The Educational Weekly.
The First Periodical Entered at the Chicago Postoffice as Second-class Matter.

VOLUME VIII. CHICAGO, DEC. 9, 1880. Number 184.

The Educational Weekly.
EIGHT DISTINCT EDITIONS.
WEEKLY EDITION, $2.50; IF PAID IN ADVANCE, $2.00.

One Monthly Edition for general circulation, Fifty Cents per Year.
S. P. WINCHELL & CO., Publishers, 63 & 65 Washington St., Chicago, Ill.

THE WEEKLY.

New subscribers sending $2.00 will receive the “Weekly” till January 1, 1881, FREE.
The “Weekly” is sent to subscribers till ordered discontinued, and arrearages paid according to postal requirements.

Sometimes the printer and the proof-reader seem to conspire to make us say what we do not mean, as when we quote Fontenelle as saying that “the teacher should labor to make himself useful,” when he really meant and wrote useless; and when we are made to say the “provisions of science” when we wrote previsions. It seems impracticable to read the proofs personally; and when we are made to say things unusually absurd, we hope our readers will charitably ascribe these sins against sense to the compositor. He has been the scape-goat of authors, for ages; and will not take it amiss if he is sometimes charged with faults that might be traced to poor penmanship.

It is a very hopeful sign of the times, that all our magazines of high grade devote a fair share of attention to the serious discussion of great educational questions. Usually these discussions are temperate and wholesome, and their influence is far reaching and invigorating. Sometimes, however, the purpose seems to be to hurt some one’s feelings, or to gratify a personal spleen, or to announce the discovery that the existing order of things educational is hopelessly bad. In this latter field of discussion there are reformers, revolutionists, and anarchists, some who would introduce an abrupt evolution into educational affairs, some who would displace what is, by what they fancy ought to be, and still others who would destroy for the mere love of destruction.

Critical discussion is always in order; it is not only the evidence of progress but the very condition of progress. The great obstacle in the way of educational progress is the indifference, the inertia of public opinion, which not only does not demand a higher type of instruction, but very often forbids it. There are multitudes of teachers who need enlightenment on the value of real instruction; but there are many truly enlightened teachers who are not permitted to do their best work.

The Princeton Review for July, 1880, contains an article of unusual merit on “The Philosophy of Education,” by Professor Laurie, who occupies the Chair of Education in the University of Edinburgh. We are sure we shall do our thoughtful readers a service by quoting one paragraph which we hope will lead to a careful study of the whole article.

“I assume that the education of a country is determined by its philosophy; but I use the term philosophy in the larger sense as denoting the beliefs of a period whether reasoned out or not, regarding man, his nature, his social relations, and his destiny. Philosophy in the narrower sense as applied to education is, strictly speaking, only psychology, and determines periods of mental growth in the individual, and methods of instruction, as these are indicated by a study of the processes of mind. In this sense also the education of a country is determined by its philosophy. The saying of Aristotle that it is not in man’s option whether he will philosophize or not, but that he must philosophize, is especially true in the sphere of the school. If this be so, it becomes a matter of small importance that those concerned with education should deliberately and consciously philosophize, in order that they may define their aims as well as their methods. We hold that a training in philosophy, both in its larger and narrower sense, is necessary for those members of the community whose special function it is to rear and teach the youth of the country; not for all, it may be, but for the more select portion who influence the general body.”

Of a wholly different type is the article by Mr. Charles Francis Adams, Jun., in Harper’s Magazine for November, on “Scientific Common-School Education.” The paper is evidently the one he read before the National Association at Chautauqua, and in many respects is worthy of the wider influence which this mode of publication will give it. We think it clear that school supervision of the scientific type has never had a more powerful champion. Mr. Adams not only has a very high, and as we think, a very true conception of real school supervision; but the fact that he holds these advanced notions while occupying a purely non-professional point of view gives very great influence and importance to his opinions on this subject. The additional fact also, that he is a member of the Adams family, gives easier currency to these latest views on the art of school supervision.

The fault we find with Mr. Adams’ article is the spirit of exaggeration that pervades it. The picture he gives of the system of supervision in current use is certainly a caricature. Doubtless there are many special cases...
where this picture is true to life; but to permit the inference to be drawn that school supervision in the towns and cities of this country is the stupid process that Mr. Adams asserts it to be, is almost a crime; it is certainly a gross injustice to men of intelligence who have given their best thought to this difficult art.

The red rags that excite the fury of Mr. Adams and of his protege Mr. Parker, are the time-tables, programmes, and courses of study that form a part of the machinery of public school administration. It need not be expected that even when Mr. Adams' ideal has been attained, these aids will be abandoned. The school must be organized before it can be supervised; or rather, it can be supervised only through a definite organization. Without doubt a process of evolution is taking place in school supervision that will lead to a higher form of the art; but this higher form will never be released from the need of mechanical support. When rail-roads are managed better without time-tables than with them, we may expect, perhaps, to have our schools conducted on a similar plan. We are in full accord with Mr. Adams in his admiration of freedom, spontaneity, and life; but when we read his prescription for attaining them we are reminded of the parable of the kite that imagined its upward flight to be checked by the string.

The second number of Education sustains the promise afforded by the first. The articles are of very unequal merit, and set forth doctrines that are the very antithesis of each other; but every paper is thoughtfully written and gives evidence of a purpose to attain and enforce some important truth. Diversity in doctrine is to be expected, for in the history of educational thought this is the period of discussion, the second of the three successive phases through which human opinion must pass, "the unanimity of the ignorant, the disagreement of the inquiring, and the unanimity of the wise." The reader who has well grounded opinions of his own will be most helped by a strong, clear statement of opposing views; and the cause of truth is directly promoted by a clear and earnest statement of false doctrines. False positions, distinctly and articulately stated, carry with them their own refutation; it is only the ambiguous statement of an error that carries danger to a thoughtful mind.

In "Results of Methods of Teaching," Mr. Dickinson presents a restatement and modification of his Premium Essay. It is the writer's misfortune that he sees only one phase of a complex truth; indeed, he does not seem to suspect that this truth has two phases. In this respect, Mr. Calkins, as a thinker, has out-distanced Mr. Dickinson. In his paper on "Object Teaching," Mr. Calkins shows as high an appreciation of oral instruction as Mr. Dickinson does in his Premium Essay; but his vision is wide enough to comprehend the fact that the text-book has an important and a legitimate place in the process of instruction. He who would study two contrasted types of philosophizing, should compare Mr. Dickinson's article in this number with Dr. Harris's "Text-Books and their Uses," in the first number.

Nothing can be more admirable, in its way, than "Technical Training in American Schools," by E. E. White. The doctrine of the paper seems to us unassailable; and for conciseness and clearness of statement it is a model.

The Quincy system receives attention from Mr. Northrop and from Mr. Marble. Mr. Northrop's appreciation is a fine specimen of judicial fairness. While giving credit to whom credit is due, he does not suffer his judgment to be disturbed by the tinsel and glitter of the "new departure." We admire the clear, sharp strokes of Mr. Marble's pen, and his style of independent criticism.

Thus far, the editorial work in Education falls far short of what might very reasonably be expected. If the new magazine is to have any appreciable influence in determining a current in educational thought, it must have a distinct personality, a well-marked individuality. Its contributors will preach a variety of doctrines; but back of contributors there should be a mind with the ability to co-ordinate and to create. We would have this international magazine of Education speak with authority on the great questions that are presented for discussion and solution; it should have articulate opinions and beliefs on fundamental educational doctrines; it should preach an educational gospel, and not merely give publicity to detached essays.

THE EVILS OF COMPETITIVE EXAMINATIONS.

By the Rev. A. R. Grant (Late H. M. Inspector of Schools).

There is a tacit assumption, and a very natural one, that the numerical results obtained by marks are evidence of scientific accuracy. Hence it is inferred that, given a place to be filled up, you have only to institute a competitive examination, and you will get, with the certainty of Euclid, a list of candidates in exact order of fitness. No one, perhaps, would seriously argue for absolute certainty, but I feel sure that the idea of mathematical exactness does to an unsuspected extent influence public opinion in the matter, whereas, in fact, mathematical processes extend no farther than the correct adding up of the marks and producing an exact total. That total is only the summing up of a number of decisions, to no one of which can absolute certainty be attributed. A stream cannot rise higher than its source. The aggregate judgment cannot be more reliable than the individual judgments. Fifty worthless judgments cannot make up one sound one, and yet, in the form of a numerical result, they may count as one. In practice, so far from any given total of marks representing absolute merit, I believe that no one who knows anything practically about examinations will deny that, in a dozen different examinations of the same candidates by the same examiners, and in the same subjects, it is highly improbable that any two lists should give exactly the same order. I think, therefore, that examinations are generally taken for
more than they are worth. They have their value, but it obviously depends on the right interpretation and correct appreciation of their results. It ought to be clearly ascertained what their province is, what qualifications they are capable of eliciting, what are the sources of error to which they are liable, and what is the limit of such errors.

An investigation of this kind would show the causes of many disappointments occasioned by a blind reliance on examinations, and which have sometimes induced an equally unfounded depreciation of them. People meet a senior wrangler in society, wonder he is not a brilliant talker, or a man of universal accomplishment, and straightway conclude that there is nothing in being senior wrangler at all. They might as well find fault with him for not being able to talk Chinese. A high-classman makes a bad schoolmaster or a bad man of business, and people set down a university class as a sham. That is simply because they are ignorant of what a university class represents. If I may venture to express my own opinion on a subject of such extent and difficulty, I should say that the province of examinations is restricted to testing knowledge, and the ready producing of knowledge, that they have comparatively small means of eliciting original ability, still less of appraising capacity of mind; and no means at all of ascertaining the balance of the mental powers or the soundness of the judgment. Bacon says, in a well-known passage, "Reading maketh a full man, conference a ready man, and writing an exact man." I think examinations test all these qualifications with regard to the subjects examined in. The man who succeeds in examinations has quickness in acquiring memory for retaining, and readiness in producing knowledge; but he may be altogether deficient in reflection, in grasp of mind, in judgment, in weight of character. The man he outstrips may be one whose faculties are not so flexible, and there fore will not take training so well, who thinks too much to acquire knowledge rapidly, who refuses to accept other men's views without verifying them for himself, who, when he has acquired knowledge, is awkward at producing it, and has none of the tact which makes the most of what it possesses, and instinctively avoids exposure of ignorance; who, in fact, is too truthful and straightforward to write what he is not sure of, and is above making random shots. The first man has probably reached his highest point. The second may have a long period of development before him. In that case, the former is like a small vessel full, the latter like a large vessel with much space still to be occupied. The examination test gives only the amount, not the capacity. In such a case, after-life will almost certainly reverse the verdict. It appears to me that the examination system tends to select minds acute rather than deep, active rather than powerful, and the worst is that the heavier metal, being generally more slow in development, is apt to be left in the background. I believe that, under a competitive system, some of our best Indian administrators not only might not, but could not, have been selected.

I bring, therefore, this very serious charge against the system; that, though it undoubtedly gives a high average of talent and attainment, yet it has a direct tendency to exclude an important and valuable class of minds—powerful, capacious, and capable of great after-development.

Another charge is that it tends to exclude candidates who may have special qualifications for the service required, but whose minds, often on that very account, are not correspondingly developed in other subjects of instruction. The very merits of such candidates stand in their way. Again, an examination is quite incapable of detecting a disqualification in other than the subjects with which it deals. It is unable to report on temper, courage, energy, decision, influence over others. It can only pronounce on the intellect, and, as I have tried to show, by no means perfectly on that. It is quite a possible case that the rigid rule of marks may compel the rejection of a man who is exactly what is wanted, in favor of one who has neither aptitude nor moral fitness for the service required.

If I am right in what I have said, I have shown that competitive examinations fail directly, to a serious extent, in the functions which they are credited with fulfilling. I bring another charge against them—that they have an indirect and very injurious effect on those who come under their influence. I have already given an outline of this evil, affecting both the mind of the student and the character of his studies. The mind is improperly treated. Instead of being trained by a course calculated to draw out and develop its powers, it is charged with instruction designed for an immediate purpose. It is as if you gave boys regular athletic training, such as is given to men before a boat race; or a more exact analogy would be that of fattening animals for a show. You sacrifice the permanent condition for an immediate object. And this is the case even when the instruction is judiciously given. But there is every temptation to give it injudiciously. The object is to put into the mind as much as it will hold for a time. Whether it holds all or any afterwards, does not signify. But it is no more a good thing to put into the mind as much as it can hold than to put into the body as much as it can eat. Knowledge requires to be digested just as food does; and the power of digestion is limited. But with the prize of a competitive examination in view, both teacher and pupil are tempted to transgress this limit. And the effect is analogous on the mind to what it is on the body. The mental powers become impaired. The effect is not obvious, because mental health is not tested at once by sensation, like bodily health; but a result is apt to ensue which was thus enunciated by an experienced Cambridge tutor. "If a man works ten hours a day, when he has only the capacity to work eight, he will soon require ten hours to do what he ought to do in eight." And the work done is affected as well as the mind. The knowledge acquired is apt to be crude, ill-understood, retained mostly by force of memory, and, in nine cases out of ten, regarded by its possessor with disgust, like a burden borne with difficulty, which he only longs to lay down. If he had original taste for the subjects of instruction, the forcing system has destroyed it, and one of the happiest images presented to his mind is that of making a bonfire of his books. But the temptation to overdo study is by no means the worst to which he and his teacher are exposed. The attempt to do too much, if not wise, is honest; but, with examination instead of education in view, the transition is easy to getting up only those parts of a subject which are likely to pay, and leaving out the rest. This is the first downward step—the first deviation from strict literary honesty. "Facilis descensus Avernii." First, the book marked by the coach R (read) and O (omit), then speculation as to the questions likely to be set, then getting up such questions just before the examination, and, lastly, learning by heart answers to questions in subjects unread. Such is the course from slight obliquity to gross fraud, and the descent is so gradual that it is to be feared its lowest stage is not uncommonly reached, and, what is worse, justified. The honesty of it, however, is much the same as if, in a competition of gardens, cultivators were to stick in
flowers without roots, just before the inspection, in the hope that the judges would not detect the cheat.

The code of the examination system is too much like that which is found in bad schools, where the authorities are regarded as natural enemies, and everything considered fair against them. To give an examiner an unduly favorable impression is considered not only venial but meritorious—a feat to be proud of. Perhaps it might be thought a little too strong to get up answers in subjects which had not been studied at all, but to speculate so successfully on the idiosyncrasies of an examiner as to make a much better show than if another person who had examined, is regarded as a great accomplishment. A tutor who enables his pupils to do this is sure of a reputation. However, I pass by the moral aspect. My point is that the character of the instruction is deteriorated. A subject got up to suit a particular examiner is still worse than one got up for examination purposes generally. The knowledge must be still more partial and ill-assorted. And to work for a low aim degrades the intellect as much as working for a high aim exalts it.

— The Nineteenth Century.

MATHEMATICAL DEPARTMENT.
Editor, David Kirk, Jackson, Minn.

DEFINITION OF MULTIPLICATION.

The essence of a science is in its definitions. Owing to the imperfections of the human language it is not always possible to give a faultless definition. Some definitions however are not as good as they might be, as, for instance, the definition for multiplication usually given in the arithmetics. One book says multiplication is repeating a number a proposed number of times. This is not a good definition, because there are senses in which a number may be repeated and yet not be multiplied. The figures of a circulating decimal are repeated but the process is one of addition, and the additions are unequal. Another book says multiplication is a short process of adding equal numbers. This definition is true as far as it goes, but it is obvious that there may be short processes of adding equal numbers that do not constitute multiplication. Another definition is that multiplication is the process of taking one number as many times as there are units in another.

This definition does not tell us how the number is taken. Like the others it is unsatisfactory because no preparation is made for it. A term can be defined by giving some other term with which we are supposed to be familiar. If we do not understand the term or expression which it is found convenient to give as a definition, it must also be defined. Again, some definitions require a preliminary statement, analogous to the lemma in geometry. When a definition-lemma, if we may use the expression is required, let it be given. Before multiplication is defined, let the word product be defined. A product is a quantity that is as many times larger than a given quantity, as there are units in another given quantity.

Now we can define multiplication as the process, or operation of finding the product of two quantities.

Of course the young teacher who has just been placed in charge of a graded school, and therefore feels it his duty to prepare a better arithmetic than any of the thousand and one already in use, will look for a shorter definition. Short definitions like short words have their place. A recent writer in the Weekly thought it would be a fine thing to use short words altogether.

Dr. Johnson had a liking for polysyllabes. The best writers use words that express their ideas without regard to length. If one word will suffice for a definition, let only one word be used. If a page is required in order to define a term let a page be devoted to the definition.

PI.

There are many ways of finding the value of the arithmetical constant which expresses the relation of the circumference to the diameter of a circle. Archimedes discovered the relation between the diameter and the circumference expressed by \( \pi \) and 22. This is near enough for all practical purposes. A nearer approximation is 3.141592653589. This may be remembered as follows: write the odd numbers 1, 3, 5, so that each one will appear twice, thus: 1 1 3 3 5 5. Separate this number into two periods of three figures each by drawing a line and divide the second period by the first, 1 1(3) 55.

A curious formula for \( \pi \) is given by Wallis, as follows: \( \pi = \frac{\sqrt{30}}{2} \times \frac{\sqrt{2}}{2} \times \frac{\sqrt{5}}{2} \times \frac{\sqrt{7}}{2} \times \cdots \), in which the numerators and denominators are the squares of the natural series of odd numbers.

The value of \( \pi \) may be obtained by a process that depends upon the doctrine of probabilities. Let a number of parallel lines be ruled on a floor at equal distances apart, say 6 inches. Let a stick 6 inches long be tossed at random so that it will fall on the ruled-space. It is evident that the stick will fall on a line or in a space. Now let twice the number of throws be divided by the number of times the stick crosses a line, and we shall get a value for \( \pi \) that will be approximately correct according to the number of throws. This can be shown to be true by the calculus. A geometrical construction that will give the value of \( \pi \) when the diameter is 1 is given by the Astronomer, Proctor, in one of his essays.

Let a square be described about the given circle touching it at the ends of two diameters AOB, COD, at right angles to each other, and join CA. Let COAE be one of the quarters of the circumscribing square, and from E draw EG cutting off from OA a fourth part AG of its length, and from AC the 'portion AH, then three sides of the circumscribing square, together with AH, are very nearly equal to the circumference of the circle.

In a circle two feet in diameter the error would be less than the two hundredth part of an inch.

The value of \( \pi \) has been computed by two different persons to 620 decimal places, which is more accurate by six hundred places than is necessary.

PROPOSITION.

The quantity of substance or mass of a body on the earth's surface, is in excess of its apparent balance weight. Cor. If with Newton, excepting the Centrifugal force of the axial rotation, we assume the apparent balance weight of a body to be its absolute weight, what have we, but the mistake of Aristotle in his short coming with respect to the weight of bodies on balances? and the origins of balance and absolute weights are yet unknown to our education.

Yours, Rev. W. Isaacs Loomis, Martindale Depot, Col. Co. N. Y. Nov. 5, 1880.

The above article was sent to the Weekly with the request that we criticise it.

Mr. Loomis has an epigrammatic way of stating his theories, which makes it difficult to discover his meaning, and so far as we have noticed, he gives no proof of his peculiar views. He disbelieves the Newtonian theory of gravitation, but does not advance one of his own that will bear examination.
We say this with the greatest respect to Mr. Loomis. In the above he says, by implication, the apparent weight of a body is not its absolute weight.

What is the absolute weight of a body? Is it possible to make a vacuum, so to speak, in which gravity shall not act, and in which we may determine the absolute weight of a body? What is a body any way?

Is it a collection of indivisible indestructible atoms each in motion around a center, and all kept in place by some atomic law, until some outside force or motion disturbs them and temporarily changes the form of the substance of which they form a part, or sends them so far apart that the substance as such is destroyed, or is it merely a sort of ganglionic collection of forces without any atoms at all, as Thompson and other philosophers believe? "Ye mathematical editor" never could swallow the atomic theory, yet he has no other he can adopt, and he cannot discard the Newtonian theory of gravitation without some mathematical proof that it is wrong.

OUR EDUCATIONAL EXCHANGES.

A new and welcome exchange is The Educator, from New Haven, Conn. It has been published for about a year under the name of The Student's Monthly, but for obvious reasons has now adopted the general title of The Educator. In size and style it resembles The Teacher, of Philadelphia, and its subscription price is only sixty cents a year. Judging from the first number at hand it has certain specialties, as penmanship and mechanical drawing. The lessons in drawing are written by Prof. F. R. Hong, of Yale College; the lessons in penmanship by Prof. R. C. Loveridge, of Yale Business College. Twelve lessons in English grammar are also promised its readers.

The Teacher's Advocate for October is printed on fine super-calendered book paper, of good weight, but presumably for its readers not doing even better, and promises an improvement for November. This indicates prosperity and a liberal support from teachers. The paper is one of our best exchanges. It has now completed its first year.

The Normal Educator appears as a monthly in magazine form, with a pretty cover and fine press work. Its appearance is greatly improved, and indications point to a prosperous future.

The Normal Teacher for November contains 44½ pages of first rate reading matter for teachers, 19½ pages of "live" advertising, besides a cover on which are three pages of advertising, making a total of 68 pages. This journal claims a circulation of 16,000 monthly. J. E. Sherrill, the editor and proprietor, has associated with him R. H. Holbrook, of Lebanon, Ohio, and the two are producing the most desirable monthly school paper, in the country for the common school teachers. Price only one dollar per year.

We have received the prospectus of the North Carolina Educational Journal, Rev. J. F. Hightman, Editor and Proprietor. The first number will be issued "as soon as a sufficient number of subscribers shall be pledged to justify it." The journal will be an eight-page folio, issued monthly, at $1.00 a single copy." These are both ambiguous statements. A publisher of experience might agree with one ambitious to number as to the number of pledged subscribers necessary to justify the publication; and if the journal is to cost $1.00 for a single copy, the yearly subscription price will be rather above the average of educational journals. Referring to this prospectus, the Southern Educational Monthly remarks very wisely:

"If our North Carolina friends would listen to a little good advice on this matter, we would tell them, in the first place where principal was educated; his salary per annum; number of years in this school; number of years engaged in teaching; number of assistants employed, average salary per month. Extra copies may be procured at fifteen cents apiece.

We welcome to our exchange list The Student, published monthly by Isaac Sharpless, Haverford College, Pa., and Watson W. Dewees, Westtown, Pa., at one dollar a year. It is an intelligent, scholarly, and instructive journal, conducted in the interest of the Society of Friends. The first number of the San Francisco Monthly School Record has come to hand. It succeeds the weekly issue of the Public School Record. The editor works under the hallucination that "while the agricultural, commercial, and manual interests have each their several journals in the educational field is comparatively barren." In some states this would pass as a first class joke. It is possibly true in California, but we supposed the field was well occupied there by the Pacific School and Home Journal.

The New Normal Educator, of Indiana, has assumed the more pretentious title of Education. It attempts "to have its matter conform to a set of organic principles based on the psychology and philosophy of education, in their plain, popular, and practical form."

The subscription price of the American Journal of Education, St. Louis, has been reduced to one dollar per annum. The last number contains the first article of an editorial criticism of Mr. Dickinson's Premium Essay on Oral Teaching.

OFFICIAL DEPARTMENT.

EDUCATIONAL TOURS IN FRANCE.

DEPARTMENT OF THE INTERIOR,

EDUCATIONAL TOURS IN FRANCE.

WASHINGTON, October 15, 1880.

The letter of the French minister of public instruction, addressed to the departmental educational authorities and here translated, explains an interesting method by which it is sought to improve the qualifications in the French Republic.

Monsieur le Recteur: I hasten to bring to your knowledge two measures which I have thought necessary to encourage our young teachers in thorough and earnest study. At my suggestion the President of the Republic has been pleased to sign a decree modifying Article 5 of the teaching law of April 17, 1880. Henceforth the student who has obtained a full certificate of capacity on leaving the normal school will receive not the former indemnity of 100 francs, but 200 francs.

Besides this favor, the object of which is to aid the better class of normal graduates at the start of their career, I have sought for some other reward which might at the same time further their intellectual development; I think I have found it in an institution that is already old and has even been discarded in this country, but which has been successfully revived during the last few years, especially in the higher normal schools of Paris; I allude to the educational tours during the holidays.

The holiday excursions I desire to organize in the interest of our best normal students should be of a character to suit the tastes of those who have passed the most difficult part of their studies, and who may be destined to bear the whole weight of the laborious and exacting task of training the minds of the children. It is my wish to see them visit the most interesting monuments, relics of the ancient world, to look at the monuments of modern science, and to examine the works of art in which the spirit of the age can be best represented.

I wish to see for themselves, to see much, and, above all, to get a taste for the life of the nation, and to see how the habits of the nation are formed and preserved. It is my wish to see them visit the most interesting monuments, relics of the ancient world, and to examine the works of art in which the spirit of the age can be best represented.

Later, when these vacation tours have been successfully organized and conducted, their range may be extended; they may for instance pass into adjoining foreign countries, where primary education and the study of educational science is already well established. This would be a new source of fruitful observations and beneficial comparisons.

I look for the best results from this daily intercourse of the most distinguished of our normal pupils during their holiday tour, and hope that it may dissipate many of the prejudices entertained by the public against the young educationalists of France.

We recommend, Monsieur le Recteur, to forward me a list of the normal schools which have obtained the first class certificate for 1879 and 1880, in order to one whom we recommend for the first expedition, to be organized during the coming holidays. Immediately after the close of the session of July, you will add the names of the new students who have received the complete certificate. I shall inform you at what date, to what place, and at what rate, the young men and women are to make the journey to foreign countries.

Respectfully, 10.

Julia Tenney, Minister of Public Instruction and Arts.
PEDAGOGICS.

Prin. C. W. Tufts, Sheboygan, Wisconsin.

People in general have long had an idea that anyone can teach, if he has a good liberal education. If he only understands what is to be taught, there is no question as to whether he understands how he is going to teach.

This prevalent opinion is gradually changing. The change came long ago to Germany and most European countries, so that there teaching is a true profession, and not a mere temporary occupation, as it is with us. Germany trains her teachers as she does her soldiers, and allows none to teach without this training. As a result, she has the best school system the world has ever known. In this country, the first step toward the special training of teachers was taken in 1839, when Cyrus Pierce, at Lexington, Mass., founded the first American Normal School. From this small beginning has the work gone on, until to-day we have in our land nearly two hundred of these useful institutions. Yet useful as they are, they meet only a part of the demand. They are calculated to train teachers chiefly for the lower grades, and do not reach our college graduates who are to become teachers in academies and higher schools.

To meet this last want, we have again followed the example of Europe, and established in the leading American universities professorships whose special province is the science and method of teaching. These do not in any sense conflict with normal schools, for normal schools seek merely to impart an empirical knowledge of method. They teach an art, and not a science—the art of teaching according to rule, as the word normal—a rule—implies. The chairs of education in universities, on the other hand, teach merely a science, and leave each one to make his own art. A person, with an arithmetic open before him, or by remembering the rule, may be able to work out an example, but if he understands the science of mathematics he will be able to make his own rule. It is just so in teaching. If one understands the science of the human mind, if he knows the natural order in which all subjects are grasped and understood, he will make his own method and be a successful teacher. If, added to this, he has the power of mentally reading each one of his pupils, of making each one feel that his own daily work in school is working out his own future, of causing each one to prize the privileges of school as he will wish he had when they are gone; then, as a teacher, he is doubly certain of success. Such a science as this is which the chair of pedagogics seeks to impart. But this is merely teaching what to do. In the field of teaching what not to do, pedagogics does, perhaps, a greater work. It points out the rocks and shoals on which others have been wrecked. It teaches the folly of running too far in advance of public opinion. It points out the weak places in the present system of graded schools. It puts one on his guard against killing the individuality of any pupil, against counting pupils merely as classes, and not as individuals. Thus does pedagogics impart instruction on all points which are of the utmost importance to teachers. Of those who take this course, he who has had no experience comes out a teacher; and he who is already an experienced teacher comes out a better one.

Finally, it is an absurd mistake to say that the course in pedagogics is wholly theoretical, and not practical. No movement can be purely theoretical with practical men as leaders, and it is only the most practical of men who are called to occupy chairs of pedagogies—men who have seen, as teachers, a lifetime of practice in the teacher's art, and who have met all the difficulties and earned the honors of their profession. Under such men, the practical can never be lost sight of in the intricacies of theory.

THE PUBLIC SCHOOLS NOT A FAILURE.

Sup't Henry Sabin, Clinton, la.

Richard Grant White says the public schools are a failure. He says it with the air of a man who will not bear contradiction. He swings the sword with his stalwart arm, and the head is severed from the body. He lifts his lofty foot and kicks the carcass into the ditch. And yet, wonderful to relate, the school bells still ring, and crowds of girls and boys throng the school-room doors.

Parents, who ought to heed the warnings of so great a man, still persist in sending their children to the public schools. Only yesterday I saw the banker's son sitting side by side with the son of the day-laborer; the boy whose father counts his wealth by thousands of dollars was standing in the same class with the boy whose father hardly owns the coat upon his back.

These men of abundant means send their children to the public schools because they believe these schools afford a better education than can be obtained elsewhere. I can take a reasoning, fair minded man into any well conducted public school, and answer conclusively and by actual demonstration the arguments of those persons who proclaim the schools a failure.

Where has Richard Grant White been for the last twenty years? In his comparisons he goes back to the days before the rebellion, and quotes as an argument the report of the State Superintendent of New York for 1862. Verily the descendants of Rip Van Winkle are yet abroad in the land. His argument would show that prior to 1866 life and property were safer in the southern states than in New England. The truth as history states it, is that many crimes known and punished in the northern states were not recognized as crimes; or if recognized were not punished in the old slave days. No sane man who desires to tell the truth will say that in thrift, intelligence, and general prosperity the states south of the Ohio and the Potomac have ever equaled the northern section of the republic. It is simply a question of fact for history to decide.

Then he begs the whole question when he refuses to take the crime of homicide into the account. He takes his ledger, throws out the most important items, and calls upon the world to behold the balance against the public school system.

His other arguments are scarcely worth answering. The country has been overrun with tramps because hard times threw so many men out of employment. With the return of better days, the race is fast disappearing. One word however in regard to the now famous Norfolk Examinations. Because a certain number of children spell "which" and "when" and "too" incorrectly, in one county in Massachusetts, we are to discard the whole system as in every way worthless. All it has done, all it can do is of no account in the light of such glaring faults. These examinations show us, not the worthlessness of the system, so much as the possibilities; what can be done with competent teachers under careful supervision.

There is a steady tide of advancement in our school affairs. There is a strong and growing tendency to make the instruction in the fundamental branches more thorough, to do more practical work. But with this tendency there is no disposition to lessen any training or discipline which is calculated to make the
future citizen capable of lifting himself to his proper sphere, by his own unaided efforts. God only knows the future of this Nation. We know the past; We know that the strength which moved the arm of this nation through four years of civil war, was born and nourished and grew to manhood in the public schools of the north.

The remedy which Richard Grant White proposes is worse than the disease.

A system of pauper schools, in which the poverty of the poor man is branded upon his child, can never exist in a free republic. As for the increase of crime, insanity, and immorality, if the increase is a fact, which is by no means certain, its connection with the public schools is not made clear.

On the other hand, life and property are safer to day than ever before in the history of the republic. If our public schools are to be charged with all the crimes and follies of mankind, it is also fair to give them credit for the prosperity, thrift, and plenty that everywhere abound.

There are persons like Gail Hamilton and Richard Grant White, who look upon poverty as a crime; who regard ignorance as the natural inheritance of the laborer; who believe that “all higher education is a special privilege reserved only for those who are able to pay for it.”

The best answer we can make to these assertions is to go steadily on improving our schools; making the system more elastic; studying to shape it to the wants of the people; always remembering that only “when we have made our schools good enough for the richest, will they be found good enough for the poorest.”

CORRESPONDENCE.

EQUITABLE LEGAL RECOGNITION OF SCHOLARSHIP AS A QUALIFICATION FOR TEACHING IN THE PUBLIC SCHOOLS OF MICHIGAN.

To the Editor of the Weekly:
It may be trie to remark that nothing can be more harmful to the public school system than the false economy which exposes teachers of tested merit and proven scholarship to competition with his inexperienced and uneducated; and yet, I think that an examination of the system for obtaining legal qualifications to teach in the public schools of Michigan, will reveal it to be such, that there is little or no incentive to scholarship involved and no proper distinction between the well-prepared and those so-called “stamped” for their work.

Graduates of the Normal School receive state recognition, indeed; i.e., they have the privilege of teaching without being examined; even in this, however, there is an unjust discrimination which acts as a premium for the smallest preparation. Persons who have the requirements for entrance to the first-class high schools may take a year’s professional instruction and graduate from the Normal; or a more ambitious individual, who has spent three years in hard work in a first-class high school on English studies, may enter the Normal and graduate in a year with a Normal Diploma; a third person, who has graduated from a first-class high school in the classical course of four years, may enter the Normal and complete a course of professional study in one year also and get a certificate.

Now I speak for every Normal graduate of the more complete courses that I have met, in saying that the first named class are of as much importance, or of more, in the out-side world, than their more worthy brothers; for, he is a Normal graduate and will teach cheaper than his “stack up” brother. This is the practical result in too many cases, however differently it may be regarded at headquarters.

But let us examine a little further: those graduates of the last-named course in the Normal School are admitted to the freshman class in the University upon examination; an equivalent of their literary attainments is required of all who enter the literary department as candidates for degrees; prima facta, a freshman of the University, save the professional work, has the attainments of qualified teachers of the state; but four years of study may be added to his life, probably in the line of mental philosophy with teaching in view as a profession; this may be supplemented by a year of professional work under the direction of such practi-
the old course which tied the scholar gloomily down to book or slate, and held it to be sufficient in the lower grades (p. 294) to learn the use of capitals and stops; depending on a future correction of all faults by "putting the grammatical text-book in the pupils' hands in the upper grade and there giving the principles and laws of language systematically."

The truth is that there is very little law in the English language. Grammars there are by scores, none of them satisfactorily, 90 one of them a standard, because all are at sea, excepting as to some few rules. The chief "system" in our language is that of simplicity, which nearly dispenses with case and tense variations, and irregularities of noun number, adjective comparisons, and verb forms. Some philologists express the opinion that English will become the universal language of mankind, but that it will be a fully simplified dialect of it, and very possibly a refinement of that, totally undeformed called Pigeon English. So few are the grammatical observances that apply generally in English that Horace's rule seems to be the best expression of general grammatical principle. "Utile quod venes arbitrium est, et just, et norma loquendi?" (Usage is the authority as to proper speech). If this be true let us lay aside the perplexing books we call grammars, or at least postpone their use, and put the children to practice the actual use of the language as endorsed by Usage. Let them copy their first reading; and, later, write from dictæ; and gradually try original composition; and so not only become familiar with the modes of expression sanctioned by general use, but also become able to construct sentences and combine them so as to have the rhetorical quality of grammatical and gradually try original composition; and so not only become familiar with the new use, and put the children to practice the usual form of capitals and lower case letters in the language, but also become able to construct sentences and combine them so as to have the rhetorical quality of expressing the intended meaning exactly, and no other; which is the quintessential quality of all composition.

Then the refined observations of the grammarians become to a great extent understandable and interesting; and those who can take a long school course, or who are to become express students of language, can take up grammars of English and other languages and compare them with advantage, and with the pleasure which evident profit gives.

**THE STATES.**

**OHIO.**—It is proposed by the citizens of Mansfield to more fully equip and furnish the Normal College which has been conducted there for two or three years past by Prof. J. Fraise Richard.

A few weeks ago, Sup't W. H. Tibbals, of Worthington, invited the ministers of the town and others, who might be interested in literary work, to meet at his residence for the purpose of forming a literary club. The result is proving exceedingly satisfactory. The club meets on Monday evenings. An essay is presented by one of the members, and then a general discussion of the subject follows. The subjects chosen are scientific, historical, political, social, and literary.

Mr. Fred Anderegg, of the last class of the Ohio Central Normal School, is doing good work in the schools at Ragersville.

Mr. A. O. Detchou, a classmate of Mr. Anderegg, has gone to Colorado, and is there engaged in surveying.

Mr. A. J. Potter, of the class of '80, Ann Arbor, is winning golden opinions by his faithful work as principal of the grammar school at Worthington.

Sup't Powell is getting along nicely with his school at St. Paris, notwithstanding the former superintendent, Mr. G. W. Snyder, has set up a private school in opposition.

Mr. C. H. Crandell, for two years superintendent of the Worthington schools, has just engaged for the winter in district No. 1, two miles north of town.

Bills, providing for the establishment of state normal schools, and county supervision, will be presented to the legislature this winter. Ohio may yet catch up with her younger sisters Wisconsin and Minnesota.

**INDIANA.**—The Auburn high school building was burned on the night of Nov. 30. Its cost was $14,000. Insured for $7,000.

The Crawfordsville public schools have been closed on account of a case of scarlet fever in the family of the janitor who resides in the building.

The State Association will be held at Masonic Hall, Indianapolis, during the holiday week.

Several county institutes will be held during the same week.

The La Porte County Teachers' Association met in the high school building, La Porte, Saturday, December 11, at 10 a.m. The following was the program. 10:00. Opening Exercises. 10:30. Inaugural address—By the President, elect, Sup't S. E. Miller. 11:00. Relation of mental science to the art of teaching—Miss Viola Ewers. Discussion, leaders—C. J. Brown; W. B. Dickson. 1:30. How to teach pupils to study—Miss Mary West. Discussion, leaders—H. J. Johnson; Miss Ella Brickett. 2:30. The art of questioning pupils, and errors to be avoided—L. P. Goodhue. Discussion, leaders—O. L. Galbreth; Miss Cella Kennedy. 3:30. Miscellaneous business.

**MICHIGAN.**—Prof. Avery, formerly of Michigan, is now delivering lectures on the electric light throughout the state. His lectures are illustrated by very complete and brilliant experiments.

Dr. Mac Vicar has made a change in the seating of the students at the Normal. They are now seated, boys and girls, according to classification.

Prof. W. W. Wendell is doing good work in his new field of labor at Hudson.

The Hillsdale public schools were closed Dec. 3, owing to the quarrels of the school board.

**IOWA.**—One of the public school buildings at West Dubuque was burned December 1. Loss, $2,000; Insurance, $1,000.

The Institute for Floyd county was a success every way. One hundred and eighty-six teachers were in attendance. Co. Supt. Nichols has called a convention of school officers of the county for February 25, 1881. Prospects are fair for a meeting.

Over 300 students are attending Cornell College at Mt. Vernon.

President Ewing, of Parsons College, preached in Council Bluffs a few Sundays ago, and last Sunday President Brooks of Tabor College delivered an excellent discourse in Davenport.

The Cedar county papers speak in terms of high praise concerning Mrs. Candy's lecture before the teacher's association on "Home Life Among the Tolomuts." Mrs. C. is a veteran in the service of teaching, and one of the best teachers in the state.

At a meeting of the teachers of the city schools, the following preamble and resolutions, in reference to the sad affliction sustained by Mr. H. P. Lewis in the death of his much beloved wife, were unanimously adopted:

Whereas, Our esteemed co-worker, Homer P. Lewis, has been called to endure the greatest of earthly trials, in the loss of a dearly cherished and most devoted wife; and

Whereas, In the circumstances of his bereavement, its suddenness, and the absence from home, we recognize occasion for additional kindness of anguish:

Resolved, That we hereby tender to our afflicted friend our sincerest and kindest sympathy; that sympathy which springs from a deep appreciation of the holiest of domestic ties, and we commend him to the fatherly care of Him "Who doth not willingly afflict"—Davenport, Nov. 27, 1880.

The Tama County Teachers' Association will be held in Tracer beginning Friday evening Dec. 31, and closing Saturday January 1, 1881. The committee appointed by the teachers at the close of the County Normal to prepare a program for a Holiday Session, have decided, upon the above as the time of holding said session. The notices of assignment of duty, sent those on the program, have been answered promptly, and but a few of those whose names appear on the subpoenaed program have failed to notify the committee of their willingness to accept the part assigned them. It is earnestly and sincerely hoped that the program will meet the hearty approval of the teachers, and that the desire for more proficient work in the schools will lead the teachers throughout the county to be present and participate in the exercises.


WISCONSIN.—C. Smith writes to the Oshkosh Northwestern a very interesting report of the Winnebago County Teachers' Association at Oshuro last month. The indications are that there will be very profitable meetings of this association this winter.

Prof. J. Q. Emery, of Fort Atkinson, has been chosen to take Prof. Rockwood's place in the Normal faculty at Whitewater. Prof. Rockwood will enter upon his duties at Madison Jan. 1. Prof. Culver is an applicant for Prof. Emery's present position.

The Racine Advocate publishes interesting reports of the teachers meetings of that city, written by S. E. Beede, secretary.

Sup't. Gray of Racine writes us that "scrip" there is the name for an order on the treasurer." Good! "Scrip is voted and drawn, but it is immediately cashed." Racine teachers are better off than our note in this column implies.

The school at Chippewa Falls, E. P. Secor principal, was closed four weeks after the destruction of the building by fire. The departments have been opened again in the Opera House and other places, where the young idea will be taught to shoot till the new building is completed.

C. F. Viehman, of Manitowoc, has accepted the principalship of Watertown high school, salary $1,600. He will not assume the duties of his new position till the first of March next.

L. H. Peck, formerly principal of schools at Palmyra, now principal at Rio, was married to his assistant teacher, November 9. They will continue to teach in the school as before.

Mr. John Kelley, a graduate of Platteville Normal, is principal of the public schools of Fox Lake. His schools were closed one week on account of the prevalence of scarlet fever.

J. B. Emery, who holds a life certificate from Hon. J. P. Wickersham, of Pennsylvania, is principal of schools at Merillan. His two assistant teachers are also from Pennsylvania. Schools were closed one week on account of diptheria.

Miss Sara Hough, who has been for some time one of the most successful primary teachers in the Sheboygan schools, has accepted a position in the Milwaukee schools.

The Union School building at Chippewa Falls has been burned, and the high school under Prof. Secor, is located in the Town Hall.

A "Public" was given by the Sheboygan Falls high school recently. The house was crowded and it was a success in all respects.

The schools in Neenah were never in better condition than now. The new high school building has done much to tune up the sentiment and create an interest in educational matters. Prof. H. A. Hobart, the principal, is now on his seventh year. During this time he has directed the construction of two new school buildings, both substantial, brick structures. The new high school building is equal in all its appointments to any in the state. Pupils, patrons, and teachers justly feel proud of it, and are, seemingly, redoubling their efforts in order that they may have a school worthy of the building. A noticeable feature is the good ventilation. The Rutten system is working admirably in this building.

The high school proper occupies a large, beautiful room, with a seating capacity of over a hundred, off from which are two large pleasant recitation rooms. The other seven rooms are occupied by the different classes from the Grammar department down to the Primary. At the sound of the gong, the pupils in all the departments prepare for dismissal, and march in order from their seats to the yard. This furnishes a fine spectacle. Prof. Hobart holds an enviable position in the sympathies of his pupils and patrons, as he justly should, after over six years hard toil for their best interests. In the high school he is assisted by Miss Mary G. Van Olinda, who is very able in the class-room. In fact, the whole corps of teachers (14 in number) is well selected. Large classes are graduated every year, and many of the alumni return each year to take a post-graduate course. School matters in Neenah certainly present a very promising aspect, and reflect great credit upon all connected with them.

The school board of Black River Falls has decided to employ a special teacher of drawing instead of elocution. Miss Wheeler, of Chicago, formerly of Racine, is the teacher of drawing, and is a fine artist. Miss Taylor, of the Woodstock, Ill., public schools, has charge of the grammar school, a position formerly held by Miss Sprague. There are ten teachers in the schools, all in one building.

Miss Rebecca Darnell is principal of schools at Taylor, J. H. Reed is principal of schools at Baldwin.

Co. Supt. C. L. Hubbs has opened a educational column in the Jefferson County Union. Under his administration a building has been erected on the 4th grounds devoted entirely to educational purposes. The cost of the building was borne by the schools of the county, each paying $2.50.

ILLINOIS.—Champaign military matters seem to be in good shape this year. Lieut. Wood takes care to make his instruction as practical and interesting, as possible. It is thought to be a mistake that the sophomores become non-commissioned officers before they have the study of tactics, but these little differences will doubtless disappear when the organization is completed.

Hon. G. R. Wendling lectured at Champaign Dec. 4, under the auspices of the Scientific Association. The junior class are to have a banquet at the St. Nicholas on Thanksgiving eve. H. H. Morgan, principal of St. Louis high school has recently donated to the university fifty illustrated volumes of "British Poets."—The following are our this year's contribution to the Mississippi river survey. T. H. Bacon, F. B. Maltby, G. K. Peart, C. V. Brainard, C. S. Hubbard,—Prof. Burtill, as botanist of the state board of agriculture, has just issued a pamphlet entitled "First Annual Report upon Useful and Nuisious Plants."—Dr. Peabody, on Nov. 6, gave the senior class a reception at his residence. M. D. Hatch of '84 is principal of Yorkville high school.

Miscellaneous.—Principal Herrick of Lena conducts an educational department in the Star of that place. Last year the Lena schools donated the inscription of the names of the members of literary exercises. Among the things for which Freeport school board reserves the right to dismiss a teacher at any time, is marriage. The board feel that, other things being equal, unmarried ladies are preferred.—Supt. Trainer of Macon has published a sheet for the country schools giving a plan of Friday examinations for the months of December and January. A book advertisement on one of the four pages probably pays the expense of printing.—E. I. Loomis is a Macon county teacher who occupies the same school room now as twenty-four years ago. The Freedom Teachers' Club met at Harding, LaSalle county, Nov. 20. This is in no sense a teachers' institute, but is an organization for the study of natural science, English literature, etc.—Highland, Madison county, has a well equipped gymnasium. Louis J. Appel teaches the boys' class, while Arthur Oehler, one of the teachers of the public schools, has charge of the girls' class.—Miss Minnie Foote of Galesburg high school has received leave of absence for the winter, that she may go south for her health. Galesburg will not have music taught in her schools. They had an offer of two weeks' free instruction and refused to accept it. Moline night schools enroll ninety pupils. Springfield schools have semi-monthly recital exercises in the high school chapel. Those of Nov. 19 are commended in city papers. Miss Emily Smith, assistant state entomologist of Illinois, has been elected to membership in the London Scientific Association. We are sorry to hear good things of American students who go abroad. Sullivan schools had but four tardiness during the second week of November. This is not the best record that could be shown, but it is better than many schools of the country.—Hedding College, Abingdon, has applied for membership in the Inter-Collegiate Contest. Neponset schools have had a little trouble lately. Victor Lyford is a teacher and F. J. Wells is the father of a bad boy. The teacher whipped the aforesaid boy whereas the aforesaid parent went to school for vengeance and there was another fellow whipped, and it was not the teacher either.


Clay County held an institute at Flora Nov. 20. Supt. Smith presided at the forenoon and S. S. Galilee was chosen president for the afternoon. W. F. Wikson was secretary. Prof. Mills being absent, Mr. Smith was requested (Concluded on page 560.)
THE LIBRARY.

THE MAGAZINES.


NEW BOOKS RECEIVED.

THE PUBLISHERS' TRADE LIST ANNUAL, 1880. Embracing the latest catalog supplied by the publishers; preceded by an order list for 1880; a classified summary and alphabetical reference list of books recorded in the Publishers' Weekly from July 1, 1879, to June 30, 1880, with additional titles, corrections, changes of price and publisher, etc. (For a Fourth Provisional Supplement to the American Catalog) and the American Educational Catalog for 1880. Eighty pages. New York: F. Leypoldt, publisher, 13 & 15 Park Row, October, 1880. Price $1.50 net.


THE HOME.

[Written for THE EDUCATIONAL WEEKLY.]

SQUARING THE CIRCLE.

God perpetually Geometrical.—PLATO.

By TARLEY STARKE, Virginia.

The famous Proposition ( \( \pi \) ) Has divers solvers of its own. One savant sneers, "It can't be done!" One sees it plain as A, B, C; "A miracle in stone!" And what must the unlearned do When Doctors of the Schools fall out— Must we hold science wrapt in doubt Until they work her mysteries through? Or turn and face about? The "two times two" sage little one Stares with due doubt in big round eyes At all our crooked "a plus b" "Extract the root?"—"That can't be done Except for teeth?" he cries. Ah! schoolmen, wise or otherwise, Can we make pride stand without base? Or, square Conceit to its small case? Or make a mole see with straight eyes What molecules it can trace? Our wise (\( \pi \))'s and ex-wise (\( \pi \) 's) have their day! But, classes higher up no doubt Wonder what problems we're about. Yet, out of his blackboard, in our way, We Freshmen work to some.

Perhaps—perhaps—in God's high schools, Where our poor "\( \pi \) " is the "\( \pi \) " With plus and minus changed or gone, New coefficients, signs, and Rules, May make "\( \pi \) " once more "one".

--1. Some so-called Geometers think the circle can be squared. To square the circle is to find the exact area of the circle. . . . . This problem is impossible.—EDUCATIONAL WEEKLY.

--2. Dr. Bell, in his book, "A Miracle in Stone," says: "The Great Pyramid is really a change of the \( \pi \) proposition . . . . now admitted to be practically exhibited in this pyramid."
Then let's not boast, at any rate—
Since our great "lay's after all
May be but like the nursery scrub!
That baby leaves upon the slate,
HIGH SCIENCE, done in "small."

Meanwhile let's square our circle: Thus—
To fill Life's round with all that's fair
To God and man by rule and square!
Surely this can't be wrong for us,
And must "work right" up there.

BESEMMER STEEL.

HERE is a conundrum for you, boys," said Herbert. "What is the most valuable thing in the world?"

"Ho," said Oscar, "that's easy enough, everybody knows that gold is.

"No," said Herbert, shaking his head; "it is not gold. Try again."

"Is it iron?" asked John.

"Yes," replied Herbert. "I suppose that iron, if we include all the various kinds, such as wrought iron, cast iron and steel, is of more value than any other one thing in the world."

This conversation took place on the platform of a railway car just leaving the city of Pittsburgh. The speakers were Mr. Herbert Wallaston, his cousin John, who was about twelve years older, and a friend of John's called Oscar. Mr. Wallaston had just graduated at a scientific school, and now he took great pleasure in showing and teaching John all he could about the curious facts of science, in their various walks and excursions. At present they had just left Pittsburgh on an expedition to the little town of Bessemer to see the great steel works.

"Now," said Herbert, "while we are riding along, you shall be the audience and I shall be the Professor, and I will give you a lecture on iron."

"That's good," said Oscar, "I should like it ever so much."

"Ladies and gentlemen," began Herbert,—

"But there are no ladies," said Oscar.

"Hush!" replied Herbert, "you must not interrupt the lecturer; besides, that is the way they always begin."

"Iron is a metal; it is one of the strongest metals that there is. A bar so big round!"—here Herbert held up his fingers in the form of a circle about an inch in diameter—"will hold fifty thousand pounds. You can form some idea of this enormous weight if you imagine twenty-five coal carts tied together and hung on to a bar of this size."

"My!" said Oscar, in a low tone, "what a string of carts. I should think the horses would kick."

"If," continued Herbert, "you put the iron into a furnace with some coal and heat it very hot it will melt, and then by pouring it into a mold it may be cast into any shape you please,"

"Just as we cast some lead bullets the other day?" asked John.

"Yes," answered Herbert; "just like that. When the iron is melted in the furnace," he continued, "it absorbs part of the coal, —

"How does it do that?" asked Oscar.

"No one knows exactly how," said Herbert; "but this coal has a peculiar effect, and makes the iron brittle."

"Yes," said John, "I tried to use the stove cover the other day for a hammer and broke it."

"Ah," replied Herbert, "if breaking a stove cover will teach you that cast iron is brittle it will be a very cheap way of learning an important fact. Steel is made from iron by taking a part of this coal, or carbon, as it is scientifically called, out of the iron."

"But," said Oscar, "you said that the carbon made the iron brittle, and steel is very strong."

"True," replied Herbert, "a good deal of carbon does make the iron brittle; but if we take some of it out, and leave only a very little, it makes a compound which is very strong, and this we call steel."

"I understand that," said Oscar.

"No," answered Herbert, "no one understands it; they only know that this is a fact. About twelve or fifteen years ago an English gentleman named Mr. Bessemer discovered that by melting the iron, and then blowing air into it, the air would burn the carbon out; and by carefully watching the process they could find out just when to stop the air in order to leave the right amount of carbon for the steel."

"And is this kind of steel, made by blowing air into melted iron, what they call 'Bessemer steel'?" asked John.

"Yes," said Herbert, "and a great improvement it is. In this way they can make several tons of steel in a few minutes by blowing air into the iron just as it comes from the blast-furnace, where it is made from the ore; while by the old ways it would take a good many days."

"I should think they would use steel for almost everything now," said John.

"It is being used a great deal," continued Herbert. "Almost all the rails for the railroads are now made from steel. In France there have been a number of large ships made entirely from it. At St. Louis one of the largest bridges in America is built of various kinds of steel, and it is expected to be used in the great East River Bridge now being constructed between New York and Brooklyn. It is very probable that before long steel will take the place of iron to a large extent. But here we are at the station, and so I must end my lecture."

"Will you explain to us sometime how they make the iron out of the ore?" asked Oscar.

"Perhaps so," replied Herbert. "I like to explain things to you, because you always pay such good attention."

THE RECESS.

—What is the difference between the sun and bread? The sun rises in the east, and the bread rises with yeast in it.

—Why does a dog go round and round after his tail? Because he can't go across it.

—Why is sympathy like a man playing at blind-man's-buff? Because it is a fellow feeling for a fellow creature.

—A school teacher recently electrified her pupils, who were annoying her with questions: "Children, I am engaged." Noticing the general look of astonishment, she added, "but not to any fool of a man," and the excitement died away.

—A distinguished writer says, "I resolved when I was a child, never to use a word which I could not pronounce before my mother without offending her." He kept his resolution, and became a pure-minded, noble, honored gentleman.

—A little child was eating her breakfast with a spoon, and the sun shone in upon her little mess of broth. As she lifted a spoonful to her mouth, she said, "Mother, what do you think?—I have eaten a spoonful of sunshine."

—A little five-year-old Kansas girl being told by her Sunday school teacher that her mother's name was covered in a pillar of salt, asked, if they put her into a pillow case.

—Here's a body—their a bed.

THERE'S A pillow—there's a head.

THERE'S A curtain—there's a light.

THERE'S A puff—and so good-night!

—"You are an antiquarian, Sir!" cried an ardent young lady to our old friend. "Oh no," said he, "I have not the honor of being an adjective; I am only a simple noun—only an antiquary."
to take his subject, "How to make Grammar interesting." Next in order was a general discussion by the members of the Institute. Adjournment was then taken until 2 o'clock, P.M. House called to order at the appointed time. S. S. Gallieher was then chosen Chairman. Singing followed. The subject of the best methods of teaching history was then discussed by W. F. Fisson and others. The subject of Geography was presented by Miss Emma Lick. Government Surveying was then treated by A. H. Moore. Select Reading by Miss Leta Presley, selection, "An order for a Portrait." Essay, by Miss Alice Wright, subject, "No Excessence without Labor." Spelling, conducted by R. H. Henry, all the members taking part. Moved that the next meeting be held at Clay City on the third Saturday in December, 1880. Carried. The meeting then adjourned.

Bureau County reports a successful school at Walnut, Nov. 14. Prin. Moore was chosen Chairman and M. L. Sawyer secretary. Decimals, Reading, Primary teaching, and Relation of parents and teachers were discussed. Among the participants were Messrs. Hussey, Ball, Bastian, Young, Mayne and Harrington, and Mrs Kellogg. The next session was held at Mineral, on Saturday, December 4, commencing at 9:30 o'clock. Program. Forenoon—Hints about teaching, Lewis Dysinger, Providence. Reading, Prof. Haws, Annawan. Afternoon—School Government, H. B. Holmes, Wyanet. How to teach English Grammar to beginners, Franklin Belknap, Gold. Compulsory Education, by Prof. Hill, Buda.

Normal Notes.—School is fuller than ever before. There are 353 in the normal department though there are desks for but 275. — We had no school Thanksgiving day. A number of the neighboring schools must have had two holidays for quite a flock of old students visited us on Friday. Here are some of them : I. L. Betzer, Principal Champaign (E. Side); Frances Preston, Principal Blackstone high school, Mendota, Rebecca May, Principal high school, Pekin; Daisy Hubbard, Morris, and Alice McCormick, Nap!les. — I. L. Betzer was examined on two or three studies while here and expects to graduate with this senior class. — Profs. Metcalf and DeGarmo report that the work of last term in the Grammar school was the most satisfactory they had had for a long time. — Mark Hills teaches near Towanda, Leader. Missiek near Long Hollow, Jo. Daviess Co.—Lyceums have been held at Clay City on the third Saturday, Dec., 1880. — The Grand Jury in New York, has just received a magnificent bequest from the late Mr. Spooner, a wealthy Bostonian, who leaves about half a million dollars. The special bequests amount to about $50,000, and the balance of the estate is to be divided equally between Oberlin College and the University of Kansas. — A syndicate has been formed at New York to take subscriptions for the De Lesseps Panama Canal project.

— William Preston Johnston, L.L. D., a graduate of Yale, has been selected President of the Louisiana University.

— Two more Atlantic cables are to be laid, connecting Europe and America.

— The Pennsylvania railroad officials have ordered all "flash literature" out of their depots, and forbidden its sale upon their trains.

— Professor Swing's salary has been raised by the trustees of his church from $7,000 to $10,000.

— The reaction against the anti-Jewish movement in Germany is becoming more perceptible. The Provincial School Commissioner has recommended the government to dismiss two teachers for their show of animosity toward the Jews.

— The French Government decided to dispose of the crown jewels. They will sell, it is estimated, for $5,000,000 francs, which it is proposed to expend for the improvement of the national museums.

— The Panama Canal Company is finally taking definite shape. De Lesseps has completed arrangements for placing the stock on the market of both Europe and America, and it is intimated that large subscriptions have already been agreed upon by European capitalists. The well-known bankers, Draxel, Morgan & Co., J. W. Seligman & Co., and Winslow, Lanier & Co., of New York, are the American subscription agents.

— Secretary Schurz recommends the placing of the Indians under the jurisdiction of the courts of the states and territories in which they are located. This would make the Indians subject to the laws and extend to them the protection of the same.

— The result of the election of President of the United States was announced last month; the election actually occurred Dec. 1, on the assembling of the electoral colleges.

— The public gifts made by Mrs. Valeria G. Stone, of Boston, out of her late husband's estate, amount to about $1,000,000. Among these is $50,000 for the Chicago Theological Seminary and $150,000 to the Missionary Society for support of the Freeman's schools.

— The population of Alaska, which has been partially enumerated by the agents of the Census Bureau, is estimated at about 8,000, of whom only 300 are whites.

— The anti-Jewish movement continues in Germany, surpassing in bitterness and intolerance any political movement of the last half century. What renders it the more melancholy spectacle is that it seems to receive official encouragement.

— The receipts of hops at Chicago during November were 1,100,000 head—more than ever before received in one month at any market.

— The great volcano of the Sandwich Islands, Mauna Loa, is belching forth two torrents of lava of one of which is over thirty miles in length, from one to two hundred yards wide, and twenty feet deep. The eruption is accompanied by terrific explosions.

— The Grand Jury in New York has brought an indictment for criminal libel against Philip as writer, and Halcy Byrne, and Post as publishers of the Monitor letter in the paper mis-named Truth. The legal penalty is imprisonment in the penitentiary for one year and a fine of $500.

One Experience from Many.

"I had been sick and miserable so long and had caused my husband so much trouble and expense, no one seemed to know what ailed me, that I was completely disheartened and discouraged. In this frame of mind I got a bottle of Hop Bitters and I used them unknown to my family. I soon began to improve and gained so fast that my husband and family thought it strange and unnatural but when I told them what had helped me, they said "Hurrah for Hop Bitters! long may they prosper, for they have made mother well and us happy!" — The Mother,—Home Journal.

— Let Enfants terribles. "Pa, what does it rain for?"

"It rains to make the corn grow and all the good things in the fields and gardens that you like so well—the strawberries, and cherries, and apples."

"But then, why does it rain on the streets?"
THE ADVANTAGES OF GRADING COUNTRY SCHOOLS.

STATE SUPT. W. C. WHITFORD, WISCONSIN.

Evidence shows that wherever plans have been adopted for systematizing the instruction and classifying the pupils in the country schools, they have tended, in those places, to improve the attendance of the pupils, making it larger and more regular. In providing a definite system of instruction, it checks the tendency to the constant changes of teachers, and it lengthens the terms in many schools, making them, in the elementary ones, more uniform in this respect. In some districts, it has already aided in correcting the evils arising from too great a diversity of school-books. It removes, more than any other expedient, the irregular and unbalanced culture, limited though it be, of many pupils from sixteen to twenty years of age. This system requires that the pupil’s mind shall be symmetrically developed, and that he shall be adequately fitted for practical life by the careful study of all the common branches. It serves to prevent the advancement of pupils to higher grades of study, when not entitled to such promotion by their attainments in scholarship. It supplies a most healthful incentive for the pupils to complete the full course of the elementary studies. Too often the case occurs that they are compelled to pursue the same part of the same subject, term after term, until all ambition is dead and no serious effort is made to advance in knowledge. A definite course of study helps the pupils to do more work in a given time, as it divides their work into successive steps, and thus shows them how much they must accomplish, and how fast they are progressing. It decides for each incoming teacher, by the complete records which are kept, what branches each pupil is prepared to take up at the opening of the term; and it guides the teacher in arranging the programme of the recitations and the hours of study.

It educates the people of the school-districts, both parents and school-boards, so that they will soon demand that the instruction given the children shall be more adequate and complete. Upon proper trial, many teachers become enthusiastic in the support of this scheme; and, with the changed conditions in their schools, they perform more satisfactory work before their classes. It assists each county superintendent in ascertaining the precise instruction given in each school; and it enables him, when adopted throughout his county, to direct more judiciously the entire work done in the schools therein. It induces economy in school management, as it reduces, by establishing a thorough classification, the number of daily recitations usually heard in our country schools. It encourages the use of the most approved methods of teaching every step in the several branches pursued in these schools; and, therefore, the employment of the teachers who are best versed in these methods. It prepares a school to be governed more easily, as it supplies the most influential motives to guide the pupils in their work. Children moving from one district to another experience less difficulty in finding their proper position in the new school, as the instruction in all the districts is quite uniform in consequence of the grading. It paves the way for the formation of high schools in the towns or adjacent villages, by the graduation of pupils in the studies of the common school course. —From Circular on the Grading System for the Country Schools of Wisconsin.

—Your paper is a very valuable help to any teacher. —N. L. Craner, Portland, Conn.

—Richard Grant White’s denunciation of the public schools, published in the North American Review, is receiving the condemnation of the press throughout the whole country. Mr. White has again demonstrated his capacity for quibbling and criticism, but his entire lack of ability to discuss a great question logically or philosophically.

—The Country Gentleman (Albany, N. Y.) gives a good article on Winter Ventilation in its number for Nov. 25, probably from the pen of J. J. Thomas. The common headache and dullness of schools is accounted for by the statements made, which show that in a room containing 100 scholars the air becomes vitiated soon, no matter how large and lofty the room, unless the openings for the discharge of used air and for the admission of fresh measure altogether six square feet in area. The simple method of admitting fresh air between the sashes at their junction—by putting a strip, three inches wide and as long as the sill, under the lower one, to lift it as much as possible. It admits the air from without in thin sheets, and gives it an upward direction, so that it may be well mixed with the warm interior air before touching any occupant of the room. But there must be an outlet. The first five answers for two or three inmates. The ventilation of our blood is so constantly necessary, we may say during every second of our lives from the moment of birth to the article of death, sleeping and waking, that our breathing apparatus enables us to inhale fresh air at every inspiration (if we are not deprived of it by our surroundings), even when one or both of our nostrils are closed. But the rooms we inhabit must have both inhaling and exhaling nostrils, each separate from the other and each rightly placed. In winter the inhalation must be aloft if it brings cold breath, and the exhalation at the floor. But if warm air enters, it, being light and rising, should also enter at the floor, as distant from the outlet as practicable.

There is great advantage to the delicate organs of the voice, and to the general health, in accustoming ourselves to inhale through the nostrils, and not through the mouth. Children should be habituated to this by the watchful care of the mother from their earliest life.

PUBLISHERS NOT ES.

—Hon. James P. Slade, State Superintendent of Public Instruction, Illinois, writes as follows respecting Emerson’s Binders, under date of Dec. 4, 1880: “Your Emerson Binders work like a charm. I wonder I did not order them sooner, now that I see how convenient they are!”

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—Extra copies of many different educational journals are sent to me, but I prefer the WEEKLY, and you can count me a perpetual subscriber as long as — is on your staff.—Prin. C. W. Taft, Sheboygan, Wis.

—The Dictionary Holder came all right and works splendidly. I like it first. —Prin. C. W. Taft, Sheboygan, Wis.

—I think the plan of Mazou’s Problems an admirable one. —Prin. Martin L. Esten, East Providence, R. I.

—I think your plan will work well. I am delighted with it. —A. W. Lynch, Marion C. H., S. C.

—The WEEKLY is the best suited to the wants of teachers generally of any educational publication I have ever seen.—Jasper Vail, Homer, Mass.

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