!" on meeting an old friend. It is no small praise to the neat pamphlet before us to say that it is as good, if not better, than any of its eleven predecessors. Articles from the pens of Eleanor C. Donnelly, Maurice F. Egan, Wm. J. Onahan, Boyle Dowell, Rev. Dr. Howley and others, grace its pages, and give it a value far above the twenty-five cents for which it retails. Catholic current literature owes much to the zeal and ability of Prof. Lyons. Some weeks ago we received another of his publications—Brinsley Sheridan's famous drama, "Pizarro," modified and arranged for male characters only.—*College Message*.

—Accessions to the Bishops' Memorial Hall, Notre Dame, Ind.:—Beautiful gothic mitre, exquisitely embroidered with gold and colored silks, used by Rt. Rev. James Roosevelt Bayley, first Bishop of Newark, presented by a friend. Personal episcopal seal used by Rt. Rev. Bishop Garcia Diego, presented by Bishop Mora. Precious mitre, heavily embroidered with gold and silver, used by Rt. Rev. Bishop Fitzpatrick, presented by Most Rev. Archbishop Williams through Mrs. M. E. Dwight. Letters written by Archbishops Marechal, Eccleson, Perché and Blanchet, presented by Rev. Mother Beatrix. Precious mitre, heavily embroidered with pure gold bullion; gold embroidered white silk sandals; gold embroidered red silk sandals used by Most Rev. Archbishop Bayley, eighth incumbent of the See of Baltimore, presented by Cardinal Gibbons. Gold cloth mitre, embroidered with silver, used by the second Bishop of Green Bay, presented by Rt. Rev. Mgr. Katzer. Two letters written by Bishop Verot; three by Archbishop Seghers; two by Bishop Smyth; three by Bishop Mrack; five by Bishop Vertin; four by Bishop Carroll, of Covington; three by Bishop Tæbbe; two by Bishop Juncher; three by Bishop Baltes, presented by Rev. Father Lee. Portraits of Bishops Gifford, Laval, St. Vallier and Tejada, presented by Dr. John Guimary Shea. Small portrait of Bishop Barry, presented by S. Barry. Portrait of Cardinal Barnabo, presented by Father Rézé. Gold cloth mitre and mozetta worn by the first Bishop of Santa Fé, presented by Rev. T. Hayes. Beautifully illuminated parchment address presented to Archbishop Ryan by the Ladies of Sharon Hill. Locket set with red stones containing a souvenir of Cardinal Gibbons, presented by Mr. J. R. E. Silver ciborium of chaste workmanship, used by Rt. Rev. Bishop England; life-size portrait in oil of Rt. Rev. Bishop England, presented by Miss Minnie England.

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.

Messrs. Archambeault, Ashton, Aubrey, J. Burke, Berra, Britt, Brownson, P. Burke, Barnes, Bush, Barrett, Beaupre, Col na, Craig, Cusack, W. Cartier, G. Cartier, E. Coady, Crilly, Craft, Beckwith, Dwyer, W. Dorsey, S. Dorsey, Dore, Dreever,* Dickenson,* Dierdorff, Duffield, Duffin, Dempsey, Evanson, Egan, Finckh, Ford, Fehr, Fry, Grever, Gallardo, Galarneau, Gibbs, Griffin, Houck, Haggerty, Judie, Jordon, Jeffs, Kleiber, Kendall, Kreutzer, J. Kelly, Lally, Langan, Lyons, Luther, McKeon, J. McDermott, T. McDermott, McErlain, McAlister, McGinnis, W. Moffatt, Mallay, Mulkern, V. Morrison, L. Meagher, Myers, Murnan, McNally, Noonan, Neill, Nelson, Andrew Nicholl, Alfred Nicholl, O'Rourke, O'Regan, O'Connell, L. O'Malley, J. O'Malley, J. Nester, Padilla, P. Prudhomme, E. Prudhomme, J. Prudhomme, Poole, Prichard, Quill, Ryan, Rheinberger, Rothert, Rodriguez, Raynor, Rochford, F. Suing, O. Sullivan, Shields, Stubbs, Strasser, Triplett, L. Woodman, Woodbridge, Wilson, M. White, Weber, A. Williams, Wagoner, W. Williams, W. White.

JUNIOR DEPARTMENT.

Masters Adelsperger, Austin, Adams, Anderson, R. Bronson, H. Bronson, Blessington, Bodley, Badger, W. Boland, Baca, H. Boland, Burns, Berry, Bruce, Butts, B. Clarke, Cleveland, Carney, Clifford, Cobbs, Cooney, L. Chute, F. Chute, Curtis, G. Cooke, Duffield, Devine, Draper, Dempsey, E. Darragh, L. Darragh, Dunford, Ewing, Fitzharris, Falter, Flynn, Flood, Fisher, Freeman, Galarneau, Goebel, Glenn, Girten, Gumbert, Houlihan, Hart, Henry, Houston, Hoffman, T. Hake, A. Hake, Hayes, Hampton, Handly, Heineman, Howard, Inks, C. Inderrieden, Jacobs, Julian, F. Konzen, W. Konzen, Kern, Kellner, Kutsche, Keating, Kinsella, Landenwich, Long, Lane, McKendry, Monarch, McKenzie, McCart, McMahon, J. McCormick, McIntosh, Macatee, McPhee, Moncada, McNulty, Morrison, Meehan, Mitchell, McGuire, McDonald, McCambridge, McCabe, Nations, O'Connor, Ormond, O'Brien, M. O'Kane, O'Shea, O'Hearn, Pfau, L. Paquette, C. Paquette, Preston, King, Redlich, Ramsey, Reynolds, Rosenthal, Riedinger, Rea, Sweet, J. Stephens, B. Stephens, M. Smith, F. Smith, Steele, Schloss, Sullivan, Taliaferro, Tarrant, Tivnen, Tedijs, Vhay, Wilbanks, L. White, H. White, Walker, Walsh, Wade, Wageman, Weimer, Wile.

MINIM DEPARTMENT.

Masters Boettcher, Black, A. Backrack, H. Backrack, S. Backrack, Crotty, W. Connor, C. Connor, Cooke, J. Conners, E. Conners, Doss, Davidson, Jas. Dungan, J. Dempsey, T. Falvey, E. Falvey, G. Franche, C. Franche, Gale, Grant, Garber, Goldmann, H. Huiskamp, J. Huiskamp, O. Haney, Jewett, Keefe, Kane, Kerwin, Kraber, Kinsella, Löwenstein, Lane, Lewin, McIntosh, McDonnell, Martin, C. Mooney, H. Mooney, Mahon, L. Mayer, Munro, A. Mayer, G. Mayer, McPhee, Mason, A. Morgenweck, McGuire, Nester, O'Mara, O'Neill, O'Donnell, Paul, Priestly, Riordan, Rowsey, Sweet, Savage, Stone, Silver, A. Sullivan, J. Sullivan, F. Sullivan, Frank Toolen, F. Toolen, Tompkins, Triplett, Taft, W. Williamson, Witkowski, A. Weckler.

* Omitted by mistake last week.

NOT A PRACTICAL MUSICIAN.

LEADER (to Mr. Jones, who has been invited to sing in the choir on the strength of a rumor of similar metropolitan experiences): "Mistah Jones, if you please kerry de air, I try de basso on dis *Gloriah*." MR. JONES: "I pr'vides de air fo' no one's solo. Un'erstan', sah, I didn't come heah in de capacity ob a organ blower, an' doan op'rate de bellows fo' no one, if yo' please."—*Harper's Bazaar*.

Saint Mary's Academy.

One Mile West of Notre Dame University.

—Miss Mary Ewing, Class '80, arrived last Monday.

—Several valuable contributions to the fund for the new church have been thankfully received.

—The Sisters of the Infirmary gratefully acknowledge the gift, from a faithful friend, of three large and beautiful Smyrna rugs.

—The readers at the regular Academic reunion on Sunday evening were the Misses Fuller and Horn. The latter read a newspaper article selected by Very Rev. Father General.

—The painful intelligence of the death of Mrs. Margaret Murphy, the loving and devoted Mother of Miss Anna Murphy, a former dear pupil of the Academy, reached St. Mary's by telegram on the 9th inst., begging the prayers of the Community for the repose of her precious soul. Mrs. Murphy was the widow of Alderman David Murphy, and the daughter of Captain Michael Gleeson, one of the prominent citizens of Chicago in the early days of the city. Affectionate sympathy in their great loss is extended to the bereaved family, especially to Miss Sarah Gleeson, a sister of Mrs. Murphy, also a former pupil of St. Mary's.

—It will be a painful surprise to the pupils of 1879-'80 to learn that Miss Lizzie M. Bruser is no longer among the living; and those who knew her intimately—to whom the beauty of her inner life was revealed—will shed tears of sincere regret. The sad event occurred at her home in Vicksburg, Miss., on the 7th inst., and her relatives and friends are overwhelmed with grief. Their consolation is in the remembrance of her fervent Christian life, and of the promises that cannot fail.

Miss Bruser will be missed in the parish, of which she was such an exemplary member; in the choir, especially, where it was her delight to sing the praises of the Most High; in the home circle, of which she was alike the ornament and the joy, and by many an attached friend. The attendance at her funeral—one of the largest ever seen in Vicksburg—was proof of the esteem and affection in which she was held; and when the last prayer had been offered for the eternal repose of her soul, and her body was gently laid to rest, there were few that could keep back the torrent of their tears. But if Death causes sorrow, he also consoles. In this case the consolation is in the thought that a cross meekly borne has been exchanged for an unfading crown. May she rest in peace!

Conversation.

Of the various accomplishments, the ability to sustain an agreeable and useful conversation ranks among the most important. In fact, no other can compare with this in the influence for good which it imparts. There is in music, it is true, a charm

to awaken the emotions and to soothe the depressed and overburdened heart; and while gazing upon the grand paintings of the old masters we are impressed with sentiments of admiration and awe; but these noble and exalting influences are trifling when compared with the control exerted by great and glowing thoughts breathed in clear and earnest tones from the lips of a friend in the kindly interchange of conversation; for,

—“How much deeper a thing
Is the action of life: a more bountiful spring
Of beauty, of wonder, of truth, and of power,—
A joy more long-lived, a more heavenly dower!”

Conversation appeals immediately to the intelligence; music and art to the imagination, and more indirectly to the intellect; yet conversation may be music and art as well. Not the sweetest eolian strains can penetrate with a melody so irresistible as the plea of affection or the assurance of friendship on the part of those we esteem. No skilful pencil can trace with a truth to nature like that of one who from the store-house of memory brings the fresh colors of beauty and the fair forms of grace to delineate in word-pictures the scenes familiar to his heart, and which he would convey to our eager ears.

With the magic of word-painting he unfolds the varied scenes of life at will. The palaces of the mighty, with all their grandeur and luxury, and the hovels of the poor, with their pitiful destitution and misery; the warm impulses of philanthropy, and the cold indifference of selfishness, he can portray with a well-timed modulation, or an appropriate tone that no brush can represent, and no pen can transfer to paper. The living power of his utterances may at one moment cause the heart to pulsate in quick, unmeasured throbs, or to almost cease beating as in breathless interest we listen. Tears will gush to our eyes, as, in accents broken with sympathy for misfortune, he tells the history of the sorrow-stricken—of those left by a heartless world to die unattended and unthought of—victims, perhaps, of cruel injustice and oppression.

Quick as a flash the scene is changed, and we behold, as we follow the leading of his eloquent response to our interrogatories, the gentle form of a Sister of Charity, or a kindly neighbor coming to the relief of the suffering, and the nobler phase of human life is vindicated. How often in the almost despairing soul has conversation turned the tide of gloomy thought into the channel of loving recognition of God's overruling Providence! The words of gracious charity that have driven temptation from the weak and doubting, will never be numbered this side of heaven.

The province of conversation is to elevate and exalt life, to lift it above the petty interests of greed and mere worldly success. When it descends to ignoble themes, the object is degraded, and no one can engage in such conversation with a clear conscience. The forbidden fruit is tasted, and nothing but disaster can follow. Experience is sometimes a bitter teacher, and if we do not wish to feel the sting of that most dreaded of all serpents,

remorse, we should "taste not"; in other words, we should give ear to nothing which is liable to mar the purity of the soul.

Gossip, when the domain of charity is not invaded, may be quite harmless; but there are two dark figures ever waiting to enter unseen, and to betray the thoughtless and unwary: they are, Slander and Calumny. Almost invariably they go hand in hand, and justice is despised when they have once secured admittance into the social circle. The presence of one who is adroit, who has the wit to perceive the danger, and the skill to avert it, may change the entire aspect of affairs. Human nature is often more weak than malicious, and the graceful craft of conversation can be easily piloted into tranquil waters, even when the rapids of uncharitableness have been entered. The skilful oarsman can resist the tide for a moment, and strike into the safe current.

Well worthy the efforts of any young lady is the power of preventing the dark consequences of uncharitable conversations. It sometimes requires no small amount of courage and bravery, but the results of such intrepidity are often most meritorious. The suavity of manner which disarms the opposition of the slanderer is not the characteristic of everyone; but it can be cultivated, and this culture is far above all others in the social scale. When we reflect for a moment on the evils of malicious gossip, we cannot too highly prize a worthy antidote. Who cannot remember some occasion when words have been spoken that one would give a fortune to recall? How happy, had we been forestalled in our hasty remarks!

At all times, and in all places, whether in presence of the wise and thoughtful, or of the light and trifling; of our superiors or of inferiors, we are safe if the golden rule be our guide. Sarcastic remarks are often witty, but quite as often they are very cruel. They have frequently performed the lowering office of driving the sensitive and impulsive into danger. God knows how sharply the injury may be visited on the one who has uttered the brilliant *repatee*, which wounded the heart of another.

But in proportion as unworthy conversations are detrimental, the good to be derived from engaging in those of an intellectual and generous character is advantageous. But a conversation is not a lecture. The accomplished entertainer, though happy in the expression of her thoughts, is too complete an adept in the art of good breeding to deny to others the pleasure she herself enjoys in the use of her conversational powers. Not so much to express her own ideas is she concerned, as to draw others into the brilliant flow of language. We are never so well pleased as when we have been able to please. This is the reason why many brilliant talkers prove tiresome. They may say many fine things, but the fine things which others would be glad to say are strangled on the tip of the tongue, because the egotistic talker will not give time for another to speak.

One who knows how to converse well guides the topics into channels, where all present are at

home. She commands attention, because she knows how to interest and to arouse the best thoughts of others. This is, indeed, a high social accomplishment; for, oftentimes persons are convened where music cannot be obtained, and sprightly conversation alone can make the time pass agreeably.

Kindness is the gracious passport, and intelligence the golden key which will secure entrance into the pleasing mysteries of charming conversation. The ability to express oneself well is the solid groundwork to every other accomplishment. Without this, the others must appear fragmentary and unfinished.

MARIE CRESSY FULLER (Class '87).

Roll of Honor.

SENIOR DEPARTMENT.

Par Excellence—Misses Brady, Blair, Brophy, Blacklock, Beschamang, Blakeslee, Birdsell, Clendenen, Clifford, E. Coll, Carmien, Coglein, E. Claggett, B. Claggett, A. Duffield, C. Dempsey, H. Dempsey, Dart, Desenberg, Fuller, Flannery, Fravel, Griffith, B. Garrity, Hummer, Heckard, Hertzog, Harlem, Henke, L. Johnson, A. Johnson, Kearney, Kearns, Kingsbury, Kennedy, McHale, Miner, L. Meehan, Morse, M. McNamara, M. McCormick, Marsh, Moore, McCarthy, Moran, O'Connor, Neff, Patrick, Pierson, Proby, G. Regan, Rend, Rose, E. Regan, Reed, Scully, St. Clair, Shepard, Snowhook, Stadtler, Shields, Sterns, R. Smith, M. Smith, Stafford, Stocksdale, Sullivan, Sweet, Triplett, Thompson, Tomlins, Van Horn, Williams, Wynn, Wehr, Wimmer, Weishart, Zahm.

JUNIOR DEPARTMENT.

Par Excellence—Misses E. Balch, T. Balch, Blaine, Boyer, Bragdon, Bruus, Bridgeman, Campbell, Cook, E. Dempsey, J. Fisher, K. Fisher, Fritz, G. Garrity, L. Griffith, Geer, Hake, Hinz, Hughes, Hull, Hunting, Heyman, M. Kennedy, Knauer, A. McDonnell, G. Meehan, Mercer, Prudhomme, Rogers, Stapleton, Stiefel.

MINIM DEPARTMENT.

Par Excellence—Misses M. Becker, Caddagan, O'Mara, Pugsley, Wallace, Quealey.

SCHOOL OF DESIGN.

HONORABLY MENTIONED.

ADVANCED COURSE—Miss Ewing.

1ST CLASS—Miss Fuller. Promoted to 1st Class—Miss Foin.

2D CLASS, WORKING IN CRAYON—Misses Brophy, Birdsell.

ELEMENTARY PERSPECTIVE.

3D CLASS—Misses Mason, Zahm, Hull, Sweet, Tomlin.

PAINTING IN WATER-COLORS.

Misses Stadtler, Pierson, McHale, Scully, Schmauss, Beaubien, Koester.

PAINTING ON CHINA.

Miss Williams.

OIL-PAINTING.

Misses Ewing, Egan, Fuller, Kingsbury, Rose, Kearney, Duffield, Meehan, Shields, Stafford, Neff, Kennedy, Wehr, E. Nester, Bubb, Henke, Steele.

GENERAL DRAWING.

SENIOR DEPARTMENT.

Misses Smith, L. Meehan, Gavan, Moore, Marsh, McCormick, Wimmer, Coglein, Thompson, O'Connor, Johnson.

JUNIOR DEPARTMENT.

Misses Cook, Dempsey, Fritz, Hake, Hunting, Koester, Kennedy, McDonnell, Mason, Bruus, Stapleton, Quill, T. Balch, Crane, Rodgers, Hughes, Clove, M. Coll, Garrity, Fisher, G. Meehan, Bridgeman, Stiefel, Becker, Blaine, Qualey, Wallace, Becker, O'Mara, Pugsley, Caddagan, McCormick, Kendall, Rhodes.