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Educational Weekly

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Vol. I.

THURSDAY, APRIL 23, 1885.

Number 17.

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PUBLISHERS' NOTE.—The Americanisms in pronunciation throughout the edition of ORTHOEPIST used last year were objected to by Canadian educationists, and have all been eliminated in the present edition, and every word in the book made to conform to the latest STANDARD ENGLISH AUTHORITIES, viz.: THE IMPERIAL DICTIONARY and STORMBOLT. A chapter has been added on Elocution that gives the essentials for Teachers' Examinations, and saves the price of an extra book on this subject, and a chapter added to VERBALIST saves the price of an extra work on English Literature.

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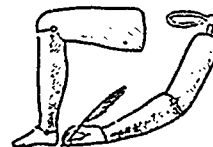
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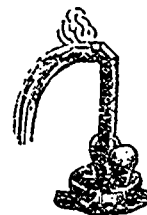
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The Educational Weekly.

TORONTO, APRIL 23, 1885.

IN Dr. William Matthews' work, *Hours with Men and Books*, is a chapter entitled "Moral Grahamism." Whatever exception we may take to the style in which it is written, or to the manner in which it is handled, we cannot deny that it treats of an excellent and vital question—the relative advantages and disadvantages of a so-called "practical education." Dr. Matthews strongly inveighs against this "practical education" in the sense in which it is commonly understood. "What," he asks, "is this 'practical' education for which so many persons are clamoring? Are there any two persons among them who can agree as to what it is? If by practical education is meant that minimum of teaching which will just enable a man to house, clothe, and feed himself,—to pay his bills and keep clear of the poor-house, which is summed up in the the three R's, 'Readin', Ritin' and Rithmetic,'—then we deny that such an education subserves, in the highest degree, even its own petty and selfish ends. The wretched economy which tries to shift the so-called practical from the true, the good, and the beautiful, fails to get even the good it covets. But the most popular idea of a practical education is that which regards it as a training for a particular calling or profession. Our colleges are begged to treat Smith's son as an incipient tape-seller, Brown's as an undeveloped broker, Thompson's as an embryo engineer, and Jones' as a budding attorney. Well, we admit to the fullest extent the right of Smith, Brown, Thompson, and Jones, juniors, to qualify themselves for any occupation they choose; but we deny their right to demand of the State, or of our colleges, a special training which shall qualify them for buying calico, building bridges, drawing declarations, or speculating in stocks. Young men demand an education which shall make them good merchants, lawyers, and carpenters; but they need first of all, and more imperiously than all things else, to be educated as *men*." And he goes on to say, "of a piece of timber you may make a mast, a machine, a piano, or a pulpit; but, first of all, it must become *timber*, sound, solid, and well-seasoned."

There is much in this to which all will agree; there is also much from which many must dissent. As in so many discussions on intricate subjects, there is apparent the fault of regarding it from one point of view only; of leaving out of consideration many modifying side issues, and of keeping in sight and strengthening one position without calculating the force of that of an antagonistic one.

It is true that before rough-hewn wood—to use Dr. Matthews' own metaphor—can be made into a mast, a machine, a piano, or a pulpit, it must become timber; but it is equally true that a mast cannot be made from rose-wood, nor a piano from Norway pine, and that the seasoning suited to oak is by no means suited to deal.

The question Dr. Matthews has so energetically discussed is, it seems to us, but a part of that wider question whether the field of education should be the *multum* or the *multa*. True, the first need is "to be educated as *men*," but who shall define what the limits and boundaries of such education shall be? Will it not vary with the character of the individual, and with the course of life he is about to embrace? To a Jacob Grimm the calculi are useless, to an Isaac Newton the laws of consonantal transition; but, and this is the nucleus of the question, before a Jacob Grimm or an Isaac Newton branches out into the higher fields of Algebra or Philology, it is necessary for each to undergo a certain course of mental training which is 'education,' but which is not, and ought not to be, 'practical education.' Dr. Matthews is right in eliminating from this part of our education all that comes under the meaning of the term "practical."

It is not the function of our school and university educators to prepare men for particular trades and professions. Their duties are to develop to the utmost the powers that must afterwards be used in such trades and professions. In particular trades and professions particular powers are brought into play. It is the object of the school and the university to mature all the powers equally. Just as our view of any one science is widened by a knowledge of all kindred sciences, so the exercise of any one set of powers is strengthened by that of all others.

This does not, however, by any means deny the value of true practical education in its proper place and time. It should not enter our schools and colleges, nor should it be allowed to take the place of that early training necessary to all minds. That there is nevertheless a tendency in this direction is apparent. Already there are those who wish to introduce technical instruction long before a sufficient length of time has been spent upon steady and continuous mental training. Technical instruction must sooner or later be entered upon, but, in our opinion, the later the better. There are few who do not deplore the short space of time devoted by them to general education. We know of a learned judge who late in life gave up a portion of time daily to the study of Euclid's Elements—no doubt at his time of life a

questionable method of sharpening the mind, yet a fact very significant of the truth we are attempting to enforce.

In these days of hurry and impatience the practical side of education will come all too soon; if we could assure ourselves that the longer it is delayed the greater the maturity and power of the mind, we shall have learned no uninstructional lesson.

ART in schools is at the present time evoking not a small amount of consideration. There is a view of art, upon which we are not aware that any particular stress has as yet been laid, viz., that of educating the senses of young children to recognize what is scientifically correct in form and color by means of their surroundings in the school room.

We do not by any means wish to advocate the elaborate decoration of the school room; this would be contrary to one of the first rules of art. "Where you rest, there decorate," says Mr. Ruskin. If we agree to this we shall be careful not to adorn our school rooms with anything that shall distract the pupils' attention from their studies.

Nevertheless, without going to this extreme, we need not at all go to the other. We need not, that is, be careless as to the general appearance of our school buildings and grounds. The senses in youth can be trained to notice and appreciate the beautiful; and the education of the senses should on no account be altogether ignored. They can, and too often are, accustomed to the sight of much that is far from pleasing; and being thus from earliest childhood always brought into contact with the incorrect and the ugly, they soon lose the ability to perceive what is the reverse of this, and consequently to appreciate the beautiful.

It is astonishing how little care is taken in educating the senses of children. It seems as if we totally left out of consideration the fact that they contain anything but minds—and this regardless of the possibility of many of them possessing high artistic faculties which may some day be developed and prove invaluable.

We have, when space is limited, touched on a large subject. Only one suggestion is here possible, viz., this: Let our school buildings be planned and built by those who are thoroughly versed in artistic rules, who shall see that nothing enters that shall in any way be an obstacle to the right development of the artistic sensibilities of our pupils.

Contemporary Thought.

ENTHUSIASM is the key to love for one's work. Love for one's work, coupled with a moderate aptitude, is the key to success.—*Journal of Education*.

IN order to be a successful teacher of boys it is necessary to be their friend. It is necessary not only to take an interest in seeing that their lessons are properly recited, but to be sure also that they understand what they are doing, and take an interest in it; make them feel that it is their business now, and that their future success in business depends on their doing their work well in the present. Boys like a friend, not an overseer.—*Practical Teacher*.

THE workshop is the only real school for a handicraft. The education which precedes that of the workshop should be entirely devoted to the strengthening of the body, the elevation of the moral faculties, and the cultivation of the intelligence; and, especially, to the imbuing of the mind with a broad and clear view of the laws of that natural world with the components of which the handicraftsman will have to deal.—*T. H. Husley, before Working Men's Club, London*.

BUT there is a side of George Eliot's life of which these volumes [*George Eliot's Life* as related in her Letters and Journals, arranged and edited by her husband, J. W. Cross.] fail to afford any adequate idea—the domestic life. Surely there are lights and shades in the home life of such a woman that would be as pleasing to see, as suggestive, as interesting to her admirers as the details of her contracts with the publishers of her books. It can hardly be that the voluminous correspondence and the three-volumed journal contained no pictures of this life—telling how the time not spent in reading and writing was used, and what her home-life was like.—*The Index*.

THE American is active minded and full of inquiry. Having no substitute, no king, no landlord, he must do his own thinking, and this soon enables him to do his own talking. The freedom, the independence of our country, has affected the inmost soul of the majority, and each young lady of eighteen could talk by the hour with the Prince of Wales, or with Proctor, the astronomer, or with Tyndall, the scientist. An English or French Miss would wish her father or uncle, or grandfather were present to conduct the conversation, but the average American Miss would say in her heart, "Let me have the great man all to myself, I can talk to him and listen to him."—*Prof. David Swing, in the Current*.

AS will be seen by the circular in another column, the Minister of Education has set apart the 8th of May as an Arbor Day, and has proclaimed it a school holiday, subject to the approval of the boards of school trustees. The purpose of the holiday is that the whole day may be devoted to improving and beautifying the school grounds, to laying out flower beds, planting trees and shrubs, etc. We appeal to school trustees to support the Minister in his praiseworthy attempt at once to remove a public scandal and to implant useful knowledge and a love for the beautiful in

the minds of the young. The condition of the school grounds throughout the Province is anything but complimentary to our taste and tidiness as a people. If an earnest effort be made, it will be but a few years before Ontario school houses and school grounds will be patterns of neatness, instead of, as now they frequently are, the most neglected looking spots in their respective districts.—*Globe (April 17)*.

I HOLD the teacher's position second to none. The Christian teacher of a band of children combines the office of the preacher and the parent, and has more to do in shaping the mind and morals of the community than preacher and parent united. The teacher who spends six hours a day with my child, spends three times as many hours as I do, and twenty-fold more time than my pastor does. I have no words to express my sense of the importance of your office. Still less have I words to express my sense of the importance of having that office filled by men and women of the purest motives, the noblest enthusiasm, the finest culture, the broadest charities, and the most devoted Christian purpose. A teacher should be the strongest and most angelic man that breathes. No man living is intrusted with such precious materials. No man living can do so much to set human life to a noble tune; no man living needs higher qualifications for his work. Are you "fitted for teaching?" I do not ask this question to discourage you, but to stimulate you to an effort at preparation which shall continue as long as you continue to teach.—*J. G. Holland*.

GIRLS, first make up your minds that you will do something. All the rest will follow. What you shall be will come more easily and clearly in due time.

A girl of 13 cannot decide, with any discretion or assurance, whether she will be a sculptor or a wash-woman, a farmer, or a poet; but she can decide distinctly whether it is her wish or her duty, after leaving school or college, to remain dependent upon her parents or to fit herself for a self-providing life.

The education by which you mean to get your bread and butter, your gloves and bonnets, is a very different affair from that which you take upon yourself as an ornament and an interval in life.

The chemical experiment which you may some day have to explain to pupils of your own is quite another thing from the lesson that you may never think of again.

The practice in book-keeping, which may some time regulate your dealings with flesh-and-blood customers, becomes as interesting as a new story.

The dull old rules for inflection and enunciation fairly turn into poetry, if you hope to find yourself a great public reader some coming day.

And the very sawdust of the French or Latin grammar becomes ashes of roses to the stout little fancy that dreams of brave work and big salary, in some foreign department at Washington or tutoring girls or boys for college.

All over the terrible ocean, among the lawless sailors, the men with wives and children to work for are those who lead the gentlest and cleanest lives.

So, on the great ocean of school-life, the girls

with aims to study for are those whose labor is the richest and ripest.

Ah! you will never realize until you have tried what a immense power over the life is the power of possessing distinct aims. The voice, the dress, the look, the very motions of a person define and alter when he or she begins to live for a reason.

I fancy that I can select in a crowded street the busy, blessed women who support themselves. They carry themselves with an air of conscious self-respect and self-content which a shabby alpaca cannot hide, nor a bonnet silk enhance, nor even sickness or exhaustion quite drag out.—*St. Nicholas*.

THE New York School Journal of the 11th April, contains the following:—

THE CANADIAN EDUCATIONAL WEEKLY says that "in Canada intellectual variety is very marked; the classes are large; the children are grouped together by a plan which seems to strive at striking an average of their knowledge of all the different subjects taught. Is it possible in teaching such a class to keep in mind these differences? It is a hard matter, certainly, yet one that cannot be altogether overlooked. In certain cases very wide degrees of knowledge or intelligence must necessarily be left out of consideration: we remember once making rather a failure in trying to teach a class in Algebra, when one pupil was perfectly *au fait* at quadratics, while to another had to be explained the fact that if $a=2$, and $b=3$, $a+b=5$!"

What is true in Canada is true everywhere, and from this fact of difference in mental tastes and endowment comes the necessity of careful classification. It is manifestly wrong to put a poor scholar in algebra in the same class with smart ones. The dull need different teaching from the quick. If a pupil needs to be taught that if $a=2$, and $b=3$, $a+b=5$, he has no business in a class with a pupil who can understand the methods of elimination at a glance. This dolt in mathematics may be a genius in history or expression.

His classification will be the very inspiration of his school life. If he is kept back in *all* studies because he is poor in figures, the chances are he will become discouraged in all; for, not having the opportunity to exercise his talents in what he loves, he will likely cease to love anything.

It is said that such a classification as we suggest is impossible. In every ungraded school, classification according to any mode is an easy matter. The difficulty is found in the graded school, but here the mountain in the way is imaginary.

We will suppose that in one large assembly room there are seated three hundred pupils. To accommodate the wants of these students the usual number of teachers and class-rooms are provided, and pupils are sent to the various rooms for recitations. With this arrangement it will be easy to assign a pupil to a higher geography class and a lower arithmetic class on the same day. His success in one study is recognized, as well as his want of it in another. Such a plan as this is not impracticable, neither is it novel.

It is undeniably wrong to degrade a pupil in all studies because he is poor in one. For example, because he is backward in arithmetic he should not, *therefore*, be kept back in geography, language, and history. The teacher who pursues this method of grading on one branch does not practise fairness, for he is doing educational injustice to most of the pupils committed to his care.

Notes and Comments.

THE remarks of Professor Huxley in his lecture delivered before the Working Men's Club, London, England, which we have quoted on the preceding page, bear out our views as expressed on the opening page of this number.

THE wish to foster a love of tree planting amongst school children seems to have inspired the *Pennsylvania School Journal* equally with ourselves. This excellent monthly contained in its last issue some thirty pages on arboriculture and kindred topics.

THE account of the method adopted by the late James Anthony Trollope, as given by himself (inserted under "Literature and Science") is valuable to others besides authors. The pertinent remarks he makes, together with the hints on preserving a *mens sana in corpore sano* will strike home to workers in various lines of life.

DURING the past few months something has occurred in your school that others ought to know about. Some method of teaching, grading, visiting, conducting general exercises—*something*—that the world ought to know. Now, sit down, write it out, condense, make it crisp, pointed, applicable, and send it to us. You are bound to help the profession.—*New York School Journal*.

THE recent controversy between Frederic Harrison and Herbert Spencer, which appeared in *The Nineteenth Century* in England, and in part in the *Popular Science Monthly* in this country, has been much called for in separate forms; and the Appletons have now brought it out in both cloth and paper, under the name of *The Nature and Reality of Religion*.

FROM the article on recent seismology which we have taken from *The Nation* and inserted in our columns devoted to literature and science, teachers may find hints, from which to give interesting and instructive lessons on the nature and history of the important natural phenomena of earthquakes. We would recommend them to consult in connection with this article, Sir John Herschel's *Familiar Lectures on Scientific Subjects*.

The Index, in a passage quoted on the preceding page, justly points out the lack of any insight into the domestic life of George Eliot in her *Life and Letters* as edited by Mr. J. W. Cross. For this reason we think they will never possess a hold on the public—a hold such for example as no doubt Mrs. Carlyle's letters will always possess, as also, though probably to a less extent, the autobiography of James Anthony Trollope.

THE EDUCATIONAL WEEKLY, of Toronto, devotes a large portion of its last issue to the subject of tree planting and suggests an "Arbor Day" for Canadian schools. We would

beg to endorse the suggestion. The east ward school grounds in this town would be greatly beautified by a few trees, and the Victoria and west ward grounds, though there is not the same opportunity, might also be improved in this way. By all means let the suggestion be carried out.—*Brockville Recorder*.

WE had scarcely hoped that our appeal for the setting apart of an ARBOR DAY for Ontario schools would so soon have met with recognition. From the Circular Letter which appears in another column, it will be seen that the Minister of Education has recognized the great good which the schools under his charge would receive if he himself set in motion a scheme for the general improvement and embellishment of school grounds by the planting of trees and shrubs and the making of other ornamentation, upon a fixed holiday. We sincerely hope that trustees, teachers, parents and pupils will all co-operate in giving *éclat* to the first Ontario "School Arbor Day."

IN a letter received from a valued correspondent were the following remarks on a recent statement of ours. We do not at all agree with the closing words of our correspondent, but as they express the very definite opinion of one who has thought much, we think they will be interesting to our readers:

In one of your issues you endorse Matthew Arnold's definition of poetry, "a criticism of life." Have you read Swinburne's criticism on that definition? Did it ever strike you that a good novel, such as "Middlemarch," or "Daniel Deronda," is a criticism of life in a truer and wider sense than most of the poetry we have? "Hamlet" may be a criticism of life—is Walter Scott's "Lady of the Lake?" I do not think Arnold's definition at all suitable—in fact Arnold has a bad habit of hiding confused thoughts and indefinite ideas in a cloud of words—words often used in a sense unknown to ordinary readers of English works.

IF there is literary spirit in the country at all, one would naturally suppose it would manifest itself strongly in the University, and consequently in the University paper. It is because we are fully convinced that there is that literary spirit among us that *The 'Varsity* pledges its name and influence to the project. [Of issuing a publication containing extracts from its pages.] We shall certainly be aiding the literary life of the country thus to show confidence in and encourage the modest beginnings of literary activity among ourselves. To those who have been connected with *The 'Varsity* in past years the book will be an interesting memento, while it will afford others the only possible means of possessing some of the best writings of the earlier numbers of the paper. The selections for the book will approach as much as possible what De Quincy calls the literature of power, and as wide a selection of writers will be made as is consistent with this characteristic. Our shareholders will under-

stand that if there should be a financial loss in the production of the work it will be borne by those who are already so liberally contributing to the guarantee fund; should there be a profit, it will be devoted to the funds of *The 'Varsity*. There will be placed in all the colleges a subscription list, which those who desire copies are requested to sign without delay.—*The 'Varsity*.

AMONG the many letters and other notices sent us regarding our Arbor Day issue of April 9, is the following letter from the editor of the *New York Voice*, of the celebrated publishing house of Messrs. Funk & Wagnalls. Mr. Copeland recognizes in the Arbor Day movement a development of an æsthetic spirit in the people of this continent. We think he is right; and we thank him for his words of encouragement and approval. We may say for the information of our readers that all our educational exchanges of this month are filled with accounts of preparation made for the general celebration of "Arbor Days." We shall in our next number give some little attention to this subject again.

EDITORIAL ROOMS OF—
The Homiletic Review,
The Voice,
The Standard Library.

NEW YORK, April 13, 1885.

Editor of EDUCATIONAL WEEKLY, TORONTO.

DEAR SIR,—In looking over our exchanges I became much interested in your issue for April 9th, and chiefly for the article therein on tree planting. I consider the movement to secure the setting apart of an Arbor Day, both in the United States and in Canada, one of the most hopeful signs of a growing æsthetic sense among Americans, yet discernible. You deserve credit for the space you have given to this subject. I wish copies of this issue of the WEEKLY might be sent to each of the Governors of all the States, and to the proper authorities in the Provinces of Canada, especially marked to call their attention to it. Indeed, I think the time is ripe for an organization to be formed by representatives from all the States and Provinces for systematically urging the measure. Such a union would tend to unite Canadian and State sentiment not only in this but in similar lines. It would, I am confident, be hailed as a harbinger of better things, and a promise of the spread of a healthy and permanent artistic spirit in out-door decoration. Both Canada and the United States are in their babyhood. What is done now for the good of both or either, on these lines, and done effectually, will mould the form of these sister communities for all the future. We have much to learn from Europe in art, in all its branches; but, if we are wise now, within fifty years these two countries can be made the most handsome and healthful—by reason of their series of parks and their landscape gardening—of any in the world. These views are not chimerical but very practicable. You have begun in the right way by grouping the opinions of leaders and "enthusiasts" on arboriculture. Now we need to group our action and secure a result for which the people are ready and will be grateful. Yours truly,

ARTHUR COPELAND.

Literature and Science.

RONDEAUX.

I.

AUSTIN DOBSON

WITH pipe and flute the rustic Pan,
Of old made music sweet for man,
And wonder hushed the warbling bird,
And closer drew the calm eyed herd—
The rolling river slower ran.

Ah! would,—ah! would, a little span,
Some air of Arcady could fan
This age of ours, too seldom stirred
With pipe and flute!

But now for gold we plot and plan:
And from Beersheba unto Dan,
Appollo's self might pass unheard,
Or find the night-jar's note preferred—
Not so it fared, when time began,
With pipe and flute.

II.

CARPE DIEM.

THEOPHILE MARZIALS.

TO-DAY, what is there in the air
That makes December seem sweet May?
There are no swallows anywhere,
No crocuses to crown your hair,
And hail you down my garden way.

Last night the full moon's frozen glare
Struck me, perhaps; or did you say,
Really, you'd come, sweet friend, and bear
To-day.

To-day is here;—come crown to-day
With Spring's delight or Spring's despair!
Love cannot bide old Time's delay—
Down my glad gardens light winds play,
And my whole life shall bloom and bear
To-day.

"The modern *Rondeau* is a modification of the *Rondel*. It is made up of thirteen lines with two rhymes and two *unrhyming* refrains, generally the first half of the first line, sometimes only the first word. As in the *Rondel*, the lines fall into three groups, a first of five lines, a second of three (and refrain), and a third of five (and refrain). The usual sequence of the rhymes is *a, a, b, b, a*;—*a, a, b* (and refrain);—*a, a, b, b, a* (and refrain.) The *Rondel* is well suited for the expression of brief emotions, and sportive or amatory incident; in short, for any light lyrical theme of defined extent, which is rather enhanced than inspired by the iteration of its key-note. The *Rondeau* offers the same advantages, with this in addition—that it may be more successfully employed in playful irony or satire. There were a few *Rondeaux* written in English during the seventeenth and eighteenth century, in the 'Rolliad' and elsewhere."—From "*A Note on Some Foreign Forms of Verse*," by Austin Dobson. Appended to "*Latter-day Lyrics, selected and arranged with notes*" by W. Davenport Adams.

HOW ANTHONY TROLLOPE WROTE.

I BELIEVE that real exertion will enable most men to work at almost any season. I arranged a system of task-work for myself, which I would strongly recommend to those who feel as I have felt, that labor, when not made absolutely obligatory by the circumstances of the hour, should never be allowed to become spasmodic. There was no day on which it was my positive duty to write for the publishers, as it was my duty to write reports for the post-office. I was free to be idle if I pleased. But as I had made up my mind to undertake this second profession, I found it to be expedient to bind myself by certain self-imposed laws. When I have commenced a new book, I have always prepared a diary, divided into weeks, and carried it on for the period which I have allowed myself for the completion of the work. In this I have entered, day by day, the number of pages I have written, so that if at any time I have slipped into idleness for a day or two, the record of that idleness has been there, staring me in the face, and demanding of me increased labor, so that the deficiency might be supplied. According to the circumstances of the time—whether my other business might be then heavy or light, or whether the book which I was writing was or was not wanted with speed—I have allotted myself so many pages a week. The average number has been about forty. It has been placed as low as twenty, and has risen to 112. And as a page is an ambiguous term, my page has been made to contain 250 words; and as words, if not watched, will have a tendency to straggle, I have had every word counted as I went. In the bargains I have made with publishers I have—not, of course, with their knowledge, but in my own mind—undertaken to supply them with so many words, and I have never put a book out of hand short of the number, by a single word. I may also say that the excess has been very small. I have prided myself on completing my work exactly within the proposed dimensions. But I have prided myself especially in completing it within the proposed time—and I have always done so. There has ever been the record before me, and a week passed with an insufficient number of pages has been a blister to my eye, and a month so disgraced would have been a sorrow to my heart.

I have been told that such appliances are beneath the notice of a man of genius. I have never fancied myself to be a man of genius, but had I been so I think I might well have subjected myself to these trammels. Nothing, surely, is so potent as a law that may not be disobeyed. It has the force of the water drop that hollows the stone. A small daily task, if it be really daily, will beat the labors of a spasmodic Hercules. It

is the tortoise which always catches the hare. The hare has no chance. He loses more time in glorifying himself for a quick spurt than suffices for the tortoise to make half his journey.

I have known authors whose lives have always been troublesome and painful because their tasks have never been done in time. They have ever been as boys struggling to learn their lesson as they entered the school gates. Publishers have distrusted them, and they have failed to write their best, because they have seldom written at ease. I have done double their work—though burdened with another profession—and have done it almost without an effort. I have not once, through all my literary career, felt myself even in danger of being late with my task. I have known no anxiety as to "copy." The needed pages far ahead—very far ahead—have almost always been in the drawer beside me. And that little diary, with its dates and ruled spaces, its record that must be seen, its daily, weekly demand upon my industry, has done all that for me.

There are those who would be ashamed to subject themselves to such a taskmaster, and who think that the man who works with his imagination should allow himself to wait till—inspiration moves him. When I have heard such doctrine preached, I have hardly been able to repress my scorn. To me it would not be more absurd, if the shoemaker were to wait for inspiration, or the tallow-chandler for the divine moment of melting. If the man whose business it is to write has eaten too many good things, or has drunk too much or has smoked too many cigars—as men who write sometimes will do—then his condition may be unfavorable for work; but so will be the condition of a shoemaker who as been similarly imprudent. I have sometimes thought that the inspiration wanted has been the remedy which time will give to the evil results of such imprudence. *Mens sana in corpore sano*. The author wants that, as does every other workman—that and a habit of industry. I was once told that the surest aid to the writing of a book was a piece of cobbler's wax on my chair. I certainly believe in the cobbler's wax much more than the inspiration.

It will be said, perhaps, that a man whose work has risen to no higher pitch than mine has attained, has no right to speak of the strains and impulses to which real genius is exposed. I am ready to admit the great variations in brain power which are exhibited by the products of different men, and am not disposed to rank my own very high; but my own experience tells me that a man can always do the work for which his brain is fitted if he will give himself the habit of regarding his work as a normal condition of his life. I therefore venture to advise young men who look forward to authorship as the business of their

lives, even when they propose that that authorship shall be of the highest class known, to avoid enthusiastic rushes with their pens, and to seat themselves at their desks day by day, as though they were lawyers' clerks; and so let them sit until the allotted task shall be accomplished.

While I was in Egypt I finished "Doctor Thorne," and on the following day began "The Bertrams." I was moved now by a determination to excel, if not in quality, at any rate in quantity. An ignoble ambition for an author, my readers will no doubt say. But not, I think, altogether ignoble, if an author can bring himself to look at his work as does any other workman. This had become my task, this was the furrow in which my plough was set, this was the thing the doing of which had fallen into my hands, and I was minded to work at it with a will. It is not on my conscience that I have ever scamped my work. My novels, whether good or bad, have been as good as I could make them. Had I taken three months of idleness between each, they would have been no better. Feeling convinced of that I finished "Doctor Thorne" on one day and began "The Bertrams" on the next. * * * *

The fact memorable to me now is that I never made a single note while writing or preparing "The Bertrams." Preparation, indeed, there was none. The descriptions and opinions came hot on to the paper from their causes. I will not say that this is the best way of writing a book intended to give accurate information. But it is the best way of producing, to the eye of the reader, and to his ear, that which the eye of the writer has seen and his ear heard. There are two kinds of confidence which a reader may have in his author—which two kinds the reader who wishes to use his reading well should carefully discriminate. There is a confidence in facts and a confidence in vision. The one man tells you accurately what has been. The other suggests to you what may, or perhaps what must have been, or what ought to have been. The former requires simple faith. The latter calls upon you to judge for yourself, and form your own conclusions. The former does not intend to be prescient, nor the latter accurate. Research is the weapon used by the former, observation by the latter. Either may be false—wilfully false; as also may either be steadfastly true. As to that, the reader must judge for himself. But the man who writes *currente calamo*, who works with a rapidity which will not admit of accuracy, may be as true, and in one sense as trustworthy, as he who bases every word upon a rock of facts. I have written very much as I have travelled about; and though I have been very inaccurate, I have always written the exact truth as I saw it; and I have, I think, drawn my pictures correctly.—*Autobiography of Anthony Trollope.*

RECENT SEISMOLOGY.

THE years elapsed are few since seismology entered its claim to consideration as a science. Foremost among the societies engaged in research upon seismic activity is the Seismological Society of Japan, and foremost among its investigators is Prof. John Milne, who has lately published, in the second part of vol. vii. of the Society's transactions (1884), the most thorough and important contribution to earthquake research which has yet appeared. It is a discussion of nearly 400 earthquakes which have been systematically observed during two years in the island of Nippon or North Japan. He has had the assistance of some fifty observers, variously located on the islands, who for several years have been accustomed to make weekly reports to Professor Milne with regard to the occurrence and intensity of earthquake disturbances. At a few of the stations the more marked disturbances were timed with accuracy. A number of noteworthy facts have been discovered by Professor Milne's system of investigation: for example it is found that a well-marked range of mountains south of the alluvial plain about Tokio forms a most effective barrier to the progress of seismic disturbance, only one-hundredth part of these disturbances being propagated beyond the range, thus indicating clearly the necessity of extending the net-work of observing-stations, northward. Of 387 earthquakes the shocks for 254 were not appreciable beyond an area of fifty square miles; 198 of these affecting only the seaboard towns, while the remaining 56 were inland. Several of the great shocks had their origin far out at sea, with less marked effects, therefore, at the stations than many lesser ones originating nearer at hand. Areas remote from each other were sometimes disturbed while no shock was felt at intermediate stations. The islands themselves do not appear in general to be the immediate seat of origin of these disturbances, but a very large proportion of the whole take their rise from beneath the ocean. The great alluvial plain of Musashi surrounding Tokio, and forming one of the flattest parts of Japan, was the region subject to the greatest and most frequent recurring disturbance. Professor Milne regards it as remarkable that the number of earthquakes felt on the low ground is large compared with the number recorded as having been felt in the mountainous regions. The seismic activity has been small in the immediate vicinity of extremely recent, or at present active, volcanoes. Shocks are most frequent, too, where the slopes are steepest, and where there is abundant evidence of a recent and rapid elevation—the seismic regions of Japan holding, in all these respects, a close relationship to similar districts in South America. Another important deduction from Professor Milne's collected observations

is the strongly marked coincidence in a general way between the minimum of temperature and the maximum of seismic disturbance throughout the entire region observed—a connection long known as applicable to the Musashi area. And not only is the number of winter earthquakes very much greater, but the seismic intensity in winter is more than three times as great as that of the summer months. Professor Milne finds nothing in the recurrence of earthquakes in the Japan region to establish the supposed connection of such phenomena with the position of the moon in its orbit.—*The Nation.*

THE TRUE OBJECT OF ARCTIC RESEARCH.

THE best results will be gained by considering the exploration of the polar regions as one continuous task, and fitting every new expedition into the far-seeing scheme of a thorough investigation of all the problems subject to Asiatic researches. In this way we have the strong conviction that important results will be gained quicker than by spasmodic efforts, now in Greenland, now in Behring Strait, now in Franz-Josef Land. There can be no doubt that such a plan will be expensive, and not so apt to produce stirring results as any other; however, it is not the purpose of the outgoing explorers to become sufferers and enduring heroes, but to bring home results which are important for their science. The meteorological stations which were established in 1882-'83 were the first step to the organization of an enterprise like that we demand, and their results will show the utility of well-founded plans.

Hitherto I have only referred to the exploration of the unknown region never visited by men. There is more work left, however, which has to be included in a comprehensive plan of research. The southern parts of the Arctic regions—for example, the east shore of Greenland, many of the immense fjords of its west shore, Baffin Land, and the central parts of the north shore of America—are barely delineated. If we look at the charts, we might be induced to believe that most of these lands are sufficiently known, while, indeed, every new journey discloses the deficiency of our knowledge. These countries which may be reached without serious difficulties, are the proper place for investigations of great importance, and the exploration of these parts of the Arctic is even more urgent than that of the far north, as the study of the numerous tribes which live on the shore of the Arctic Ocean has to be accomplished very soon; else the rapid diminution of those peoples and the influence of European civilization will deprive the ethnographer of anything to study but their moldering remains.—*From "Arctic Exploration and its Object," by Dr. Franz Boas, in Popular Science Monthly for May.*

Educational Opinion.

HISTORIC ILLUSTRATIONS OF SUPERIOR TEACHING.

J. A. REINHART, PH.D., PATERSON, N. J.

ARNOLD AND THE FOURTH FORM AT RUGBY.

(Concluded from last issue)

THE exemplification of the general principal so far discussed may be seen in Dr. Arnold's declaration that his lessons with the Sixth Form were "directed to the best of his power to the furnishing rules or formulæ for them to work with"; e. g., rules for translation and principles of taste, in history, rules of evidence, and general forms for the dissection of campaigns, and for estimating the importance of wars, revolutions, etc. This is the practical phase of the maxim, "not to read, but *how* to read"; "not knowledge, but the means of gaining knowledge." It is the school-master assuming Locke's field and teaching the "Conduct of the Understanding." Compare, further, "his opening the sources of knowledge by telling them where such and such things may be found, and giving them a notion of criticism—not to swallow things whole, as the scholars of an earlier period too often did." "In original compositions," says Stanley, "style, knowledge, correctness or incorrectness of statement or expression, he always disregarded in comparison with *indication or promise of real thought*." "I call that the best theme which shows that the boy has read and thought for himself; that the next best which shows that he has read several books and digested what he has read; and that the *worst*, wh. c. shows that he has followed but one book, and followed that without reflection." "Ha! very good," was his well-known exclamation of pleasure when he met with some original thought; "is that entirely your own, or do you remember anything in your reading that suggested it to you?" Consider also his teaching them that "so far as their information and power of reasoning could take them, they ought to have an opinion of their own." Each author read was "a work to be understood, to be condemned or to be admired"; and that in proportion to their advance in the school, he tried to cultivate in them the habit not only of collecting facts, but of expressing themselves with facility, and of *understanding the principles on which their facts rested*. Finally, "all the lessons, in his eyes, and not only those which were more distinctly religious, were invested with a moral character." "He often dwelt on 'the fruit which he above all things longed for—moral thoughtfulness; the inquiring love of truth going along with devoted love of goodness.'"* Is there in the whole catalogue of special lines of education, of specific instances of good teaching, a finer example of that

teaching which nobly exercises the best powers of our nature, which tends to justify the remark of Kant that "behind education lies hid the great secret of the perfection of human nature"?*

The second general educational principle illustrated in Arnold's teaching of the Sixth Form may be thus expressed:—*The teacher must, in the act of instruction, be cognizant of the mental state of the learner—must be conscious of the learner's consciousness*. There is a genesis of knowledge in the individual, and there is a progressive advance toward the perfection of knowledge and energy. His particular state at the moment of teaching is the stand-point conditioning what he may next think, feel or will. Says Aquinas, "Omnis disciplina fit ex pre-existenti cognitione." All teaching must proceed from that which is within, and that only in the largest sense, but in particular matters also. "It would be impossible for us to learn of a man the knowledge which he wishes to teach us, if there were not in us beforehand those principles to which he connects his knowledge"; and "all teaching supposes in him who learns some anterior knowledge."† "True knowledge is to be elicited from within," says Socrates, and calls himself a mid-wife of the mind. He assisted in bringing to the birth truths with which the mind was big and in labor. "He unfolded what was infolded." All these quotations imply a practical didactic insight into the consciousness of the learner. "The teacher must rest satisfied with nothing less than the evolution of thought; he must learn carefully to distinguish between the semblance and the reality of actual thinking."‡ Knowledge has its qualities. "Every act of consciousness proper," according to M. Chastel, "must possess in some degree the attributes of *clearness and distinctness*. An act of consciousness, whether presentative or representative, is *clear* when its object as a whole can be distinguished from any other; when this can not be done it is *obscure*. An act of consciousness is distinct when the several parts constituting its object can be distinguished from each other; when this cannot be done it is indistinct."§ These distinctions make clear what qualities of knowledge we desire to see in the mind of the learner. But there is another distinction of great importance; that is to say, between the *form* and the *matter* of knowledge as held by the learner. When the learner's attention is directed to any object, he does not see the object itself, but contemplates it in the light of his own prior conceptions. "A rich man, for example, is regarded by the poor and ignorant under the *form* of a very fortunate person, able to purchase luxuries above their reach; by

the religious mind, under the form of a person with more than ordinary temptations to contend with; by the political economist, under that of an example of the unequal distribution of wealth; by the tradesman, under that of one whose patronage is desirable. . . . The *form*, then, in this view, is the mode of knowing; and the matter is the perception or object we have to know.*" "The drift or meaning of a branch of knowledge varies with the company in which it is introduced to the student. . . . It is not so much this study or that as it is the setting into other studies that moulds the impression";† that is, all knowledge is inevitably cemented with the prior conceptions of the learner, and moulded by them. "The teacher is to note but the *form* and the *matter* of knowledge which the learner acquires, whether it stand in his mind correct in its impression and true in its essence. To secure these ends requires the consummate skill of the teacher."

So much for the elucidation of the principle. Its dominating influence is seen in Arnold's teaching, in that "the greater part of his instructions were interwoven with the process of their (the students') minds; there was a continual reference to their own thoughts. . . . He was evidently working not for but *with* the form." This is the animus of his questioning—to awaken the *intelligence or every individual* boy, to disclose—to chain—the *exact boundaries* of what he knew or did not know; to dispel the haze of indistinctness as to a consciousness of his own knowledge or ignorance; to raise every perception into the realm of a clear consciousness.

Dr. Arnold's biographer confesses his inability to represent his principles of education distinct from himself—"the system is lost in the man"; the headmaster of Rugby becomes inseparable from the personal guide and friend of his scholars.—*From Education for March, Boston.*

SAMPLE FALLACIES ON THE CLASSIC QUESTION.

A GREAT deal of fallacy has been served up of late to the readers of magazines and newspapers in the discussion of the so-called "classic" or "Greek" question. That a full discussion of the question is important, nay essential, few will doubt, but the real points of difference become so often obscured by special pleading and lost sight of in side issues, more or less irrelevant, that the ground of contention must be cleared from time to time to enable the combatants to get a view of each other. The classic question is in reality only a part of the great problem which is now, owing to the advanced condition of all learning, more than ever presented for solution to the educational world: "What shall be studied? It is impossible to

* Barnard's *German Pedagogy*, p. 16.

† Aquinas, *De Magistra*, according to M. Chastel, in *Voc. of Philos.*, p. 442.

‡ Thomas Morrison, in *Barnard's Object Teaching*, p. 301.

§ Mansel, *Philos. of Consciousness*, p. 46.

* Thomson's *Laws of Thought*.

† Cardinal Newman, *Idea of a University*, p. 100, quoted by Hoose.

* Stanley's *Life*, vol. I., p. 127.

study all. What shall be discarded?" With our neighbours in the United States the fated victim seems likely to be the Greek. Many persons prominent in educational matters claim to have suffered grievous things in their experience of that language; its usefulness has gone; it is viewed on the one hand as too trifling, on the other as too difficult for minds of nineteenth century calibre, and it must go by the board. Hence they discuss the matter under the name of the "Greek" question. This is fallacious. The struggle for survival at the present moment may be, and probably is, between Greek, as a subject of study, and other learning taken collectively, but there is absolutely no argument against Greek, or in favor of Greek, as a discipline, which does not apply to other linguistic research. The object of this paper is not to discuss the main question of the value of this or that branch of learning; hence let it suffice to point out here that it is impossible to divide languages into living and dead, and that the acquisition of a language calls forth the same mental powers, whether that language be Greek, or Hebrew, or French, or Malay. It is a somewhat fairer statement of the question at issue to call it the "classic" question, understanding by *classics* the Latin and Greek, but the title is still defective. It is not Greek or Latin, or both under the name of classics, which are on their defence, but, as will appear when the struggle for existence grows more desperate, it is the whole range of languages used in school as a means for mental or moral discipline, or as an end for mental information. The strife is not between Greek or classics and other learning, but between *linguistic study* and other learning.

Here is another of the by-ways of error into which the discussion of the subject is apt to stray. In a recent editorial of a leading Canadian daily was the following: "The discussion of the value of Greek and Latin as educating influences tells more and more as it goes on against the theory that a liberal education, a fine culture and keen, critical tastes cannot be acquired without spending years in the mastery of the intricacies and constructions of the languages of Homer and Virgil. . . . The average Canadian boy has not the time at his disposal, even if he has the inclination and ability, necessary to acquiring any useful knowledge of these languages." The emphasis in the above extracts rests decidedly upon the question of time, while the assumption is that in classical or other linguistic study, for they must be held to be one, it is only after a long period of time has elapsed, only after the "intricacies" of the language have been mastered, that the student begins to gather any fruit of his diligence at all commensurate with the effort expended. In other words, that a boy might study Latin five years and have

a due reward for his work, but that if he dropped the subject after three years his study would have been in vain. Is this so, or can it be proved? At any rate no such remarkable assertion can be accepted without clear proof. Will any one be bold enough to make a similar assertion with regard to the study of mathematics or chemistry? Will any one advise a boy not to begin these studies because he is not likely to achieve the success of a Newton or a Faraday? Until the contrary is proved, not asserted, we must still hold that in language, just as in other branches of learning, it is not the ground covered, but the quality of the work done, that avails, attainment is not only the goal, but discipline, it is not achievement absolute, but relative, which must be the measure of profit.

Prof. Tyndall in a recent utterance asks if England "has not a right to expect from her institutions a culture which shall embrace something more than declension and conjugation?" This kind of sneer is very common among those who write against the classics. We need go no further than the editorial above referred to, to find the following fallacy, which states pretty well a typical so-called argument against linguistic study: "A smattering of knowledge is of no use; gerund-grinding, parsing, bungling and inaccurate translating have no educative value worth mentioning, they simply give a distaste and horror of literature and languages." This is intended to lead up to the *ergo* that the classics had better be set aside. Does it not really afford a good example of what logicians call *non sequitur*? If those who advance this "argument" mean by "a smattering of knowledge" a small quantity of knowledge, which is not real but fancied, few will disagree in applying the remark to any sort of learning. The term "gerund-grinding" was one much used if not invented by Carlyle, but which would need to be defined more closely. "Inaccurate translations" in language or "bungling" in any business, even in cobbling or plumbing, will find few to defend them. A humble word might, however, be said in favor of "parsing" if properly gone about. But suppose that we grant it all, what then? The "argument" is intended to be a strong one in proof of the utter futility of Greek and Latin as a general means for discipline, and the writer evidently thought, with that clear logical insight characteristic of those who have finished with antiquated learning, that he had settled the matter finally, and that no more is to be said. But taking the "argument" in its widest sense and granting all it asks for, it simply proves that a *false method* of teaching language is useless, and does not touch the main question of the claims of linguistic study, which are supposed to be badly damaged, if not wholly destroyed, by such heavy logical shot.

In a recent number of the *Popular Science*

Monthly, a magazine, by the way, rather celebrated for *ex parte* representation of this question, there is a rather vigorous article on the text "elevation of phrases above things." The distinction drawn by the writer is between *literary education* and the study of natural science. It would certainly be fairer, if it were possible here, to give the whole article, but the drift of it will be sufficiently indicated by an extract or two. "Literary education is carried on in the world of *words*; scientific education, truly such, goes on in the world of *things*. . . . Literature as a method, stops with the words, makes the things for which they stand of little account, and is occupied with the arts of expression. . . . Science relegates words to the subordinate place, and it clinches the case by affirming that knowledge of things is the true test of intelligence, and that the mere knowledge of words is but highly respectable ignorance." In other words, A. B., who is studying the anatomy of the skull turned up by the grave-digger in Hamlet, is on the high road to mental development and enlightened intelligence, whilst C. D., who reads and studies the drama of Hamlet, and tries to understand Hamlet's character and the inner workings of his mind and feelings, is pursuing a way which conducts only to highly respectable ignorance. We should be prepared to expect from minds exhilarated by all the distinguished success which has crowned the efforts of scientific research, a strong representation of the claims of scientific study, but we are not prepared to accept such a gross mis-statement of the subject matter of literature. In a certain sense words may be the subject matter of scientific investigation, but from a literary point of view they are not solely or even mainly so. Is not the action of the human mind something real? Are not human loves and hates, pleasures and pains, character, etc., not only realities, but *things*, so difficult of comprehension indeed, so varied and so complex in their relations, so essential for knowledge and "for conduct," that the strongest mind may find in their study, in and through literature, both development and information? True, they are not things which may be put under the microscope or anatomized by the scalpel, but things they are and will remain so long as human nature remains. Such is the proper subject matter of literary study. The words are the mere symbols used in dealing with the realities which are behind; from the very nature of words they can be nothing more.

The question of what shall be studied still remains. It was not the object of this paper to discuss it, but merely to indicate some of the ways in which those who undertake to do so may avoid the root of the matter. It is a question so complex and at the same time so many-sided that the broadest and most candid discussion will in the end alone discover the truth.

W. H. FRASER.

TORONTO:

THURSDAY, APRIL 23, 1885.

OUR MOTHER TONGUE.

We plead for the study,—the greater, more particular, more persistent study—of our mother tongue,—in public schools, in high schools, in colleges. We are aware of the increased attention given to the study of "English" for some years past, in all our educational institutions. But we are not satisfied; nor, do we think, is any one, who watches the progress of educational work in our province, and has its success at heart.

The study of our mother tongue varies with the grade of class taught; but it should grow broader and deeper with each step in the ascending progress of the pupil. Much is to be said of high school work and college work in this respect; and we hope to treat of these in future: but we wish, just now, to speak of public school work.

In our issue of February 26, we laid down the proposition (not by any means a new one) that a public school curriculum should provide, mainly and before everything else, for the study of (1) reading, (2) writing, (3) arithmetic, (4) "language, as a means of expressing thoughts correctly, both in speech and in writing." It will be seen that to "our mother tongue" belong three of these four divisions.

In writing, the main thing to be looked for is the acquisition of a plain, round hand, entirely free from ornament. (We do not object to the angular hand for girls; it is, we think, in this country, and in England, generally preferred.) But all that we shall now say concerning penmanship is, that in the study of language, as of any other subject, writing should be largely employed by the pupil, and that his best effort—his plainest, carefullest, clearest—should always be insisted upon. We are of the opinion that with all the "modern improvements" in the teaching of penmanship, the writing of the average pupil of to-day is not so good as was that of the average pupil of twenty years ago. There are many reasons for this; but the main one is, that in the various written exercises which now occupy so large a portion of the pupil's time, the work is "scamped"; hurried writing, bad arrangement, careless folding, incorrect spelling, being so much the rule that so far from

these exercises being a training for good, they in reality habituate the pupil in a vicious and deplorable method of doing his work.

Upon reading, scarcely too much stress can be laid. No subject should be held in higher honor. Of school employments, to none should be given more attention than to practice in reading. Pupils should be encouraged to read for themselves in other books than their regular "readers," both in school and out of it. Not alone in the higher classes, but in all, even the very lowest. The little story books, and prettily illustrated texts, which are now found in almost every household, should not be forbidden in school. The smaller children should be encouraged to read dainty little stories and rhymes. They should be induced to commit them to memory. They should be asked to read them before their classmates. In every class in school, the encouragement of outside, individual, spontaneous reading, should be a duty of the teacher. Short poems and tales, having power to interest, conveying beautiful sentiments, and couched in pure and simple language, should be sought out by the teacher for his pupils. When once an interest in such reading is aroused, the pupils will bring selections of their own finding to the teacher for his opinion. No better employment of occasional Friday afternoons can be found than the reading of suitable selections before the assembled division or school, as the case may be, by representatives of the different classes, from the lowest to the highest. Children learn to read well, largely from imitation of their fellows—rather than from the direct instruction of their teacher, or from copying his manner of reading. At first the better readers should be chosen for this special semi-voluntary work. Then, as their example stimulates the rest, others next best to them should be chosen; and so on down until all have been chosen.

The encouragement of voluntary reading should be, as we have said, a principal duty of the teacher. Wherever a school library exists (and every school should have one) the pupils should be directed by the teacher in their choice of books. The teacher should talk about a book, or a portion of it, with the members of his class, reading parts of it, illustrating it by his own experience or knowledge, until he has excited an interest in it. Then he should encourage the reading of it, or a portion of

it, by his pupils, and then subsequently, by conversation or other exercise, should elicit from them expressions of their opinions concerning it, or statements of what they have learned from it.

Where no library exists, a very excellent means of securing voluntary reading is at hand everywhere in the newspaper. Unfortunately, much that is written in newspapers, now-a-days, especially concerning and about child-life, is not only not good,—it is positively pernicious. But, in spite of its defects, the newspaper is one of the most powerful educating instruments we possess. Young people should be encouraged to read the newspaper; and portions of the paper, especially in these troublous times, may be very usefully read every day before the whole school. The duty of doing this should be allotted to the pupils in turn. Timely and well thought-out remarks by the teacher, with judicious questioning and conversation, the free use of maps, and a systematic procedure both in respect of the matter read and of reviews upon it, will cause this portion of the school time to be most beneficially spent.

To return to the principles which underlie the teaching of reading, it must be said that, like every art, reading requires incessant practice for its acquisition; but the practice must be pursued under the watchful care of a wise and skilful master. It should not be forgotten that in the earlier part of a child's course at school, reading is an end in itself; later on, it becomes a means towards the attainment of many other ends. But there is no time when a line of demarcation can be drawn to separate the study of reading into two portions as thus implied. At first the mere ability to recognize word signs is sought to be imparted. Then must follow the power of understanding these word signs, and the substitution of equivalents for them. Thus far reading is pursued as an end in itself. Finally, by means of the knowledge thus acquired of words and sentences, is attained the ability to acquire any further knowledge which written speech affords. In this respect reading is no longer an end in itself.

The final stage, however, is reached only by an imperceptible evolution from the earlier.

It will be seen then that in the early portion of a child's career, that which is interesting to him, that which arouses his imagination and provokes his curiosity, is

what he should read. There are really at this time, but two things of importance to be regarded:—The extension of the child's vocabulary, and the development in him of the power to recognize the word signs which represent this vocabulary. Hence simple sentences which are descriptive of things and actions, either within the child's experience or possible to his imagination, are alone admissible. But to this primary work must very soon be added another: the acquisition by the child of the knowledge of the convertibility of word signs, phrases, and sentences, and the power to make this conversion. For example, a child reads in his book:

" Oft I had heard of Lucy Gray :
And, when I crossed the wild,
I chanced to see at break of day,
The solitary child."—

in which the mode of expression is purely poetic. At the first reading of it, a little boy or girl, of ten or eleven years, would scarcely comprehend its meaning at all, although able to utter every word correctly. The ability to recognize word symbols has been acquired, but the higher ability of being able instantaneously to conjoin with these symbols the correlative ideas, and to gather from the separate ideas the several complete ideas which the stanza expresses, has not been acquired. It is here that the tact and judgment of the teacher must be displayed. Without at all destroying for the children the beauty of the verse, or dulling the impression which they gather from it at their first reading, a few judicious questions from him help them to form clear ideas of every word and phrase in the whole stanza. No fixed order can be laid down for this sort of work. Sometimes the whole poem may first be read without comment, either by the teacher or one of the pupils; sometimes only a verse or two; but, in any case, the teacher should not rest satisfied until the pupils are able quickly to substitute other words and phrases of their own for those in the verse. The child's phraseology must be retained. Its very idiomaticalness is a sign of a real grasp by the child of the ideas it expresses.

There is no stage of advancement where this sort of study of language becomes unnecessary. It is perhaps not so necessary in prose; but in the compact phraseology of earlier English writers, and in the labored ornateness of those of the eighteenth century, and, one may say, al-

ways in poetry, there is scope for this analytic procedure. Indeed we know of no height of attainment to which such exercises would be useless labor. As for ourselves, we confess most freely, that, ever and again, a verse that we had read and re-read for years, has disclosed a thereto hidden meaning, by reason of closer scrutiny and the test of word or phrase substitution.

The very fact of its being our vernacular is a great hindrance to the mastery of our mother tongue. So rapidly do we recognize, and utter (either vocally or mentally) the words of phrases and sentences, that we fail to apprehend the ideas which are clothed by these words and phrases and sentences. It is on this account that a student has a much more vivid realization of a Greek or Latin poem when once he has read it than he has of an English poem. The process of translation is so slow, construing so compels the mind to regard the logical procession of ideas, that but little is lost. If, with no more aid than a judicious teacher would give, the pupil has done his translation well, he gains from his reading almost the full measure of the impression his mind is capable of receiving. But it is not so in English. To obtain an equally real impression almost every word, every phrase, every sentence, has to be caught and held, as it were, until it has yielded up its full meaning.

This work of word and phrase examination can be pursued without causing the slightest distaste for reading. Every question propounded by a skillful teacher, who loves his work, and who loves literature, but serves to brighten the wit of his pupils, and to whet their intellectual appetite.

One feature of this work is somewhat anomalous. It can hardly be done by means of written or printed questioning. Its value depends almost entirely upon the tact and judgment, the logical acuteness, and variety of resource at the command of the teacher. Hence its efficiency can be little tested by examination papers. But none the less is it of real value as a preparation for any examination in which the main object is to test the pupil's understanding and appreciation of what he has read.

We have but touched upon one or two aspects of the great work of teaching our mother tongue. We shall have much to say in future papers.

BOOK REVIEW.

Advanced Course of Composition and Rhetoric: A Series of Practical Lessons on the Origin, History and Peculiarities of the English Language, Punctuation, Taste, the Pleasures of the Imagination, Figures, Style and its Essential Properties, Criticism, and the Various Departments of Prose and Poetical Composition; Illustrated with copious Exercises. By G. P. Quackenbos, LL.D.; revised and corrected by John D. Quackenbos, A.M., M.D., adjunct professor of rhetoric and English literature, Columbia College. New York: D. Appleton & Company, 1885. 453 pp.

This is a new and revised edition of a text-book that has been for more than thirty years a favorite with the teaching profession. The present editor's work is the result of fourteen years experience of the book with his own classes. An old and well-known manual, it needs little introduction by us. To those who do not yet know it, it will be well described by its title, which we quote in full. Personally we can speak very highly of it, having used it in our classes. Many teachers, probably, will prefer to use parts of it, rather than to use it as a whole. Its completeness, however, makes it very valuable as a work of reference. On account of its numerous exercises it is thoroughly practical. The teacher will find something in it to help him in every class he has to do with from the very lowest to the very highest. The parts on *Rhetoric* and *Prose Composition* are especially full, and are well suited to high school work. We know of no other single book that, in these days, when so much attention is paid to the study of English, we can more confidently recommend, for the purposes for which such a book would be used, as being full, exact, scholarly and practical.

MR. JOHN BOYLE O'REILLY thinks that a great many English novels are pernicious and destructive of the democracy of Americans who read them.

THERE will be seventeen volumes in the Ashburton edition of Carlyle's works, which Lippincott is bringing out. The first volume, containing part of the "French Revolution," has just appeared.

OSCAR WILDE, says the *New York Tribune* writes to "our James" (Whistler) about the latter's recent lecture: "Be warned in time, James: and remain, as I do, incomprehensible. To be great is to be misunderstood."

A PRIZE medal for the best Latin essay was founded at Harrow School in 1826, by Sir Robert Peel. This year it has been awarded to William Peel, eldest son of the Speaker of the Commons and grandson of Sir Robert.

LADY DUFFERIN has ventured upon an interesting innovation. The usual announcement of an "at home" at Government House was varied recently by the intimation that "those having children were requested to bring them."

PROFESSORS E. T. Bartlett and John P. Peters, of Philadelphia, are editing and arranging the *Scriptures* for young readers, with the purpose of presenting the sacred writings to them in as intelligible and instructive a form as may be practicable. They will be comprised in three volumes.

Special Papers.

ENGLISH LITERATURE IN THE PUBLIC SCHOOL.

III.

THE words:—"The teacher must decide what he wishes to teach," occurring in the last article seem to merit a little consideration. The teacher of literature can direct attention only to the thought and the language. The words must be studied more or less to ascertain the thought which may then be considered *generally*, after which some attention may be paid to the language or "dress of the thought" with respect to its suitability and grace. This plan may be followed again and again—more and more completely. It will be found that the alternate study of thought and expression will be very profitable. An increased appreciation of the thought helps to a more exact knowledge of the meaning of the words and their value as a work of art, and *vice versa*; just as intelligent and faithful Bible study in this generation will result in the formation or extension of a Christian consciousness that will enable the next generation to understand and appreciate the truth better than it is possible for us to do. In most public schools much time will be consumed in getting the meaning—finding the diamond—but it is surprising to what extent little children are able to appreciate noble thought—the diamond's natural beauty—and it is more surprising with what correctness they will criticize the words—the cutting and setting of the diamond—as to suitability and arrangement. It is a saddening fact that to many the age of childhood is the best, the only time when they are capable of being inspired by pure literature. In his study the student must (1) find the diamond, (2) estimate its value, and (3) decide how its beauties will be best enhanced by patient art.

SIR JOHN FRANKLIN.

This extract, like all others, affords an opportunity of teaching different lessons. The lesson to be taught must decide the way of teaching. When the pupils open their books at this piece one of the first things that is noticed is the difference in appearance between it and the preceding or the following extract. A good chance is offered to give a lesson on the difference between *prose* and *verse*. The class might be asked to point out all the points of difference between "Sir John Franklin" and "The Hudson Bay Company;" a pupil might be deputed to write on the blackboard the differences as enumerated. Quick tongues will point out differences that quicker eyes have detected, and after a few minutes something like this will appear on the board:

This piece differs from the rest:

1. By being divided into six equal parts of four lines.
2. By having a capital at beginning of every line.
3. By having a stop at end of every line.
4. By having each line begin at same distance from edge of book.
5. By having the ends of some lines sound something alike.
6. By being sing-song or musical.

The class may now be asked whether this piece is *prose* or *poetry*. If they do not know, tell them. Now ask them if every piece of *poetry* must have exactly 24 lines. Tell them to look at other pieces in the book. Must there be six stanzas? Must every stanza contain 4 lines? Does a stanza ever consist of 5 lines? 6? 8? 9? 10? Find examples in Reader. What is general number of lines in stanza? When they are able to answer these questions they may decide as to whether (2) the capital letter is always used, and a *why?* will set them to thinking and do them good even if you have to tell them. You will ask them again, (3) are stops always found at the ends of the lines? Are they generally? You may, if it seems best, tell them how we can tell what poems Shakespeare wrote first by seeing whether there are many or few stops at the end of the lines. (4) Why do the lines begin one under the other? are they always printed in this way? (5) Do all the lines in each stanza rhyme with one another? In what other ways may they rhyme? Is there any poetry in the book without rhyme? Which is the harder to write, poetry with rhyme or that without? Does any one know what Milton says about rhyme? Can any other rhyme be found in this piece besides that at end of lines? (6) Is poetry always musical? Ask the class to read any piece of verse in the book together; they will soon tell you that it is more or less *sing-song*. Ask them to read the first stanza of this extract simultaneously and individually. Tell them to keep time with their feet as you read it. Ask them how many beats there are to each line, how many syllables to each beat, and which syllable is accented. In summing up the result of their work ask what poetry *must* have, what it *generally* has. Tell them that after a little they will see many more differences between poetry and prose if they will only look for them.

To exemplify a mode of teaching the whole piece would take too much time and space. The first stanza alone will therefore be particularly considered, and information concerning the remaining stanzas will be afforded to be used as the teacher sees fit.

Most students in the Fourth Reader will have no difficulty in understanding the meaning of each of the words in the first stanza. They should be asked the meanings of the most difficult. If they do not know they should, in the class, use their dictionaries

of which each student should have one of his own.

It will be easy to see whether the general meaning of the piece is understood or not by the answers received to such questions as: "What was the time of year?" "What part of the world is spoken of?" "Where is the writer supposed to be?" The circumstances should be pictured. See account of Franklin.

What is meant by Polar clouds? Would it be well to use *minute* instead of *moment*? Why not? Why is *more* better than *longer*? Would it be an improvement to remove dashes before and after "a moment and no more," and insert *for* before the phrase? Why not? Why is abruptness appropriate here? Why extreme brevity? Would it be better to change order of second line? Why does poetry often prefer an unusual order in arrangement of words? To add force and variety. Why is the word *band* more appropriate than *number*? What other words come from same root as *band*? *Bind, bond, bundle, bound*. What was *well-ordered*? *Braced for their closing parts, i. e., supported (by gallantry, order, calmness and bravery) for the last scenes of their life.*

HINTS.

Verse 5.—Ask for other inversions in this piece. Let the pupil see that they are characteristic of poetry; *dazzling blink*, a sudden brightness that for a moment takes away the power of sight.

Verse 6.—*No pause*. Would it be better to insert, *There is? The strong can but strive on!* How hopeless!

Verse 7.—*Dotted*. A good word?

Verse 9.—Even the deer take notice of their misery. *Strand*. Show the likeness of its meaning with that of *strand* in "a strand of thread."

Verse 10.—*Loaded gun, sleeping band*, a forcible contrast.

Verse 11.—The sound of the verse seems to represent a drunken man struggling on his way by fits and starts.

Verse 12.—*Wotting*. Is this word correctly used? Do people freezing feel pangs? Yes, until they are benumbed.

Verse 13.—*The River of their hope*. Name it? *Nigh*. Would this word be used in prose?

Verse 14.—*Snow-blind way*. Explain. What other epithet has been applied to *way*. Compare the two. Do blind people *grope*.

Verse 15.—*Thank God!* An abrupt change of thought. *Brave?* Was Franklin brave? See note.

Verse 16.—Is it common to compare life to a race? Why is it a good comparison?

Verse 17.—*Snow-clouds white*. Note these words and the four following? Have the students been out in a severe storm of frosty snow?

Verse 18.—Was Franklin's way to heaven

a shuddering one? Would it have been if he had been in this band?

Verses 19, 20.—How glad we are to learn that the brave hero who encountered so much pain in his two first expeditions, finished his life in the midst of comfort at a time when he had good hopes of success! "Sir John Franklin,"—*Beesley. Hope upon his lip.* Hopeful words because apparently near a successful termination of the expedition.

Verses 21.—"He (Franklin) was absolutely loyal to his friends, so that men like Bach and Richardson would have given their lives for him."

V'er. A prose word? Find similar words in this extract.

T'wen. How taken? By death or pain.

Verses 23, 24.—A fitting crown to lives of labor and toil, a reward that should inspire. In proportion to the hardness of our life in the cause of right will be the happiness of our eternity.

Enduring. Notice the double reference to life on earth and life in heaven.

Devoted. Faithful to duty.

Heart. Is the real heart meant?

NOTES.

Sir John Franklin made three expeditions, all unsuccessful, to the Polar regions. The first was to the Coppermine River, with the object of "determining the latitude and longitude of the northern coast of North America, and the trending of that coast from the mouth of the Coppermine River to the eastern extremity of that continent." In this expedition he endured terrible hardships and had to give up, but was sent out again in 1825 to examine the coast between the mouth of Mackenzie and Coppermine. Its result was the complete survey of the coast from Point Turnagain to Icy Cape with the exception of 150 miles. His third expedition was undertaken in 1845 with the instructions to discover a passage from the Atlantic to the Pacific. He had two vessels—the *Erebus* and the *Terror*—with crews of 138 men. He set out and when, in 1847, two years had elapsed without news having been received from him, expedition after expedition began to be sent out. The British Government offered a reward of \$100,000 to any one who should rescue the crews. Forty expeditions were sent out in 12 years. From the discoveries of these it has been ascertained that at first all went well with the expedition which was unusually successful. The ships were at last, however, unable to proceed further and while a persistent fight was being made against the ice, Franklin died, June 11, 1847. After his death the ships were hemmed in by ice and at last it was determined to abandon the ships and make for the Great Fish River along the coast of King William's Island. One hundred and five men started from the ships. All perished. It is uncertain, however, whether all left at once and whether some, discouraged

by the insurmountable difficulties of their journey, did not return to die on ship-board. The skeletons since found along the line of march prove that this extract is correct in the picture it affords of their terrible struggle to reach the Great Fish River—to die. Loaded guns have been found along the route. It is probable that in addition to the terrible pangs occasioned by cold and hunger the sailors had to contend with Esquimaux that profited from the weakness of the stragglers.

Arctic exploration has had three avenues. The North-West Passage, the North-East Passage, the North Polar Passage. Only the first two passages have, as yet, been discovered.

"Very much of the interest felt in Franklin's fate was due to his personal character." "As a life of failures had made him famous, so his death made him immortal." His persistency may be inferred from the fact that when the First Lord of the Admiralty hinted at his being too old to undertake another expedition, Franklin replied: "My Lord, I am only fifty-nine." Parry, in recommending him, said: "My Lord, he is the best man for the place I know, and if you don't let him go he will, I am certain, die of disappointment.—*Beesley.*"

W. P. Houston

The Public School.

TALK ON THE USE OF THE BLACKBOARD.

MISS ELLEN STRADER.

"EYE-TEACHING," though seemingly a departure from the old ways, dates back to an early time. The hand writing on the wall conveyed God's warning to the king of Babylon much more convincingly than merely spoken words would have done. Again we have given in Ezekiel a simple blackboard lesson in the "Type of Jerusalem's Siege." "'Tis said take a tile, and lay it before thee and portray upon it the city, even Jerusalem and lay siege to it," etc. "This shall be a sign to the house of Israel." Thus we see that even God himself used this method of instruction. The Bible is full of it. Indeed, teachers of all ages have used it, and to-day it is acknowledged to be the best of all methods. Look at our magazines and newspapers, they are full of illustrations. Note the beautiful picture advertisements. Listen to one of the chalk-talks given by Mrs. Balch, of the W. C. T. U., with her own simple illustrations in crayon. I have heard many good temperance lectures, but never one that left as lasting impressions as one given by Mrs. Balch illustrated by her chalk pictures.

One of the greatest reforms in building school houses is the wise and judicious plan

of devoting all the space possible to blackboards. A school room without a blackboard is as useless as a kitchen without a cook stove, and especially so is a primary room.

The child on entering school has developed two powers, perception and imagination: hence, the teacher must have at command such material as will enable him to appeal to these two faculties. This he finds adequate in the blackboard and crayon, and no teacher should attempt to teach a primary grade who cannot make upon the board a fair representation of any object he may wish. Telling a thing is an important part in the process of imparting knowledge, and you may be able to leave an impression which in time will ripen into truth, but seeing is believing. I may describe to a child an object as well as possible, but let me make the same on the board and will you doubt for a moment which process has left the greater impression on the mind? Again, take an intermediate grade. A lesson is assigned in arithmetic and the class dismissed with merely a word of explanation. The class is called and the teacher finds on inquiry that the study hour has been spent in ascertaining what was to be done. Had three or five minutes been spent by the teacher at the board in explanation, the hour for study would have been one of profit and pleasure, and the recitation one of delight to the teacher.

Take the spelling class; a word is missed and you recognize it as one that is frequently missed; step to the board, write it first connectedly, then in syllables; call attention to the difficult part, and before leaving it, write it where it may remain on the board, adding each day other difficult words. At the end of the week review, erase, and on Monday begin again. In teaching writing, whether to beginners or older pupils, this board work in the hands of the teacher is especially profitable; so also in music and drawing. In fact in each recitation, we especially recommend the use of the blackboard to illustrate, to point out errors, to show correct forms; and in general to lead the pupil to a clear conception of what he is saying. The chart is no longer a necessity. A skilful teacher can place upon the board a new lesson each day, far more instructive and one that will gain the attention of the little ones much more readily than is found upon the chart. And how the little eyes brighten as on entering the room each day they see something new. It may be a little story about something with which they are familiar; and as they advance, the days of the week, the months of the year, the names of trees, birds and flowers, etc. Indeed, there is no limit to this source of information from which the teacher may draw, and it is truly wonderful how much a child may learn in one short year under such instruction.—*Ind. Ed. Weekly.*

(To be continued.)

Practical Art.

PERSPECTIVE.

NINTH PAPER.

Problem 28.—Height, 8'. Distance, 19'. Scale, 1/96. Show in perspective a triangle the sides of which are 6', 7', and 8', lying on the ground with one corner 6' to the left and 2' back.—Fig. 17.

The sides of the triangle may be at any angle with the PP, and either of the angles may be the one the position of which is given. It would be well to place the triangle in different positions until the method of representing it is thoroughly understood. First find the point *a*, and draw the plan of the triangle *abc*; from the angles draw lines perpendicular to the GL, meeting it in *d*, *e* and *f*, and from these draw lines to CV. With the points *d*, *e* and *f* as centres, using as

radius in each case the distance of each point from the angle of the triangle vertically beneath it, that is, *db*, *ea* and *fc*, draw arcs cutting GL in *g*, *h* and *i*, and from these points draw lines to the proper measuring point to cut the lines drawn to CV, in *a'*, *b'* and *c'*. Join these and thus obtain the triangle required. The arc with the centre *f* is drawn to the left instead of the right—because it would otherwise have interfered slightly with the working of the next problem.

Problem 29.—Show in perspective a triangular prism 6' 6" high, its sides being 8' wide, having one vertical edge 8' to the right and 2' back, and one face parallel with PP. Upon it place a triangular pyramid 6' high.—Fig. 17.

First find the point *l*, 8' to the right and 2' back, and through it draw a line parallel with GL. On this line at *l*, construct an angle of 60° and make *ln* 5' long; on *ln* construct the equilateral triangle *lmn*. The reason for doing this is evident. If one side of the prism is parallel with the PP the others must each form an angle of 60° with it. Find the centre of the triangle, *o*, and from *l*, *m*, *n* and *o* draw lines perpendicular to GL to *p*, *k* and *r*, and proceed as in last problem to find the

base of the prism, *l' m' n'*. At *k* and *p* erect perpendiculars 6' 6" high, to find the height of the corners over *l'* and *n'*. As the line *kl'*, produced to CV, will pass through *o'*, we can use *k* for the purpose of measuring the height of the pyramid. Make *ks* 12' 6" high and draw *scv*. Where it cuts a perpendicular from *o'* will give the apex of the pyramid.

Problem 30.—Show in perspective a hexagon of 4' side lying on the ground, one corner touching PP in a point 6' to the left, and

and carry these points towards RMP to *7'* and *8'*; *9'* and *10'* are found by horizontal lines from *8'* and *7'*. At *n* erect a perpendicular 7' high, to *o*, and join *o* CV; *p* will be top of pyramid. Join it with the corners of the base.

Problem 32.—Height, 8'. Distance, 19'. Scale, 1/96.

Show in perspective an equilateral triangle of 6' side standing upright on the ground, its plane being perpendicular to PP and near corner of base being 6' to the left and 3' back.—Fig. 19.

First find *e*, 6' to the left and place the elevation of the triangle 3' to the left of this, that is, make *ec* 3', *cb* 6', and on *cb* construct the triangle *abc*. At *e* erect a perpendicular, and from *a* draw *ak*, making *ek* equal to *da*. Join *e* CV and *k* CV. Using *e* as a centre carry the points *c*, *d* and *b* to the right of *e* by means of arcs, and from *f*, *g* and *h* draw lines towards LMP to cut

e CV; erect a perpendicular from the central point to *a'*, and join *a'b'* and *a'c'*. Another and simpler way to find *b'* and *c'* is to draw lines directly from *b* and *c* in the elevation, towards RMP to cut *e* CV.

Problem 33.—Show in perspective a hexagon of 4' side when perpendicular to ground plane and PP, two sides parallel with ground plane, and nearest corner to PP being 8' to the right and 2' back.—Fig. 19.

Find a point *8'* to the right, and from it draw a perpendicular and a line to CV. In order to place the elevation in the proper position we must know that when a hexagon is in this position, a perpendicular dropped from one corner will touch the ground in a point

distant from the nearer corner on the ground, half the length of the side; so we measure to the right of the point first found, *2'*, the distance of the point whose position is given, back from the PP, to *l*, and then *2'* to the right of this, to *l*. Make *l, 2, 4'* long and on it construct the hexagon *1, 2, 3, 4, 5, 6*, carrying by means of horizontal lines the height of centre and top from the ground, to *n'* and *o'* on the perpendicular line already drawn. From *l, 1, 2* and *m* draw lines to

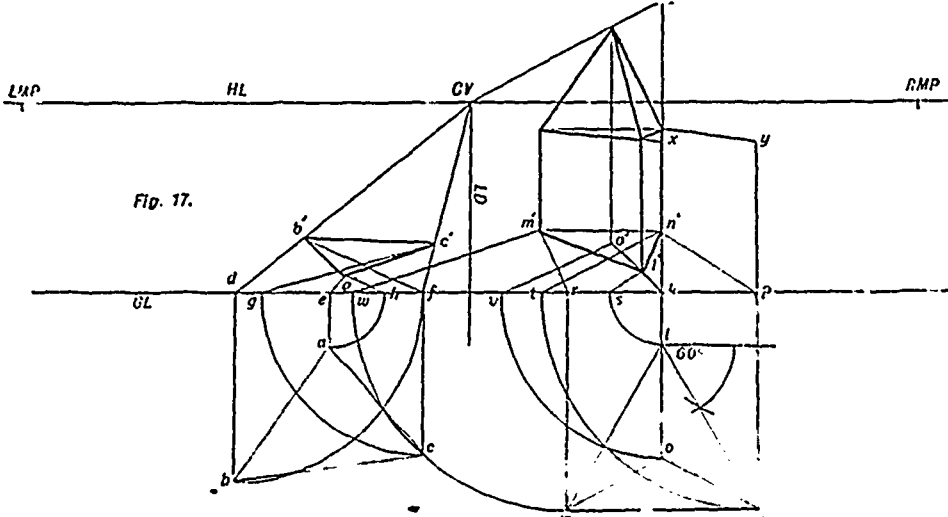


Fig. 17.

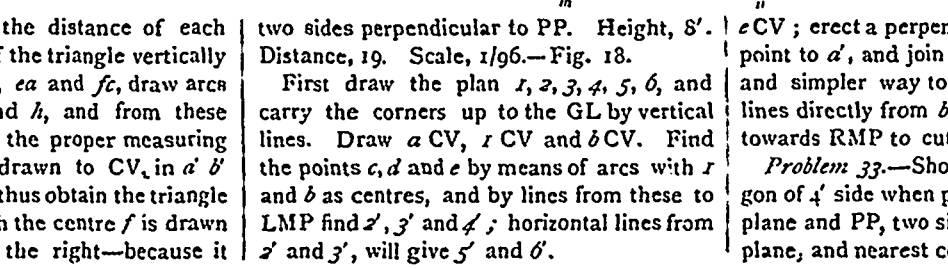
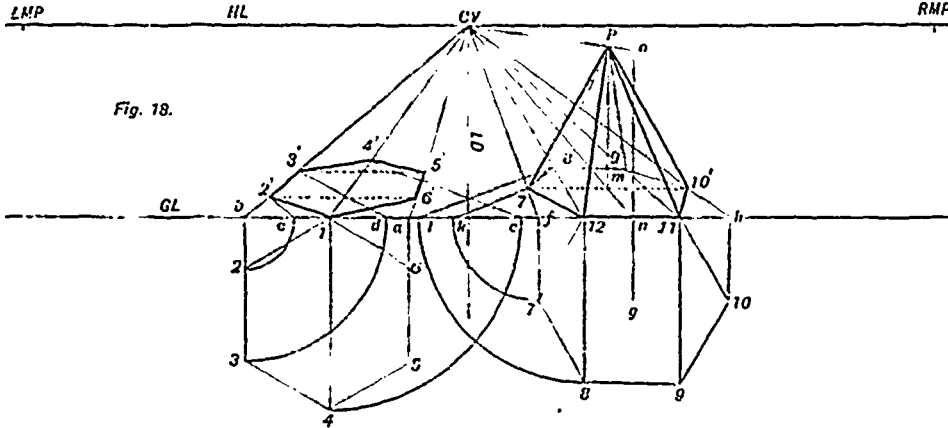


Fig. 18.



Problem 31.—Show the hexagon of last problem when two sides are parallel with PP, one of them touching it, and near corner is 5' to the right. Upon it place a pyramid 7' high.—Fig. 18.

First find the point *12*. Make *12, 11, 4'* long. On this line construct the hexagon, *7, 8, 9, 10, 11, 12* and find its centre *g*. Carry *7, 8, 9, 10* and *g* up to GL to *f, 12, n, 11*, and *h*, and from these draw lines to CV. Draw the arcs from centres *f* and *12* to find *k* and *l*

Educational Intelligence.

POPULAR EDUCATION IN SWITZERLAND.

THE small Republic of the Alps has published in C. Grot's seven volumes of Statistics a record of the educational progress made since Professor Kronlein's "Statistics of Public Instruction in Switzerland in 1871" took the first place among such works at the Vienna Exposition of 1873. From these two works I learn that the Federal Constitution of 1874 made the public schools free and compulsory. But the administration of the schools is left to the cantons, and the right of supervision and inspection which the Federal Government expressly reserved is practically nullified, for want of a Federal official charged with this duty. In 1882 an effort was made to create such a commissioner, but the project, approved by the Federal Assembly, was voted down by the people. The States-rights element voted against a measure tending toward centralization, and the conservative-clerical element opposed the appointment of an officer whose duty it would be to expose the bad management of the schools in cantons where the clergy rule, and compulsory education had remained a dead letter. States-rights prejudices are still deeply rooted among the people, and the commissioner was vetoed by popular vote on November 26, 1882.

Nevertheless, the Federal Government can and does indirectly ascertain the grade of educational activity of the cantons through its examinations of recruits. This examination is required of every such youth as has not a school certificate of first or second rank, and is neither deaf-mute nor imbecile. The examination is conducted by a commission of teachers appointed by the War Department, and embraces the language of the canton (French, German, or Italian, as the case may be)—a short essay being required, among other things; arithmetic (rule of three and fractions), geography, history of Switzerland, and the elements of constitutional law. Such pupils as fail to pass are obliged to attend a supplementary school. The yearly report of the recruit examinations is published by the Federal Government, and acts as a spur upon the backward cantons, since it gives full and minute particulars about canton and township. The improvement registered by these yearly Federal reports is simply astonishing. The recruit examinations were introduced in 1875. The recruits in round numbers reached in 1875, seventeen thousand; in 1876, eighteen thousand; in 1877, twenty-two thousand; and the number has varied between twenty and twenty-three thousand each year since. These figures embrace ninety per cent of the Swiss male youth of twenty years of age, and serve as a fair basis for an estimate of the status of education in general,

for the compulsory law applies to girls as well as boys, and the girls are conceded to be the more industrious.

The percentage of failures throws a flood of light upon the Swiss treatment of illiteracy. The average number of recruits fail... to pass and condemned to enter a supplementary school was for the first four years, 1875 to 1878 inclusive, 11.21 per cent. For the next four years, from 1879 to 1882 inclusive, the average had fallen to 8.3 per cent. In 1883 the number fell to 5.2 per cent. This enormous reduction of illiteracy—a reduction of one-half in eight years in the entire youth of the country, at the age of twenty years—is the more remarkable in view of the fact that the examination was made more difficult in 1879 by the introduction of "constitutional law." It is made still more remarkable by the appointment for each canton of examiners selected from the teachers of some other canton—an arrangement which effectually excludes undue leniency.

The stimulating influence of the publication of the Federal Government's annual report of the recruit examinations is strikingly shown by a comparison of the cantons which supplied the largest contingents of failures. In the four years 1875 to 1878 inclusive, the percentage was in Neuchatel, 11.1 per cent; Tessin 12 per cent; Graubunden, 13.6 per cent; Schwyz, 23.8 per cent; Bern, 14.8 per cent; Glarus, 16.5 per cent; Nidwalden, 13.6 per cent; Freyburg, 24.6 per cent; Uri, 25 per cent; Valais, 40.6 per cent; Appenzell, 47.1 per cent. In the next following four years, the percentages were, Neuchatel, 7.8; Tessin, 11.1; Graubunden, 8.4; Schwyz, 19.4; Bern, 10.2; Glarus, 7.1 (a reduction more than one-half the total number of failures); Nidwalden, 8.6; Freyburg, 20.5; Uri, 15.5; Valais, 19.6; Appenzell, 30.2. In other words, the percentage of failures was reduced in four years, in the worst cantons, thirty, forty, and even fifty per cent; while of the whole twenty-six cantons but three showed no improvement. The improvement was brought about chiefly by means of improvements in the elementary schools, by enforcement of the compulsory law, and by the creation of supplementary classes, evening and Sunday schools. Compulsory classes have been formed in the nine most backward cantons for youth between eighteen and twenty years of age, with special reference to the examinations. These classes embrace about fifty lessons, and are a direct outcome of the publication of the Federal Government's annual report of recruit examinations.

So much for this special means of indirect central supervision of popular education. A second most striking characteristic of the Swiss school system is the now almost universal enforcement of the compulsory law. This compulsion extends over six, eight, or ten years, according to the canton. Out of 485,

790 children of both sexes, of school age 474, 878, or 97.8-10 per cent, have attended elementary schools, and the remaining 2 per cent include deaf-mutes, idiots, and sick children excused before reaching the end of the period in which attendance is compulsory. Besides the compulsory attendance, there are 20,000 children under six years of age in kindergartens, 13,000 above the compulsory age in high schools, and 20,000 in secondary schools. In many places these higher grades, arranged for children from twelve to sixteen years, are compulsory. Finally, 11,000 children are in the intermediate and 10,000 in private schools; and the total sum of all these numbers, added to the 1,700 students in the Swiss universities, is something more than 550,000 young persons undergoing instruction, or one-fifth of the whole population of Switzerland.

One of the chief causes of the excellence of the Swiss schools is the permanent tenure of office of the teachers, which atones in part or the meagreness of the salaries, though the same lamentable injustice prevails in Switzerland as elsewhere in the underpayment of women as compared with men. The salaries are, however, being gradually increased. In 1871 the average salary was 1,419 francs for men teachers of elementary schools, and 901 francs for women performing precisely the same duties. In the next ten years, ending 1881, the salaries were increased 42 per cent for men, 38 per cent for women, the old injustice being thus accentuated. Elementary teachers were best paid in Basel, Zurich, and Geneva, where men receive 3,213 fr., 2,228 fr., and 2,188 fr., respectively, women receiving 1,535 fr., 1,805 fr., and 1,227 fr., yearly. But these are municipal salaries, whereas the averages quoted cover the whole of Switzerland, embracing the pay of the young peasant girl in the village infant school, as well as of the head master of the highest municipal gymnasium. Moreover, the teacher usually receives a dwelling rent free and in many cases young unmarried teachers have board and lodging (not "boarding round"), the money payment being a minor consideration. The length of tenure of office of Swiss elementary school teachers may be judged from the following averages: In 1881 the average age of such teachers was thirty-seven years for men and twenty-nine years for women. Out of more than eight thousand such teachers, less than six hundred were under twenty years of age, and but three hundred and sixty over sixty years. Very young and very old teachers are equally exceptional, and the *Average* tenure is sixteen years for men and ten for women.

The long tenure and rising salaries make the teacher's lot a desirable one, and enable the Swiss people to require and obtain a high degree of qualification for persons filling this

important office. Thus, of 8,365 teachers of elementary schools employed in 1881, 17 were university graduates, 63 were graduates of classical gymnasia, nearly 7,000 were graduates of normal schools, nearly 600 were graduates of progymnasia (equivalent to good American high schools), 376 had completed "courses of pedagogical instruction," 280 (having attended private schools) had obtained diplomas after special official examination; and out of the whole 8,365, but 85 teachers in the whole country were in possession of mere elementary school education. Thus, apart from the 80 elementary school teachers who boast university or gymnasial diplomas, nearly 7,000, or 83 per cent, have had special normal training.—*F. K. W. in The Nation.*

Departmental Regulations

ARBOR DAY.

EDUCATION DEPARTMENT,
TORONTO, April, 16, 1885.

SIR,—From reports made to me from time to time, as well as from personal observation, it appears that in the majority of cases very little attention is paid to the improvement of school grounds and premises. Notably there appears to be an almost utter absence of shade and ornamental trees, very few walks and flower-beds, and only here and there a well-kept lawn and shrubbery. I need not point out that the effect of such a state of things is necessarily injurious, not only from a sanitary point of view, but educationally. From a sanitary point of view it is well known that shrubbery absorbs the poisonous gases and effluvia too often prevalent around school houses. Educationally it needs no argument to show that the more attractive you make the school house and its surroundings, the more interest will you arouse in both parents and pupils.

Order, neatness, cleanliness, and system, should form part of every child's education, both inside and outside the school-room. The education of the school yard is in many respects quite as important as the education of the school-room. Refinement can be cultivated in the arrangement of the school grounds just as well as through books and problems.

In order thus to furnish an occasion for making a special effort for improving the school premises and planting suitable shade and ornamental trees and shrubbery, I hereby proclaim Friday, the 8th day of May, a holiday in every rural and village school, to be known as Arbor Day, subject to the approval of the trustees. The programme for the day should be somewhat as follows:—

1. Arrangements should be made during the forenoon for levelling the school grounds properly, laying out walks to the rear and front, and making such walks passable by means of gravel or plank.

2. Where the soil is suitable a few flower beds might be laid out, or a part of the ground sodded, or sowed down with lawn grass seed.

3. In the afternoon the trees selected for ornament or shade should be carefully planted in the

presence of the pupils. Soft and hard maples, elms, basswoods, walnuts, butternuts, birches, chestnuts, or other deciduous trees are preferable for purposes of shade. Spaces might be left for the evergreens, which should not be planted before the first week in June.

4. On the following Friday afternoon the teacher might spend an hour with his pupils discussing Canadian forestry and the different species of trees and shrubs to be found in Ontario, their uses, commercial value, characteristics, etc. Many excellent literary allusions might also be made in connection with this lesson. After the grounds are laid out and trees planted the teacher should see that some care was exercised in preserving them from injury. If the pupils are made partners in the improvements, and their co-operation secured in every part of the work of the day, there need be little fear they will wantonly destroy that which their own labor created.

Will you kindly communicate with trustees and teachers, and urge upon them the propriety of carrying out as far as possible the views of the Department? I shall be glad also to have a report from you as to the number of trees planted and the general result of local efforts on this our first Arbor Day.

GEO. W. ROSS,
Minister of Education.

CIRCULAR RESPECTING AMENDMENTS TO THE PUBLIC SCHOOL ACT.

SIR,—I have the honor to call your attention to the following amendments to the school law by the Public Schools Act of the recent Session of the Ontario Legislative Assembly:—

1. By sub-section 7 of section 2 it is made quite clear that a farmer's son or any person assessed for income may be elected Public School Trustee.

2. By section 9 it is provided that no territory distant more than three miles in a direct line from the school house can be included in forming any new school section.

3. By section 23 a newly-elected trustee may make the declaration of office before a Justice of the Peace.

4. When trustees exempt indigent persons from school rates, they must notify the clerk of the municipality to that effect before the first day of August.

5. The trustees of townships (in which there are township boards), cities, towns and incorporated villages must submit their accounts for audit to the municipal auditors.

6. The qualification of the trustee of a township board is the same as that of a rural school trustee.

7. Arbitrators appointed by a county council to consider an appeal from a township council may, under certain circumstances, reconsider their decision.

8. Union school sections can only be formed, altered or dissolved by arbitrators appointed by the municipalities interested and the County Inspector.

9. An appeal is allowed from the decision of the arbitrators to the county council when the union school sections lie wholly within the county, or to the Minister of Education when they lie between two or more counties.

10. The assessment of union school sections is to be equalized once in three years by the asses-

sors of the municipalities concerned, and such person as may be named by the Inspector of Public Schools.

11. The portion of a township united to a village or town can only be withdrawn in the same way as union school sections are altered.

12. Trustees in townships, cities, towns and incorporated villages may be elected by ballot at the same time as municipal councillors are elected, if required by resolution of the Board, passed before the 1st of October in any year, and such resolution, when once adopted, need not be repeated.

13. The Chairman of a Board of School Trustees (sec. 115) has only a casting vote in case of an equality of votes on any question. He has no second vote.

14. Trustees of cities, towns and incorporated villages may require the assessor to furnish them with the names of all children between the ages of 7 and 13.

15. Township councils may levy the sum of \$100 for every school section by uniform rate over the whole township, and the balance required by the trustees over the section requiring the same.

16. Parts of undivided lots are to be assessed in the section in which they are situated irrespective of the residence of the occupant.

17. Pupils attending rural schools shall be reported for the purpose of dividing the school grant as belonging to the school they attend. This does not apply to non-residents attending city, town or village schools.

18. First Class County Board Certificates are made Provincial.

19. Teachers who violate an agreement at Common Law are liable to the suspension of their certificates.

20. It is obligatory in county councils to pay the sum of \$150 to each County Model School, and \$25 to each Teachers' Institute, and also the reasonable travelling expenses of the Inspector.

21. Any teacher who does not wish to continue his contributions to the Superannuated Teachers' Fund may withdraw one-half of his contributions even if he does not retire from the profession. Contributions hereafter will be optional, but no teacher whose name has not been already entered on the books of the Department will be allowed to contribute, and all subscribers are required to pay arrears of subscription by 1st July, 1886, in order that their names may be retained on the list.

22. In rural districts the schools will close for the summer holidays on the 1st Friday in July, and re-open on the 3rd Monday in August. The other holidays remain the same as before. In cities, towns and incorporated villages, Public and High Schools also close on the 1st Friday of July, and re-open on the last Monday in August. Trustees cannot reduce the holidays as heretofore.

23. Where a Separate School is established in the same municipality as a High School, the Separate School trustees may appoint a member of the High School Board.

24. Every member of the Board of Examiners for the entrance examinations to High Schools is entitled to be paid for his services as the Board may by resolution determine. The remuneration is fixed at \$4 per day, or 75 cents for each candidate in lieu of a *per diem* allowance as may be decided by the county council.

It is intended to issue immediately a compendium of the Public and High Schools Acts, and the regulations governing Normal, Model, Public and High Schools.

This brief summary is merely intended to point out the more important amendments. Yours truly,

GEO. W. ROSS,
Minister of Education.

Toronto, March, 1885.

Examination Papers.

ADMISSION TO HIGH SCHOOLS.

(We intend for the future to insert under this heading, in chronological order, the various examination papers that have been set for admission to high schools.)

ARITHMETIC.

JULY, 1877.

1. What is the least number that must be added to five millions to make the sum exactly divisible by seven thousand and nineteen?

2. Simplify $\frac{20}{21} \left(\frac{48\frac{1}{2} + 7\frac{1}{2} - 16\frac{1}{2}}{16\frac{1}{2} \times 14\frac{1}{2} \times 12\frac{1}{2} \times 7\frac{1}{2}} \right)$.

3. Simplify $\frac{\text{£}14 \text{ 12s. 11d.} \times \text{£}10 \text{ 10s. 10d.}}{10\frac{1}{2} - 3\frac{1}{8} \times 10\text{s. } 9\text{d.}}$

4. A man bought a quantity of hay at \$15 for 20 cwt. He sold it at 85 cents per cwt., gaining \$22.25. How many cwt. did he buy?

5. $3\frac{1}{2}$ yards of cloth cost \$12.50; what will $23\frac{1}{8}$ yards cost?

6. A person having an annual income of \$1,400, spends a sum equal to \$625.50 more than he saves. Find his daily expenditure (year = 365 days).

7. A lady had in her purse just money enough to buy a certain quantity of silk; but she spent $\frac{1}{6}$ of the money in flannel, $\frac{1}{3}$ of the remainder in calico, and had then only enough money left to buy $10\frac{1}{2}$ yards of silk. How many yards of silk could she have bought at first?

8. A room 15 feet wide and 18 feet long is covered with matting at a cost of \$25; what would be the expense of covering, with the same quality of matting, a room a yard longer and a yard wider?

9. The average of four quantities is $18\frac{3}{8}$; the first is 26.207, the second 3 592, and the third is 38.06. Find the fourth.

10. A bankrupt owes to A \$1,039.84, and to B \$612.80; if A receives \$357.44 $\frac{1}{2}$, what will B receive?

NOTE.—10 marks to each question.

DECEMBER, 1877.

1. How often is 6 yds. 2 ft. contained in 25 furlongs?

2. If I buy 3 bushels, paying 5 cents for every 3 quarts, and sell at a profit of 10 cents per gallon, find the selling price of the whole.

3. Simplify:—
 $\frac{2\frac{1}{2} + \frac{1}{2} \text{ of } 12 - \frac{1}{3}}{3\frac{1}{2} \times .01 + \frac{1}{2}}$ $\times \frac{11}{3\frac{1}{2}}$ $\times \frac{18\frac{1}{2} + 5\frac{1}{2} - 22\frac{3}{8}}{1 \div (2\frac{1}{2} - \frac{1}{2} + 4)}$

4. Reduce 2 hrs. 20 min. to the decimal of $3\frac{1}{2}$ weeks.

5. A sum of money was divided among A, B, and C. A received $\frac{2}{3}$ of the sum; B, \$20 less than $\frac{1}{2}$ of what was left; and the remainder, which was $\frac{1}{3}$ of A's share was given to C. Find the sum divided.

6. Trees are planted 12 feet apart around the sides of a rectangular field (40 rods long) containing two acres. Find the number of trees.

7. I buy a farm containing 80 acres, and sell $\frac{1}{4}$ of it for $\frac{1}{2}$ of the cost of the farm; I then sell the remainder at \$60 per acre, and neither gain nor lose by the whole transaction. Find the cost of the farm.

8. Find the amount of the following bill of goods:—

- 18 $\frac{1}{2}$ cords of wood, at \$3.50 per cord.
- 16 yards of cloth, at \$1.12 $\frac{1}{2}$ per yard.
- 12 bus. 25 lbs. of wheat, at \$1.20 per bus.
- 1,400 feet of lumber, at \$12.50 per thousand.
- 65 tons 12 cwt. of coal, at \$6.30 per cwt.

JULY, 1878.

1. Define prime number, multiple of a number, highest common factor of two or more numbers, ratio between numbers. Find the prime factors of 1260.

2. The quotient is equal to six times the divisor the divisor is equal to six times the remainder, and the three together, plus 45, amount to 561, find the dividend.

3. I sell $12\frac{1}{2}$ tons of coal for \$80, which is one-seventh more than the cost, find the gain per cwt.

4. $.001 \times .001 \div .0001$.

5. A cistern is two-thirds full; one pipe runs out and two run in. The first pipe can empty it in eight hours, the second can fill it in twelve hours, and the third can fill it in sixteen hours. There is also a leak half as large as the second pipe; in how many hours will the cistern be half full?

6. Ten men can do a piece of work in twelve days. After they have worked four days, three boys join them in the work, by which means the whole is done in ten days. What part of the work is done by one boy in one day?

7. I buy a number of boxes of oranges for \$600, of which 12 boxes are unsaleable. I sell two-thirds of the remainder for \$400, and gain on them \$40. How many boxes did I buy?

8. Find the total cost of the following:—Cutting a pile of wood 80 ft. long, 6 ft. high, and 4 ft. wide, at 60c. per cord.—Digging a cellar 44 ft. long, 30 ft. wide, and 8 ft. deep, at 18c. per cubic yard.—Plastering a room 24 ft. long, 16 ft. wide, and 10 ft. high, at 15c. per square yd.—Sawing 6,800 shingles, at 40c. per 1,000.

DECEMBER, 1878.

1. (a) Define abstract number, composite number, common multiple of two or more numbers; and explain by an example the use of the numerator of a fraction.

(b) Express in figures four hundred billions, four millions, forty thousand and four units.

2. A man has 5 tons 6 cwt. of flour; after selling 25 barrels of 196 lbs. each, how many sacks, holding 150 lbs., can be filled with the remainder?

3. How many rails in a straight fence 400 rods long, 5 rails high, each rail being 10 feet long?

4. If it cost \$57.60 to carpet a room 20 feet long, with carpet $2\frac{1}{2}$ feet wide, at \$1.20 per yard, find the width of the room.

5. Find the value of $5\frac{1}{2}$ of $\frac{2}{3}$ of $2\frac{1}{2} - 1 \div (\frac{1}{2} + \frac{1}{3})$

$1 - \frac{1}{2}$ of $\left\{ \frac{1}{2} + \frac{1}{3} \text{ of } \frac{2\frac{1}{2}}{\frac{1}{2} \text{ of } 1\frac{1}{2} \times} \right\}$.

6. A pint contains 34 $\frac{1}{2}$ cubic inches; how many gallons of water will fill a cistern 4 ft. 4 in. long, 2 ft. 8 in. wide and 6 ft. 1 $\frac{1}{2}$ in. deep?

7. If 12 men earn \$120 in 12 days, by working 10 hours a day, in how many days will 15 men earn \$150 by working 8 hours a day?

8. A and B have together 210 acres of land, and $\frac{1}{3}$ of A's share is equal to $\frac{1}{4}$ of B's share. B paid \$1,470 for his land; for how much must he sell it to gain \$20 per acre?

JULY, 1879.

1. Define abstract number, factors of a number, least common multiple of two or more numbers; common denominator.

6

2. Simplify $5 - \frac{3}{24 + \frac{2}{3 - 2\frac{1}{2}}}$

3. From one hundred and one thousandths, subtract one hundred thousand nine hundred and ninety-nine millionths, and multiply the result by one hundred and one-tenths of thousands.

4. If the water in a cistern, 8 ft. long, 4 ft. wide and 12 ft. deep weighs twelve tons, find the weight in ounces of 1 cub. ft. of water.

5. Reduce $\frac{3\frac{1}{2}}{5\frac{1}{2} \text{ of } 3\frac{1}{2}}$ of $\frac{16\frac{1}{2} - 5\frac{1}{2}}{5\frac{1}{2} - 3\frac{1}{2} (2\frac{1}{2} \times \frac{1}{2})}$ of .005 of a ton to the fraction of a cwt.

6. Find the cost of wheat at 80 cents per bus. which will be required to sow a field 60 rods long, and 40 rods wide, if $\frac{1}{2}$ of an ounce be sown on every square yard.

7. How many bricks, each covering 36 sq. in., will be required to pave a walk 6 feet wide around the outside of a rectangular field 10 rods long; which contains half an acre?

8. A train, 40 rods long, overtakes a man walking 3 miles an hour, and passes him in 12 seconds, how many miles an hour is the train running?

DECEMBER, 1879.

1. A man has 703 acres 3 roods 22 sq. rods 14 $\frac{1}{2}$ sq. yards; after selling 19 acres 1 rood 30 sq. rods 2 $\frac{1}{2}$ sq. yards, among how many persons can he divide the remainder so that each person may receive 45 acres 2 roods 20 sq. rods 25 sq. yards?

2. Find the price of digging a cellar 41 ft. 3 in. long, 24 feet wide and 6 feet deep at 20 cents per cubic yard.

3. The fore wheel of a waggon is $10\frac{1}{2}$ feet in circumference, and turns 440 times more than the hind wheel, which is $11\frac{1}{2}$ ft. in circumference; find the distance travelled over in feet.

4. $\frac{3\frac{1}{2} - \frac{1}{2} \text{ of } \frac{1}{2} + 8}{\frac{1}{2}(8\frac{1}{2} + 3\frac{1}{2} - \frac{1}{2} + 3\frac{1}{2})}$ $\cdot .05 - .005$
 $\cdot .25 - .5$

5. Find the total cost of the following.—
 2745 lbs. of wheat at \$1.20 per bush.
 867 " " oats " 35 " "
 1936 " " barley " 60 " "
 1650 " " hay " 8.00 " ton
 2675 feet of lumber at \$10 per 1000 feet.

6. If, when wheat sells at 90 cents per bushel, a 4 lb. loaf of bread sets for 10 cents, what should be the price of a 3 lb. loaf when wheat has advanced 45 cents in price?

7. At what price must I mark cloth which cost me \$2.40 per yard, so that after throwing off $\frac{1}{3}$ of the marked price I may sell it at $\frac{1}{2}$ more than the cost price?

(To be continued.)

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