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Editorial Notes.

WILL Inspectors have the kindness to forward us the programmes of conventions to be held in their inspectorates, at as early a date as possible? We desire, in each issue, to give a list of conventions to be held within the following fortnight.

IN reply to many inquiries and requests we have to say that the Literature and other lessons for next Entrance Examination have not yet been announced by the Department. They will be ready in a week or two, in time, we hope, for publication in our next number, Feb. 1st.

IN deference to the growing demand for commercial education, the Oxford and Cambridge Examination Board have arranged a new programme of studies, a new examination, and a new form of certificate, for youths of about seventeen who are desirous of adopting a commercial career. The first examination is to be held in July, 1888. What an iconoclastic age is this, in which those ancient institutions are forced to come down occasionally from the upper regions of classics and philosophy, to fit nineteenth century boys for bread-and-butter pursuits!

"A BRIEF Exposition of the Kindergarten, with Illustrations and Songs," is a little pamphlet issued by Selby & Co. (see advt.) of this city, which should be in the hands of every primary teacher. The use of kindergarten methods need not be confined to kindergarten schools, or rooms, strictly so called. Every teacher who has the care and instruction of very young children should study the methods and would find many valuable hints. The primary class in every school could be made happier and more orderly, and much more rapid progress secured, by a judicious adoption or adaptation of suitable methods from the Kindergarten.

A GOOD deal of discussion has been aroused again by the Entrance Examinations. The paper in History has been thought by some unreasonably difficult. The question, in our view, depends mainly upon the manner in which the answers are read and valued. The questions are of the right kind. They are evidently intended and adapted to discount rote work and mere memorizing of useless facts and dates. In attempting to answer two or three such questions as those proposed the pupil would afford a better test of the value of the work done in

the study of history, than by the glibest answers to fifty questions about incidents, names, dates, etc. But to expect anything but very imperfect answers, under the circumstances, to such questions, would be most unreasonable.

THE *Queen's College Journal* of a few weeks since was very severe upon the Senate of Toronto University for its recent decision that the degree of M.A. should be conferred upon any B.A. of two years' standing upon payment of the graduation fee. We cannot but think it would have been more in accordance with the high standard the Provincial University should maintain to have prescribed a rigid examination for its second degree. Of course the mere presentation of a thesis proves little or nothing, unless the thesis be examined on its merits, and the granting or withholding of the degree determined accordingly. We are inclined to think too much importance is attached to the matter of university degrees. We are not sure that the interests of sound education would suffer much if they were all abolished.

MANY teachers may find a useful hint in the following, which we clipped from the *Montreal Witness* two or three weeks since. We heartily endorse and recommend the last sentence:—

"It is hard to imagine how two great nations—the most enlightened on earth—could live continually under the clearest sky in the world and not know the planet Venus, the biggest and brightest of the heavenly bodies next to the sun and moon. Yet newspapers are being assailed on every hand to know if it is the 'Star of Bethlehem'—whatever that may be—which people see in the morning before sunrise. Venus has been, during this Christmas season, neither as big nor as remarkable as she very often is. She shines only with her wonted light, which people must see either morning or evening for the greater part of the year if they will only lift their eyes a very little. Surely children ought to be taught, at least, to know the planets and brightest stars."

A SOMEWHAT animated discussion is going on in some of the American papers, in reference to Catholic parochial schools. It is difficult to get at the merits of the controversy. The Protestant version is that the ecclesiastics are trying to obtain a portion of the public school money for the parochial schools. This would manifestly be a dangerous precedent, and in violation of sound principles. The Catholic version, on the other hand, seems to be that the Protestants are striving to destroy the parochial schools and to secure to the State a monopoly of public edu-

cation. This would be unjust and an interference with the private rights of citizenship. Every parent is, and should be, primarily responsible for the proper education of his children. As a corollary to this proposition, he must have the right to choose his own mode of educating them. If he does not approve the public school he must be at liberty, either alone or in conjunction with others like-minded, to found and support a private school for the use of those who prefer it.

THE Embro *Courier*, a few weeks since, contained a suggestive letter from Dr. G. W. A. Ross, on Section 35 of the Regulations of the Education Department. That section aims at preventing the spread of contagious diseases through the medium of the schools. Dr. Ross lays great stress upon the moral as well as legal obligation resting upon teachers and trustees to enforce this regulation, which provides that no pupil who is affected with or exposed to any contagious disease, shall be permitted to attend school until he produces the certificate of a medical man that all danger from his mingling with the other pupils, or from his exposure to the disease, has passed away. Dr. Ross gives the substance of certain dialogues which had taken place between himself and parents, in which it became his duty to correct such prevalent ideas as that carbolic acid or chloride of lime will keep scarlet fever and measles away, and to impress upon his interlocutors the fact that the average township school house is one of the best places in the world for contracting such diseases.

AN advertisement for a teacher for one of the Wellington school sections, a little while ago, brought, it is said, no fewer than one hundred and twenty-one applications. On this a contemporary observes:—

"This number does not represent the entire army of teachers who are looking for scholars. It only represents those who saw the advertisement or who would be willing to accept the place in that locality. The schoolmasters' ranks are clearly overcrowded—a remark that holds good of other professions. What is to be the end of all this?"

There is no doubt considerable truth and force in this view of the case, but the apparent significance of such facts would be greatly modified if it could be known just how many applicants were already in situations and were simply trying to better their salaries or their localities. Perhaps nine-tenths of the whole. The facts, thus modified, would signify simply that a great many teachers are dissatisfied with their positions and salaries, especially the latter. They have too good reason.

THE faculty of Cornell University have raised the standard of admission so as to require a proficiency of 70 per cent. instead of 60 as heretofore. In Harvard the standard has been raised from 40 to 50 per cent. One of our edu-

cational exchanges thinks these standards very low, and points to the 75, 80, 85 and 90 per cent. required in some other institutions. The discussion seems to us useless, and almost absurd. Every teacher and student knows that very little information can be gained by such a comparison of standards. Everything depends upon the kind of questions set, and the mode of marking adopted. Thirty per cent., under some examiners, denotes a higher grade of attainment than fifty or sixty per cent. under others. We once were associated with a teacher who was scandalized at the idea of pupils being passed on percentages of from 30 upwards, and who talked eloquently of 90 to 100 per cent. to which she had been accustomed in other schools. And yet under the system pursued that teacher's pupils came out with no higher averages than those of others.

THE question is just now being discussed in certain educational circles in Toronto, whether lady teachers should, in any case, be held eligible for appointment to the principalship of large schools. The particular case in point is, we believe, that of a lady teacher who has given excellent satisfaction as the head of a school which has hitherto had one or two assistant teachers, but is now being enlarged so as to require several. To our own mind there is no room for discussion. The question should be regarded as one of capacity and efficiency, not of sex. The fact that a teacher, whether male or female, has proved efficient in the smaller sphere is the best possible argument in favor of promotion. To decide, as it is said the Toronto School Board did by vote on a previous occasion, that a woman, because a woman, may not be appointed to the highest position, is to discourage effort, and do injustice to a moiety of faithful workers in the city schools. The prejudice is too weak and hoary to survive. Women have again and again proved themselves capable of managing the most difficult schools, quite as well as men. The question is, we repeat, wholly one of mental and moral qualifications.

A WORSE than useless discussion has been going on in some of the city papers with reference to the comparative merits of male and female teachers. Statistics have been paraded to show that in certain cases, judged by the test of success at examinations, ladies have proved themselves by far more efficient than their male competitors. *Per contra*, "A Principal" sends to one of the papers a somewhat lengthy array of alleged facts, suggesting the inference that women teachers are as a class lamentably stupid and worthless, and that some male teachers have accomplished wonderful results with their pupils. Can anything be more absurd? Is there any one who does not know that some male teachers are immeasurably superior to most female teachers, and that some female teachers are immeasurably superior to most male teachers? The question is one of brains,

education, energy, tact, and enthusiasm. The fairly endowed teacher, male or female, who faithfully cultivates and develops these qualities is sure of true success. Without a fair share of the native qualities and the acquired culture neither male nor female is fit to be a teacher. There is plenty of room for both in the upper ranks of the profession.

Educational Thought.

THOSE who educate a man have always been and always will be the real masters. How important that these teachers should be largely cultured, widely read, deep moral souls.

DID the Almighty, holding in His right hand *Truth*, and in His left *Search after Truth*, deign to tender me the one I might prefer,—in all humility but without hesitation, I should request *Search after Truth*.—*Lessing*.

LET only the wisest teach; and if he who teaches would not be replaced, let him, even while teaching, ever remain a pupil—nay, let him as a pupil ever surpass himself as teacher, that so each day the old may be replaced by the new in his own person.

NOT scholarship but manhood* is the object of true education. Not creditable examinations, but a genuine love of work. Not a perfunctory perfection in the performance of duty, but an enthusiastic relish for difficult tasks. A trained zeal, a controlled abandonment in the harness, must come first. All the rest will follow.—*Normal Exponent*.

WE become better *only* by our own acts; we also become worse *only* by our own acts. Punishment does not make us better, *only as it may put us in the way of making ourselves better*. Punish a child and you do him an injury, unless you cause him to exercise his voluntary will in efforts towards becoming better. Children have been pushed down to the lowest depths of crime by punishment; they have also been pushed up to the clear heights of truth, not by punishment, so much as by some sudden impulse that gave them new views of life and duty. If you do punish, look carefully to your own state of mind, and very carefully also to the state of the mind of the one punished.—*N. Y. School Journal*.

IN two hours an animalcule reaches its full development, in two months an insect, in two years a fish, in from three to six years a horse, in twenty-one years the human body; but the human mind? Never. The higher we go in the scale of being, kind Nature allows us the longer time to make the most of what we have. It is never too late, therefore, to begin an education. The time may have come when it is no longer possible to become a *scholar*; but to be educated is a different thing, and a much grander thing. Scholars are often the least educated of men, and some of the most educated of men have never been scholars. Be a scholar if you can, but if it is not now possible, it is still open to most to possess that which is infinitely greater, the educated mind.—*Drummond*.

THE question—Is truth, or is the mental exercise in the pursuit of truth the superior end?—is perhaps the most curious problem in the whole compass of philosophy. At first sight it seems absurd to doubt that truth is more valuable than its pursuit; for is not this to say that the end is less important than the means?—and on this superficial view is the prevalent misapprehension founded. A slight consideration will, however, expose the fallacy. Knowledge is either practical or speculative. In practical knowledge it is evident that truth is not the ultimate end; for in that case, knowledge is, *ex hypothesi*, for the sake of application. In speculative knowledge, on the other hand, there may, indeed, seem greater difficulty; but further reflection will prove that speculative truth is only pursued and is only held of value for the sake of intellectual activity.—*Sir William Hamilton*.

Special Papers.

HIGH SCHOOL PHYSICS.

BY JAMES ASHER.

(Concluded.)

ELECTRIC MACHINES.

THE theory of the Gramme electric machine, in the new High School Physics, is unsatisfactory, for experiments show that the current is not due to the magnetism of the ring. Breguet showed that the lead or displacement of brushes from the position of symmetry in a certain experiment was seven times as much as it should have been, were the displacement necessitated by retardation of demagnetization alone in the ring. Unless such lead is given, sparking occurs. The brushes must usually have positive lead when the machine is a generator, and negative lead when a motor.

Perhaps the only theory that explains the action of any magneto-electric machine, dynamo-electric machine or electric motor is mine, which I published, with cuts, in the *Electrician and Electrical Engineer*, New York, August, 1885. I discard the terms "poles" and lines of force, and locate the resultant of the magnet's ampere currents which can act on the armature. The resultant of ampere currents along the inner boundary of a magnet is between its arms, and half-way between the bend and a line joining the N and S seeking ends. This resultant current flows toward us if the bend is to our left, and the S seeking arm up permost. The resultant can act on the wire on the outside of the ring but not on that inside, for the iron ring shields it. Were there no iron in the armature, the current which the resultant would cause when the armature is turned would be nearly annulled by an opposing current on the wire inside. When we turn the ring the same way as the hands of a watch, the wire on the surface of the upper half is perpetually leaving the resultant, hence, as it is parallel to the wire, a current will flow in the same direction or towards it. The wire on the surface of the lower half perpetually approaches the resultant to which it is parallel, hence it is traversed by a current flowing the opposite way or from us. The commutator arranges these currents and brings successive sections of wire into proper action.

A nearly steady current flows in a circuit formed by joining the brushes. When the brushes are not joined by a conductor, the two halves of the armature tend to have currents generated which oppose each other, or there is a difference in electric potential between the brushes.

I shall next explain the action of the Gramme machine, used as an electric motor. The current from a generator enters one brush and divides where the armature wire joins the commutator. One half of the current passes along the wire on the upper half of the ring; the other half passes along the wire on the lower half. The exterior of the upper half is traversed by a current flowing say towards us, while the exterior of the lower half is simultaneously traversed by a current flowing from us. We may place a resultant for the currents in the wire on the exterior of the upper half, and another resultant for the currents in the exterior of the lower half. The former resultant may be regarded as a current at the top of the armature. Similarly the latter resultant will be at the bottom of the armature. The upper is parallel to the resultant of the magnet and flows in the same direction. Hence, since parallel currents in the same direction attract, the upper part of the armature will be attracted by the resultant of the magnet. The lower resultant of the armature is parallel to the resultant of the magnet and flows in the opposite direction. Hence the lower part of the armature will be repelled. Thus the armature rotates the opposite way to the hands of a watch. Each resultant of the armature moves relatively to the armature itself, but not relatively to the magnet unless the speed be changed, when it will take a new position. This is chiefly due to the reaction of the magnet's resultant on that of the armature. Each resultant of the armature is like a dog on an endless tread power. The animal ever moves but never advances, for his forward motion is annulled by an equal motion of the endless tread in

the opposite direction. The armature is like the endless tread. The two branches of the current unite at the strip of the commutator under the brush and flow along the conductor to the first brush. The commutator changes the direction of the current in each pair of sections as it passes the brushes. The iron ring shields the wire inside the ring from the action of the magnet's resultant.

My theory was adopted by the editor of *The Electrician and Electrical Engineer*. This theory explains clearly and simply the anomalous action of the Griscom motor used in running sewing machines. It also shows that the form of magnets used in nearly all electric machines is incorrect. The U magnet is utterly wrong in principle. The magnet should bend closely around the armature and form a circular curve. The Griscom and Meritens motors have magnets of this shape, and these machines are of great capacity when their weight is considered. The Griscom motor has a capacity of one-eighth horse power and drives sewing machines, yet it weighs only about two and a half pounds, and is about the size of a large apple.

The current from a Gramme machine cannot be perfectly steady, unless the number of sections of wire is infinitely great. There are rarely more than a hundred on the largest machines. An equal number of copper bars collectively form the commutator. This must be turned truly cylindrical and each bar must be separated from its neighbour by some insulating substance. After all the care and expense of construction, it is nearly impossible to prevent sparking at the commutator, which implies waste of copper. The commutator is of considerable diameter and is pressed by brushes or stiff copper springs; no oil can be used here, and the leverage of friction at such a distance from the centre of motion causes a loss of power. Besides, as the number of sections is not infinite, heating of the armature causes a loss of about five per cent. of the energy.

The Gramme machine is very expensive. The smallest sold by Ritchie of Boston costs \$80. It is a very small hand machine to be used on lecture tables, and furnishes a current only about equal to that from three carbon cells.

The commutator must soon be abolished. Alternating current machines have no commutator, but the currents are very dangerous; besides, they can only be used for a few purposes, such as supplying certain electric lights, shocking, and working one or two telegraph and electric clock systems. The Terranti-Thomson is a machine of this kind. The Gramme may have no commutator and yet give a nearly continuous current if the armature have only one layer of bare wire. Two springs may press it, one on either side. The current will be of very low tension, but it is more nearly steady than in the common Gramme, for the number of sections is virtually increased. Each turn of wire is a section. A few machines and instruments give a perfectly steady current; for example, those used to show the rotation of a conductor round one extremity of a straight cylindrical magnet. If no generator be used, and we make a closed circuit, on mechanically rotating the conductor round one arm of the magnet, a steady current in one direction will flow. Faraday's copper wheel rotating between the arms of a magnet will also give a steady current. The Delafield dynamo, too, gives a current of this kind. In all these the tension is very low, for there is only one ply of the rotating conductor. A dynamo of this kind can scarcely be used for anything but electro-plating. All electric motors have commutators, except those which I have mentioned, when used as motors, which is almost never the case.

A few machines have no iron in the armature, the Elphinstone and Vincent for example, a very efficient continuous current machine. The Terranti-Thomson also has no iron in its armature. Certain machines have no wire on the armature, for example, the magneto-electric machines in Wheatstone's dial telegraph, and his magnetic exploder for blasting. These give alternate currents. The Siemens, Weston, and Edison machines have a cylindrical iron armature core, whose entire surface is wound lengthwise with insulated copper wire.

I think a dynamo can be made which will give currents of either high or low tension. A machine of surpassing simplicity with no friction but at the

bearings; a machine with neither commutator, brushes, springs, nor sectors. The current will be absolutely uniform and in the same direction whether the machine be turned backward or forward. It will cost and weigh much less than any other of equal capacity, and cannot become disordered. It will be as much superior to the Gramme as the latter is to those of Pixii, Saxton, and Clarke.

Most of the electric machines in use are based on the Gramme, especially in relation to the commutator. The Gramme machine was invented by Dr. Pacinotti of Italy, in 1861. It stood with the arms vertical, and the axis of the armature was between the arms of the magnet and also stood in a vertical position. The armature was near the top of the machine and the commutator near the bottom. The armature had an iron tooth between every two successive sections of wire on the ring. The machine was first used as an electric motor; but its inventor showed that it was reversible. I shall say a few words about this reversibility. If we turn a chain pump we get a current of water flowing upwards. If we pour water down the pipe the chain and sprocket wheel will now run in the opposite direction. So with a dynamo having a commutator; if you turn it you get a current of electricity. Send a current to it and it will turn in the opposite direction. The Pacinotti machine slept ten years in the Philosophical Museum of Pisa University, when Z. T. Gramme of Paris, awakened it; turned it over on its side; placed the arms at right angles to their former position; took out its teeth; gave it a better appearance; made it run; got a powerful and nearly steady current; obtained patents, gold medals, riches, and the applause of the world.

STRATHROY, November 12, 1887.

For Friday Afternoon.

THE OBSTINATE STOVEPIPE.

A MAN gets on a tipping box,
With all his patience fled,
And gares up at the stovepipe joint
He holds above his head.

His hands are black with polish paste,
His face tattooed with soot;
And down his arms and down his back
Sharp pains unnumbered shoot.

Ten thousand ways, ten thousand times,
He tries to make it fit;
The more of ways and times he tries,
The further he's from it.

His wife and children gazing on,
Are petrified with fear,
Awaiting the catastrophe
That comes this time of year.

It comes:—A burst of adjectives,
And then a madman's roar,
A man and box and stovepipe, too,
Are found upon the floor.

* * * * *

The doctor comes with arnica,
And little blister cup;
The tinner comes as usual,
And puts the stovepipe up.

TICK TOCK.

"TICK TOCK! tick tock!"
Says the clock—"half-past three."

"Tick tock! tick tock!"
"Half-past three" still we see!

It must be the hands are caught,
That is why it tells us naught,
Tho' it ticks and ticks along
As if there were nothing wrong!
"Tick tock!"

"Tick tock! tick tock!"

Many a word, many a word,—
"Tick tock! tick tock!"—

Just as useless, I have heard.

These—the folks who tell us naught—
Ah! perhaps their hands are caught!
'Tis the busy ones that know
Some hing worth the telling.—So
"Tick tock! tick tock!"

—Maria J. Hammond, in *St. Nicholas*.

English.

All communications intended for this column should be sent to W. H. Huston, care of THE EDUCATIONAL JOURNAL, Toronto, not later than the 5th of each month.

QUESTIONS.

1. THE ROBIN (page 397, H. S. R.)—What is the subject of the second paragraph, and what sentence contains it?
2. (a) The Reconciliation (page 308).—What is the subject of the last paragraph?
(b) Explain "rapture of devout wonder."
(c) "Not in vain—not in vain has he lived—etc." Why are the dashes here?
(d) Explain the second to the last sentence.—J. H. T.
3. I do not wish to appear harsh, but I was particularly exasperated when reading over the last set of questions, and I venture to propound a question which you may attend to or not: "About how many of our teachers do you suppose are fitly provided with English dictionaries and other equally necessary books?"—ENQUIRER.
4. Was Surajah Dowlah in the service of the English or the French?
5. At the taking of Ft. William did he command English or French troops?
6. What and where is Ozan?
7. What is the translation of "La Allah illah Allah?"

ANSWERS.

- The subject is the characteristics of the Robin. The paragraph is descriptive, and therefore no single sentence contains a summarized statement of its thought. The three leading thoughts will be easily seen if the paragraph is subdivided into three sections at the words, "bitter-rinded store," and "my raspberries."
2. (a) The effect on Esmond of the devotion of Lady Castlewood.
(b) The sight of the "endless brightness and beauty" inspired feelings of wonder mingled with worship (devotion), which were so strong that they took entire possession of his soul.
(c) To indicate a broken, hurried state of feeling.
(d) Love, unlike riches and fame, is eternal in the heart of dead and surviving.
 3. Not so many as "Enquirer" might suppose. It is impossible for some of our teachers to do more than exist on the salaries they receive. School-boards should see to it that teachers receive decent wages, and that the schools are properly supplied with the necessary works of reference. A good dictionary—say the concise Imperia—is an indispensable adjunct of the teacher's work.
 4. He favored the French.
 5. Native forces with a few French.
 6. We know nothing of any place with this name.
 7. This question has been already answered in a previous number.

EXERCISES IN HISTORICAL ENGLISH.

FOR SENIOR HIGH SCHOOL PUPILS.

1. WHAT were the effects of the Norman Conquest on (1) the vocabulary, (2) the pronunciation, (3) the power of word-formation, (4) the syntax, of our language?
2. Give examples of (a) English, (b) Latin, (c) Greek, doublets, and enumerate the causes for their existence.
3. Point out in what respects the English of 1887 differs from that of 1485 as to (a) *grammar*, (b) *vocabulary*.
4. Whence and when were the following words introduced into our language:—Loafer, filibuster, plunder, domino, facade, manna, gong, paradise, steppe, palaver, janissary, boomerang?
5. What are the tests for the complete naturalization of a foreign word?
6. Show in what respects the form of the following is misleading:—Posthumous, dropsy, hawthorn, treacle, bugle, riding (an electoral division), orchard, frontispiece, stirrup, icicle, penthouse, caterpillar, liquorice, counterpane, walrus, causeway, verdigris, butler, horehound, crayfish, belfry, twig, quinzv.
7. Point out any change of meaning the following words have undergone:—Gossip, spices, artillery,

restive, explode, handsome, disaster, officious, clumsy, niece.

8. Give word-branches from hebban, lego, witan, cunnan, helios, seco, beran, tithemi, frango, deman, skopeo, audio, logos.

9. What etymological processes are illustrated by the following words:—Passenger, sound, story, ask, lord, sue, espy?

10. What is etymologically peculiar in spinster, vixen, children, bridegroom, pea, eaves, farther, hindmost?

EXERCISE IN ENTRANCE LITERATURE.

"THE DISCOVERY OF AMERICA."

Fourth Reader, p. 115.

1. GIVE in your own words a brief account of the voyage of Columbus.
2. State *very briefly* the substance of each paragraph.
3. Explain the meaning of (1) set sail, profound calm, flagging sails, faded from the horizon; (2) hearts failed, literally, chaos, rugged seamen, glorious anticipations; (3) trade wind, favorable breeze; (4) tracts of ocean, apparently boundless waste, uniformly aft, conjure, fed each other's discontent, mutiny, secret conferences, mad desperado; (5) critical, serene and steady countenance, to work upon the pride, avarice; (6) field-birds, they stood in this direction; (7) shoreless horizon, turbulent clamor, assumed a decided tone, accomplish the enterprise; (8) became desperate, river weeds, artificially carved, sanguine expectation, make land; (9) ranging his eye, unremitting watch, sudden and passing gleams; (10) lay to, continual orchard, attitudes and gestures; (11) made signal, royal standard, crystal transparency, solemn possession; (12) wildest transports; (13) crystal firmament, ample wings; (14) appellation, aborigines.
4. Write notes on Canary Islands, heights of Ferro, behind them was everything dear to the heart of man, the admiral, tropics, return to Spain, Portuguese navigators, has been sent by the sovereign to seek the Indies, the *Pinta*, richly dressed in scarlet.
5. (a) "As the days passed away." How long did the voyage last?
(b) "They were full of vague terrors." Name some of these terrors.
(c) In what way would river-weeds, berries on a thorn branch, a reed, a board, a carved staff respectively indicate the proximity of land?
(d) "The *Pinta*." What were the names of the other vessels?
(e) "Kissed the earth." What did the kiss indicate?
(f) "San Salvador." Why did Columbus give the island this name?
6. Distinguish breeze and wind; distress, grief and sorrow; voyage and journey; alarm and fear; mutiny and open rebellion; discontent and dissatisfaction; expected and hoped; countenance and face; navigators and sailors; clamor and noise; defiance and enmity; evening and night; populous and peopled; atmosphere and air; crouched and lay; steel and iron.

THE POSITION OF "ONLY."

The proper place of *only* in a sentence is really ascertained by accurately determining the word to which it has special reference. . . . To say, "I only see an orange," might mean that the speaker does not feel, taste, or smell an orange, but, "I see only an orange," means that he sees no other fruit. . . . The word *too* is misused in precisely the same way. I have heard highly educated persons make such mistakes as "I was there, too," not meaning to include with other places the place indicated, but that the speaker was present with others at the place; so it would have been correct to say, "I, too, was there." *Also*, being used interchangeably with *too*, is, of course, similarly misused. In the sentence, "He will read this," *also* can be inserted to convey three meanings. "He also will read this," means that the person spoken of with others will read it; "He will also read this," indicates that he may have intended to sing it, but now he will also read it; and "He will read this also," means that he will read it in addition to other pieces.—*The Writer*.

THE RIGHT AND WRONG USE OF "AS."

ONE of the local papers reported the other day that "Mr. William B. Atwood was unanimously elected *as* principal of the Frothingham school." This use of the word *as* is not correct. The newspapers often report that a man was nominated, appointed, or selected *as* an officer. In all these constructions the word *as* is superfluous. Mr. Cleveland was not elected *as* President; he was elected President. There is a marked difference between considering a man *as* a candidate and considering him a candidate pure and simple. The country may properly consider Mr. Robert T. Lincoln *as* a candidate for the Presidency; ever since he has declined to stand, none but foolish people will consider him a candidate. *As* in these predicative constructions stands for "in the character of," and implies a comparison up to the point of identity. The omission of *as* after such words as elect, choose, appoint, hold, name, nominate, regard, consider, acknowledge, crown, means that the act is absolute, not relative, and that something beyond a comparison is achieved. "Mr. Atwood is elected *as* principal," means either that he was a principal and that as such he was elected to something else, or that he was not a principal and was then elected to be something like a principal. "He was elected principal" means absolutely and without qualification that he was chosen real principal, to the exclusion of approximate matters. Instead of *as* some people use *for* in these predicative constructions: "New York nominated Colonel Grant *for* Secretary of State." Carlyle ("Past and Present," ii. 7) says: "It is better to choose a log *for* king than a serpent," but in this case *for* is used intentionally, because a log cannot be absolutely a king. For a similar reason St. Luke, iii, 8, reads: "We have Abraham *to* our father." The regular construction is well treated in Mäzner's grammar (vol. ii. part 1, pp. 197-204). The right and wrong use of *as* after verbs like nominate, represent, avow, consider, account, declare, proclaim, should have been explained by the "New English Dictionary," which is silent on this subject. This is remarkable, as modern English writers are particularly careless on this point. After the word consider, for instance, they have generally the word *as*. But to consider Mr. Gladstone a great politician, is one thing; to consider him *as* a great politician is a different matter. Anybody may consider Mr. Gladstone *as* the greatest statesman living, that is, as if he was or in case he was so great a man. None but British Gladstonians, Irish Nationalists, and most Americans consider him the greatest statesman of his age or his country, that is, only certain persons consider him absolutely a great man. The word *as* implies a comparison, and excludes an absolute statement. It is a good word for writers or speakers who hedge.—*Beacon*.

THE latest fad in social circles in Chicago, is news classes among young ladies. A large party meets twice a week in the afternoon, and the teacher, a lady of great culture, discusses with them the news of the day. She takes a newspaper, and, selecting matter of foreign and domestic interest, discusses and explains them in a most entertaining manner, the members of the class asking questions and making comments and suggestions freely. Last week the chief topics were the execution of the Anarchists, the illness of the Crown Prince of Germany and its possible consequences, the scandal in official circles in Paris, and the meeting of the Fisheries Commission in Washington.—*Educational News*.

A COUNTY superintendent in Iowa vouches for the following:—

The teacher of a school who was devotedly pushing "Language Lessons," gave out a list of words to be defined; and to show that each pupil understood their use, the pupils were required to write the words in sentences. Among the words were *pent* and *throb*. One boy, whom "no pent up Utica" could restrain, wrote, "Pent or I'll throb you." The teacher marked the exercise zero. The boy "kicked," and told her to examine her dictionary. She opened and found *pent*, "shut up;" and *throb*, "to beat." How ought she to mark that "Language Lesson?"—*J. P. in Illinois School Journal*.

Hints and Helps.

QUESTIONS FOR THE SELF-EXAMINATION OF TEACHERS.

BY WINTHROP.

In running over an odd number of the *Massachusetts Teacher* of thirty years ago, the following printed queries were discovered. They were so pertinent as to suggest the advisability of their being reprinted for the use of teachers of the present time.

1. Have I been strictly truthful in thought, word, and deed?
 2. Has my heart been in my work?
 3. Have I been uniformly pleasant in manner?
 4. Have I been uniformly affectionate in feeling?
 5. Have I been sufficiently calm and self-possessed?
 6. Have I exercised sufficient patience and perseverance?
 7. Have I governed with firmness and decision?
 8. Have I been serious and earnest?
 9. Have I talked too much or too little?
 10. Have I endeavored to be conscientious and just?
 11. Have I been duly sensible of my responsibility?
 12. Did I begin the work to-day in the right spirit?
 13. Were my scholars punctual to-day?
 14. Have I tried to interest parents in the punctuality of their children?
 15. Do the scholars improve in this respect?
 16. Are my scholars regular in attendance?
 17. Do they absent themselves without good cause?
 18. Can I not make absence disreputable?
 19. Have my scholars been studious to-day?
 20. Do I make the scholars feel that idleness is a wrong?
 21. What have I done to create a love for study?
 22. Has the school been orderly and quiet to-day?
 23. Have I governed by the right motives?
 24. Have I instructed the scholars in good manners?
 25. Have I given the scholars proper exercise?
 26. Have I carefully regulated the temperature and ventilation?
 27. Have I made the schoolroom pleasant?
 28. Have I insisted on neat and cleanly habits in my pupils?
 29. Do I see that children do not injure the house or their books?
 30. Have I been a good example for my pupils?
- Journal of Education.*

THE FUNCTION AND CONDUCT OF EXAMINATIONS.

WE do not remember to have seen a simpler or better summary of the uses and best methods of examination than the following, by Thomas J. Morgan, in the *Teachers' Telephone*.

I am asked to write a very brief article on the function and conduct of examinations. By examination is meant a formal set of questions answered in writing. Among the useful purposes which can be observed by such tests, are the following:—

1. They may serve as a stimulus or incentive to study. Students who know that at some period of their work they will be required to give written answers to questions based on the work done are likely to be more attentive, industrious, and interested in their work.
2. They encourage thoroughness. Those who prepare for an oral recitation may depend upon chance, or artifice, or favoritism, to help them through; but a searching examination, calling for exact written statements, is another matter, and demands better preparation.
3. They afford an opportunity, in some instances, for a review of the whole subject passed over during the term.
4. They are often valuable as an exercise in English composition, calling as they do for clear, concise, comprehensive statements.
5. They are a revelation to the pupils of their own ability and attainments, as well as of their weakness and defects.

6. They call for concentration of mind, sustained mental effort, and a ready use of one's resources, which is a valuable educational discipline.

7. They reveal to the teacher the results of his teaching, the failure or success of his methods, and thus afford an opportunity of modifying his work when necessary.

8. The tabulated results of a series of examinations, extending through several months or years, indicate with considerable certainty the student's trend of mind, habits of study, and scholarly development. These results are specially valuable to parents if deciding what is best for their children.

9. The results are helpful to superintendents and others in forming an opinion of the progress of the pupils and the work of the teacher.

10. They give to school-work a kind of dignity, increase the student's self-respect, and impart to the teacher's mind a judicial habit, freeing him from the great tendency to judge of his pupils by sentimental regard rather than by a critical judgment.

With these ends in view, how shall the examinations be conducted?

1. They should be an ordinary, and not an extraordinary, part of school machinery. If they are held only at the close of the term, or at the conclusion of a study, the students should be prepared for them by the character of the daily recitation, and by occasional written recitations, and "tests," which resemble the written examinations, but are the less severe.

2. The purpose and method of the examinations should be fully explained to the pupils, and their mistakes and failures should be pointed out.

3. The questions set should be adapted to the age and ability of the pupils, easy enough to encourage them to attempt all, and difficult enough to call for their best efforts; should pertain to the work actually done: should be explicit, concise, logical, and call for thought and a mastery of principles, as well as for memory.

4. Too much importance should not be attached to the results. They should be reckoned as only one element among several, in determining the standing of the student, and his fitness for promotion or graduation. They should never be made the basis of ranking, or the sole ground of promotion.

5. They should always be regarded and treated as simply one means or device in the process of education, and should never be treated as if they were the goal to be gained. They are a means, and not an end.

6. They should not be so severe or prolonged as to overtax the students' powers; should be conducted with absolute fairness and impartiality, as well as with good sense in regard to time, place, and circumstances, and proper allowance should be made for any exceptional circumstances, such as illness on the part of the student. The "final" examination should be held long enough before the close of the term to allow the teacher to make the proper use of the results before the class separates.

GOOD THINGS.

RIDE no hobbies.

Do not *hire* your pupils to be studious and to obey you.

Keep whispering, leaving seats, etc., down to the minimum.

Be constantly on the alert, but beware of being over suspicious, or seemingly so.

Never lose your patience when parents unreasonably interfere with your plans.

Give dull pupils time to answer your questions. Do not flurry them by trying to hurry.

Make few rules, and let such as you make be as general as possible, and the outgrowth of necessity.

Never command a pupil to do a favor for you, but frequently give pupils the pleasure of obliging you.

Have your school so well disciplined that you can put your strongest efforts into class work without interruption.

Do not antagonize your pupils when it can be avoided. Make them feel that you have their best interests in view in all you do.

Use a simple system of signals for calling and dismissing classes, and be careful to have pupils pass out and in quietly at intermissions.

Be not timid; know your rights and your privileges as a teacher, and maintain them, but not in a spirit that will arouse unnecessary ill feeling.

Avoid making excuses to visitors for the defects of your school. A poor housekeeper is always explaining why you do not find her house in order; so with the poor teacher.

Read not only educational journals and books, but read what the world is doing, and be prepared to talk intelligently on living topics. If you are alive, let the world know it.

In cold weather see to it that no window panes are out, and that the stove is in good working order—and, in short, that the house is comfortable, cheerful, clean and properly ventilated.

Remember the chief aim of the public schools is to make of the rising generation intelligent, honest, self-reliant, law-abiding citizens—men and women of high purposes and sterling worth.

Do not permit slipshod work in any direction. Make your pupils feel that to fail in a recitation is a serious matter, and not to be passed over as of little or no importance. Failures in school duties are, as a rule, the beginning of failures in life.

Make every recitation *tell* in some direction. Have a definite object in view, and attain it—don't fire at random, or scatter your instruction over the entire universe in one recitation. I once saw a teacher commence with punctuation marks and end with the nebular hypothesis.

Try to work yourself and your school up to a white heat of interest and enthusiasm. If you can bring yourself to feel that you would like to put in about ten hours a day with your school for the remainder of your life, then you are accomplishing something; but beware, under such circumstances, of doing too much of your pupils' work for them. Our teachers lack life, vigor, enthusiasm. "As is the teacher, so is the school."—*C. P. Cary, in Western School Journal.*

SUBJECTS FOR BUSINESS COMPOSITION.

1. WRITE a ten-word telegraph message.
2. Write a message of ten words making three statements.
3. Write a promissory note.
4. Write a statement of a customer's account, and, in a note upon it, request him to call and settle.
5. Write a duplicate bill of the goods included in your previous statement to this customer who failed to pay promptly, and in a note upon it urge its immediate payment.
6. Write an order to a dealer in agricultural implements for three special parts of some machine you wish to repair.
7. Write a circular advertising your business. (Choose that of a grocer, dry goods merchant, clothier, hatter or coal dealer).
8. Write an "ad" for a house you have to rent, "ad" to occupy one inch, single column, in your county paper.
9. Write five news "locals" for your county paper, each to occupy not more than five printed lines.
10. Write a notice, for publication, of your church festival.
11. Write a letter acknowledging the receipt of the amount named in your bill to the customer who was tardy in its payment. (No. 5 above).
12. Write an application for a position as clerk in a dry goods house.
13. Write a check in favor of yourself, but payable to your order.
14. Write an order in favor of your clerk, on a customer, for the amount due you on account.
15. Write a business card suitable for a general merchant just beginning business in your village.
16. Write a bill of sale, transferring a team, wagon, and some farm implements.
17. Write a courteous circular-letter to your customers, requesting them to pay up.
18. Write a description, for publication, of some accident to which you were an eye-witness.
19. Write an invitation to Mr. and Mrs. Chas. J. Martin to dine with you, and also a proper acceptance of such invitation.
20. Write a notice, for publication, of a change in location of your business.—*C. S. Council.*

School-Room Methods.

TEACHING FRACTIONS.

A CUT and the description of it which has lately appeared in the *Journal of Education*, by Dr. Klemm, leads me to say that I have resorted to the device given below to teach the subject of *fractions* to beginners, and my success induces me to accept the kind invitation of the *News* to present it to the public through its columns. It does not differ in principle from the device presented by Dr. Klemm, but I think it has the merit of being cheaper, and therefore, is within the reach of all teachers. It also deals with a definite unit, the yard, for instance, and therefore trains the pupils to judge of length by using a definite unit of measure.

The apparatus itself consists of a home-made yardstick. This is sawed through in the middle, thus giving two halves; one of these halves is again cut so as to form two quarters or fourths; one of these, again, is cut into two eighths. All these pieces are then laid end to end beginning with the half yard, then the quarter, then the two eighths, thus making the full yard in length. In order to hold the parts together, strips of strong muslin are glued over the points from piece to piece, thus making not only a flexible yard measure but also an excellent instrument for teaching the idea of fractions. The stick may be represented as follows:



I have also a similar measure, a yard in length, but divided into 1-3, 1-6, 1-12.

In addition to these I have cut separately, to use as tests to the measures and their parts pieces respectively one-eighth, one-fourth, one-half, one-third, one-sixth, and one-twelfth of a yard in length. On each of these is pasted a piece of paper on which the fraction $\frac{1}{2}$ yard, $\frac{1}{4}$ yard, etc., is written.

In actual use I need only to fold my yard stick for the pupil to see and determine for himself that a yard is equal to two half yards, or that two half yards equal a yard, and similarly that a yard equals four fourths, and so on. Thus also with the yard stick showing thirds, sixths and twelfths. A very few lessons give the child the idea so far as yards are concerned; the transition to apples and other objects is then very easy.

After an oral exercise or two have been given, I find that my device works great benefit in the hands of the children at the blackboards. My first lesson is to have them draw a line a yard long, then determine by actual measurement how many halves a yard contains, how many thirds, how many fourths, etc., which they do readily, usually in a single lesson. The next step is to train them to see for themselves how many halves are required to make a yard, how many fourths and so on.

After this I have them draw a line two yards long, and then determine by actual test how many halves in two yards, how many thirds, etc. Then the process is reversed as before, and all this is proved by actual test. So also with a line 3 yards long, $1\frac{1}{2}$ yards long, and so on.

Then comes an oral lesson on reduction of fractions in which I show that a half equals two fourths, a fourth equals two eighths, a half equals four eighths, a third equals two sixths, etc. After this, the class exercise is continued at the blackboard where the pupils again make the actual comparisons and prove to me and their classmates that a half equals two fourths; a third, two sixths, and so on.

The next step is more difficult but the children learn readily by this concrete illustration that a half equals three sixths, or six twelfths; and a fourth three twelfths, making the change readily from one denomination to another.

When I reach the point where they must think in fractions in the absence of objects, and this must of course come very soon if their thinking is to be worth anything, I let the device lie quiet on my desk. If a mistake is made by the pupil in the simple fractions here given, he is at once directed to prove his assertion by drawing a line on the blackboard and making the tests, when he very soon, of course, discovers the mistake for himself and corrects it.

It takes but a short time to teach him that two halves and $\frac{2}{4}$ are the same thing, and so with fourths, thirds, etc. I think it unnecessary, therefore, to have more than the two sticks, though of course the teacher could have one representing fifths, tenths, twentieths, etc. My objection, however, to this is that it keeps the child's attention on the objects too long, and tends rather to weaken than to strengthen the power of thinking.

I may say that I have used this simple device for years, and I have found that it not only makes the elementary teaching of fractions very easy and greatly interests the children, especially when they work at the board, making the actual tests and measurements for themselves, but it also gives them valuable training in judging of measurements. Long after the children have learned fractions by this device, I permit them as busy work to measure the blackboards, the doors, and other objects, and tell me how many yards, how many half yards, or how many feet long they are, for I do not fail to teach them with the other work that a third of a yard also is called a foot.

The children are also greatly delighted in drawing figures, —tables, houses, and the like, so many yards, or half yards, or quarter yards, long or high and showing how many times they are as long as high.

There is no patent on the device and I am glad to make its value known to all. As I have said, I have used it for years, but like others it seemed so simple to me that I fear I have not appreciated its importance to others as fully as I should have done.—*A Primary Principal, in Educational News.*

ORTHOGRAPHY.

Adding or ed.

- | | |
|------------|----------------|
| 1. Plan, | 1. Gird, |
| 2. Abet, | 2. Glair, |
| 3. Beg, | 3. Bump, |
| 4. Begin, | 4. Breed, |
| 5. Infer, | 5. Foul, |
| 6. Outwit, | 6. Calk, |
| 7. Squat, | 7. Call, |
| 8. Gas, | 8. Burl, |
| 9. Gad, | 9. Jest, |
| 10. Gin, | 10. Pack, etc. |

Why is the final consonant doubled in adding the suffix to the words in left-hand column, and not in adding to words in right-hand column?

Require reasons for the doubling or *not* doubling the final consonants in the following when a suffix is added beginning with a vowel:

- | | |
|--------------|-----------------|
| 1. Gambol, | 1. Refer(ence), |
| 2. Libel, | 2. Brief, |
| 3. Metal, | 3. Revel, |
| 4. Quit, | 4. Profit, |
| 5. Gas(ify), | 5. Cloister, |
| 6. Wool, | 6. Acquit, |
| 7. Defer, | 7. Counsel, |
| 8. Reform, | 8. Cabal, |
| 9. Humbug, | 9. Excel, |
| 10. Traffic, | 10. Tranquil. |

Teachers should make a strong effort to correct in their pupils the habit, prominently characteristic of some sections in the West, of disregarding the sound of long *u* in certain words, and of *ignoring* short and long Italian *a* in others. Drill on lists of words, embracing those most frequently abused, will go far toward correcting this evil. Place the following on the board, and ask your pupils to pronounce, in order written and with a reasonable degree of speed.

- | | |
|-----------|------------|
| 1. Flume, | 1. Dance, |
| 2. Room, | 2. Damp, |
| 3. Do, | 3. Calf, |
| 4. Dew, | 4. Call, |
| 5. Due, | 5. Glad, |
| 6. Suit, | 6. Glass, |
| 7. Roof, | 7. Glade, |
| 8. Tube, | 8. Glance, |
| 9. Rude, | 9. Laugh, |
| 10. Duty. | 10. Land. |
| etc. | etc. |

—*County School Council and Our Country and Village Schools.*

EXTRACTION OF THE SQUARE ROOT.

DR. SAMUEL WILLARD, CHICAGO.

HAVING occasion, some time ago, to make many extractions of square roots of sundry numbers, I discovered some facts about them, and some processes which I have never seen in print, and which I think may be useful to others. A friend tells me that he has heard of the first one, though it was new to me.

I.

It is directed by all the arithmetics, "Double the root already found;" and this process is repeated over and over through the extraction of the root. To be sure, one finds, sooner or later, that this doubling the root reproduces a series of figures already used; and then he tries the doubling process only until the repetition has plainly begun. But, I find that the doubling of the root already found is necessary *just once*; after that we may add to the last divisor at each step its own last figure instead of the doubling.

For instance, let us extract the square root of 87 to nine places, and apply this rule.

```

87|9.327379053
  81
  ---
183) 600
   549
   ---
1862) 5100
    3724
    ---
18647) 137600
     130529
     ---
186543) 707100
      559629
      ---
1875467) 14747100
       13058269
       ---
18654749) 168883100
        167892732
        ---
1865475805) 9903680000
          9327379025
          ---
1865475103) 57630097500
           55964274309
           ---
            1665823191
    
```

Following the usual rule, we place the root, 9, at the right, and subtract 81; to the remainder annex two ciphers; get the first trial divisor by doubling 9, and the first real divisor by annexing 3 to the double of 9. Now, to get the next trial divisor, do not double 93, but add 3 to 183, making 186 for the second trial divisor and 1862 for the real divisor. Now, add 2 to 1862, and we have the third trial divisor, 1864, and the real divisor is 18647. To make the fourth trial divisor, add 7 to 18647, making it 18654; and so proceed, never referring to the root figures found, but only to the divisor itself—to each real divisor add its own last figure, and we have the next trial divisor. In actual work I have found this a considerable saving of time and labor. It is easily seen that most of the divisor is carried forward unchanged,

II.

My next discovery was of a method of verifying the work, and of getting the square of the root as far as found, by a very simple process.

Turn attention to the subtrahends only; cancel the successive minuends by drawing lines through them. The successive subtrahends will then stand in relation to each other, as if set thus:

```

81
549
3724
130529
559629
13058269
167892732
9327379025
55964274309
86.999999998334176809 = Square of root.
Last remainder, above, 1665823191
87.0000000000000000
    
```

—*Illinois School Journal.*

Examination Papers.

DECEMBER EXAMINATIONS, 1887.

HIGH SCHOOL ENTRANCE.

LITERATURE.

Examiners: { J. E. Hodgson, M.A.
W. H. Ballard, M.A.

NOTE.—Candidates will take I., and either II. or III. A maximum of 5 marks may be added for neatness.

I.

She had never murmured or complained; but, with a quiet mind, and manner quite unaltered—save that she every day became more earnest and more grateful to them—faded like the light upon a summer's evening. The child who had been her little friend came there, almost as soon as it was day, with an offering of dried flowers which he asked them to lay upon her breast. He begged hard to see her, saying that he would be very quiet, and that they need not fear his being alarmed, for he had sat alone by his young brother all day long when he was dead, and had felt glad to be so near him. They let him have his wish; and indeed he kept his word, and was, in his childish way, a lesson to them all.

Up to that time, the old man had not spoken once—except to her—or stirred from the bedside. But when he saw her little favorite, he was moved as they had not seen him yet, and made as though he would have him come nearer. Then, pointing to the bed, he burst into tears for the first time, and they who stood by, knowing that the sight of this child had done him good, left them alone together.

1. Explain the meaning of the italicized portions.
2. What is the title of the lesson from which this passage is taken? Tell something about each of the principal persons mentioned in the lesson.
3. "Faded like the light upon a summer's evening." Explain the likeness.
4. What is the subject of the second paragraph?
5. Quote the poem entitled "Oft in the Stilly Night."

II.

Then there came a day
When Allan called his son, and said: "My son,
I married late, but I would wish to see
My grandchild on my knees before I die;
And I have set my heart upon a match.
Now therefore look to Dora; she is well
To look to; thrifty, too, beyond her age.
She is my brother's daughter: he and I
Had once hard words, and parted, and he died
In foreign lands; but for his sake I bred
His daughter Dora: take her for your wife;
For I have wished this marriage, night and day,
For many years." But William answered short:
"I cannot marry Dora; by my life,
I will not marry Dora." Then the old man
Was wroth, and doubled up his hands, and said:
"You will not, boy! you dare to answer thus!
But in my time a father's word was law,
And so it shall be now for me. Look to it;
Consider, William: take a month to think,
And let me have an answer to my wish;
Or, by the Lord that made me, you shall pack,
And never more darken my doors again."

1. Explain as clearly as you can the meaning of the italicized portions.
2. What is the name of the author of the poem? Why is he called the Poet Laureate?
3. Give the substance of the lines that precede the above passage. In what relation do they stand to the rest of the poem?
4. "I will not marry Dora." Which is the emphatic word? Why? Why not say "I shall not marry Dora?"
5. "And doubled up his hands." What does this action on the part of Allan indicate?
6. "You will not, boy." Why not "shall?"
7. Which of the two women, Mary and Dora, do you think worthy of the greater admiration? Give reasons.

III.

Ethereal minstrel! pilgrim of the sky!
Dost thou despise the earth where cares abound!
Or, while the wings aspire, are heart and eye
Both with thy nest upon the dewy ground?
Thy nest, which thou canst drop in: at will,
Those quivering wings composed, that music still.

To the last point of vision, and beyond,
Mount daring warbler! that love-prompted
strain
(Twixt thee and thine a never-failing bond)
Thrills not the less the bosom of the plain:
Yet might'st thou seem, proud privilege! to sing
All independent of the leafy spring.

Leave to the nightingale her shady wood:
A privacy of glorious light is thine;
Whence thou lost pour upon the world a flood
Of harmony, with instinct more divine:
Type of the wise who soar, but never roam;
True to the kindred points of Heaven and Home.

1. Explain as clearly as you can the italicized portions.
2. Shew the propriety of the following expressions:—"ethereal minstrel," "pilgrim of the sky," "dewy ground," "quivering wings," "daring warbler," "love-prompted strain," "proud privilege," "her shady wood," "kindred points."
3. *Thy nest*. What is gained by the repetition of the word *nest*? Why does the poet write *thy* rather than *your*?
4. What is the name of the author of this poem? In what part of England and at what time did he live?

HISTORY.

Examiners: { JOHN SEATH, B.A.
M. J. KELLY, M.D., LL.B.

NOTE.—Only four of the questions in English History are to be attempted; and only two of those in Canadian History. A maximum of 5 marks may be allowed for neatness.

I.—ENGLISH HISTORY.

1. Give an account of the reign of Victoria under the following heads: (1) The Chartists; (2) The Repeal of the Corn Laws; (3) The Disestablishment of the Irish Church; and (4) The Character of the Period.
2. Name two of the great political leaders of the reigns of George II. and George III., and state, as fully as you can, what each of them did to advance the interests of the English people.
3. What were the chief characteristics of "The New Monarchy"? State the events that led to its establishment, and shew wherein it differed from the Monarchy which preceded it and that which succeeded it.
4. State the chief events of the reign of Elizabeth, shewing why each of them is important.
5. Give an account of the effects produced upon the people of England by the Norman Conquest.
6. Write explanatory notes on the following: The Epoch of Reform; The Revolution Settlement; The Growth of the Democracy.
7. Give as full an account as you can of the life and chief works of any two of the following:—Chaucer, Spenser, Shakespeare, Milton, Burns, Sir Walter Scott, Tennyson.

II.—CANADIAN HISTORY.

1. Make a summary of the services rendered to Canada by each of the following: Champlain, Frontenac, and De Vaudreuil.
2. State what you know of the period of Military Rule in Canada. What circumstances led to the passing of the Quebec Act and the Constitutional Act, and what were the provisions of each of these Acts?
3. Shew, as fully as you can, why Lord Durham and Mr. Poulett Thompson are important in the history of Canada.
4. Shew, as fully as you can, that in both parliamentary and municipal matters Canada is governed by the people.

COMPOSITION.

Examiners: { M. J. Kelly, M.D., LL.B.
John Seath, B.A.

NOTE.—Only five of the questions are to be attempted, of which No. 3 and 7 must be two. A maximum of 5 marks may be allowed for neatness.

1. Combine the following elements into simple sentences:
 - (a) The doctor was reading some manuscript. The doctor had a complaisant smile on his face. The doctor was seated in an easy chair.
 - (b) She stood beside the harp for some little time. Her manner was curious. She went through the motion of playing it with her right hand. She did not sound it.
2. Arrange the words in the following sentences in as many ways as possible without changing the meaning:—
 - (a) From peak to peak, the rattling crags among, leaps the live thunder.
 - (b) Gone was the forest that of yore Had fringed with green the silent shore.
 - (c) The sound of the church-going bell These valleys and rocks never heard.
3. Combine the following simple sentences—the first series into a compound, the second into a complex sentence:
 - (a) He passed through many adventures. He assumed many disguises. He wandered about in imminent peril during forty-one days. He escaped in a sloop from Shoreham. Shoreham is in Sussex. He arrived safe at Fecamp. Fecamp is in Normandy.
 - (b) The early stars began to shine. We lingered on in the fields. We looked up to the stars. We thanked our God. God had guided us to this tranquility.
4. Change the first of the following from the direct to the indirect form, and the second from the indirect to the direct:
 - (a) Mr. Burke said: "I decline the election. It has ever been my rule to observe a proportion between my efforts and my objects. I have never been remarkable for a bold, active, and sanguine pursuit of advantages that are personal to myself."
 - (b) He replied that he was quite indifferent as to the punishment they might inflict; he had simply done his duty, and could face his enemies without fear.
5. Substitute other and appropriate words in the following passage for those printed in italics:

"About two hours before *midnight*, Columbus, standing on the *forecastle*, observed a light at a *distance*, and *pointed it out* to two of his *people*. All three *saw* it in motion, as if it were *carried from place to place*. A little after *midnight*, the *joyful sound* of "land! land!" was heard from the *Pinta*. But having been so often *deceived by fallacious appearances*, they were now become *slow of belief*, and waited in all the *anguish of impatience*, for the *return of day*."
6. Punctuate the following sentences correctly and make any other corrections you think necessary:

Oswald in the midst of his exertions did not forget his friends. Shielded with the buckler of Scripture he gained an easy victory. Many fearing to compromise themselves refused to take a side. The Pope France England the empire were all in connection. Seneca has very beautifully said life is a voyage in the progress of which we are perpetually changing our scenes.
7. Write, in your own words, a short composition embodying the substance of the lesson entitled "The Little Midshipman," or of the lesson entitled "Dora."

"PLENTY," for "plentiful" is another frequent abomination. "This fall's report shows them to be more plenty than for a number of years." "In favourable seasons the birds are very plenty in that locality."—*Forest and Stream*.—Which ought to be ashamed of itself!—*Franc-Tireur in Halifax Critic*.

BUSINESS NOTICE.

WE direct attention to the advertisement, 16th page, of the "Concise Imperial Dictionary." It is our intention to handle this Dictionary in connection with the JOURNAL, and we offer it in the best binding, and the EDUCATIONAL JOURNAL for one year, both for \$5.50, plus 14 cents for postage. Subscribers who are paid in advance may deduct the amount they paid for one year, send the balance, and have the book at once.

TORONTO, JANUARY 16TH, 1888.

Editorial.

HOW AND WHY.

IT is told of one who attained wide celebrity as a scholar and thinker that in his school-boy days he was once severely flogged by his teacher for failing to quote and apply a grammatical rule. The question was of this kind, "Why is this verb in the plural form?" The answer expected was, of course, "Because it agrees with its nominative which is plural." The master, one of the antiquated but not yet quite extinct species, who pin their faith to *memoriter* recitation and the ferule, felt sure that the boy knew the rule and attributed his failure to quote it to obstinacy. After repeated questions had failed to elicit the expected answer, and the birch, or whatever did duty for that educational instrument, had been freely used, the master himself quoted and applied the rule in orthodox fashion. He then said, "Now, will you know it next time?" "Oh," replied the boy, "that is the rule, I knew that all the time; but you did not ask for the rule, but for the reason. I do not yet know that."

We were reminded of this anecdote, which we had seen long ago, in reading the following paragraph, the other day, in an exchange:—

"A writer in *Popular Science Monthly* says that the Falls of Niagara came to exist through causes natural and easy of explanation, inasmuch as the whole secret lies in the character of the formations over which the river flows, viz., a crust made up of from sixty to a hundred feet of comparatively hard limestone lying in a nearly horizontal position, beneath which is a deep deposit of shale and sandstone. Whenever the river in wearing its channel back, reached the point where this arrangement of rocks began, the hard limestone would naturally resist the erosive action of the waters, while the underlying shales and limestone, offering less resistance, would be rapidly cut away until a vertical fall, such as is now seen, would be the result, with a constant recession going on, leaving below the broad canyon, walled on either side by bluffs, the crests of which are preserved by the limestone crowning them."

We recall the incident and the paragraph in order to point out a loose mode of speech which is very common and, as it seems to us, mischievous in these days, and particularly so, we sometimes think, in scientific treatises. The connection is very close between habits of speech and habits of thought. They act and re-act upon each other. The intelligent and faithful teacher can

render no greater service to his pupils than first to stimulate in them the love of truth and then guard them against current fallacies in the search after truth. There is, perhaps, no more fatal fallacy than that of assigning as a real cause that which is merely the next preceding link in an infinite chain of antecedents; in other words, the fallacy of confusing *how* with *why*. The school boy, who no doubt was voted a stupid block-head, was right. The schoolmaster, we hesitate to say teacher, was wrong. The rule, which is but a generalization by grammarians from prevailing usage, was in no proper sense of the word the reason for the form of the verb. The use of the word *cause* by the writer in the *Popular Science Monthly*, belongs to a somewhat different category. It may be allowable to apply the word "cause" in one of its senses, to denote the fixed antecedent in the order of production or development, provided the distinctive sense in which it is thus used is kept clearly in mind. When we know all that the scientific writer has told us we are really no nearer, or, at most, but infinitesimally nearer the real explanation of the cause of the Falls of Niagara than before the science of Geology existed, or the first careful observation of the strata of the earth's surface was made. A search for the real cause of the Falls of Niagara, were it possible to find it out by searching, would carry the inquirer backwards through an almost infinite and infinitely complicated web of those converging antecedents which we call secondary causes, but speak of in science as if they were real explanations. We should want to know, for instance, not only the cause of each layer of the strata described, whence it came, what determined its position relative to all the others, whence came the original material or world-stuff out of which it was made, whence its endowment with that mysterious attractive force which we call gravity, what is the nature of that force, how it is possible for inert matter to exert force, and so on until we reached the first and only true cause. And the same process with variations would have to be repeated with regard to the origin and history of the waters of the river.

We had no intention of drifting into metaphysics, but we cannot but regard the point we are trying to make clear as one of very great importance in its bearing upon the teaching of the young to *think*, which is beyond question the very quintessence, the soul, of all true teaching.

We venture, in closing, to add another illustration, in an alleged fresh discovery of science, which has suggested the same reflection. Mr. Norman Lockyer, the famous astronomer, has recently propounded a new theory of the Universe which bids fair to take the place of the "Nebular Hypothesis," which has so long held sway in the scientific world. His theory, supported by the results of a long series of experiments in analysis of the spectra of meteoric stones, is in brief that the heavenly bodies, suns, stars, nebulae, etc., are all the product of meteorites, which are darting through space in infinite numbers, and whose collision with certain cen-

tral masses creates and feeds the self-luminous bodies which stud and illuminate the universe. This theory, should it stand the test of scientific criticism, will be accepted as the true theory of the cosmos, or world-building process, and will be hailed, correctly enough, as a great and wonderful discovery. And yet it is obvious to a moment's reflection that it will not bring us one appreciable whit nearer the great mystery of *origin*, of the source of matter and of mind, of life and thought and will, in a word, of *being*. But how many will assume, or at least write and speak as if they assumed and believed, that a real and satisfactory cause of the heavenly bodies had been discovered? To a confusion of thought between merely *formal* causes and *first* and *final* ones is to be attributed much of the shallow scepticism of the day.

WHAT SHALL THE PUBLIC SCHOOLS TEACH?

THE Rev. M. J. Savage has a vigorous and thoughtful article, which is to be the first of a series by various writers, on the above subject, in the January *Forum*.

Many of the views he ably presents have been given from time to time in these columns. In fact, in so far as they are in any degree new, they may be said to be views that have been floating, more or less confusedly, in the public brain and on the surface of the public press, for some time past. Mr. Savage none the less does good service in collecting and, so to speak, crystallizing, these views, in a somewhat definite and logical arrangement.

Some of the questions presented are well worthy of the most serious and careful thought. We are accustomed in our ardent, and possibly rather intemperate, laudations of our Ontario educational system, to congratulate ourselves on its perfection as a whole made up of various articulated parts. There is perfect gradation, we say; a complete series of steps, each carefully related and adapted to the next, reaching all the way from the broad foundation in the public school, to the capstone in the provincial university. We have ventured on a previous occasion to point out that this very fact may lead the schools into danger of subordinating the interests of the many to those of the few. Mr. Savage, while admitting the theoretical beauty of such a system, points out two important considerations which are generally overlooked. "These are, first, that only an infinitesimal fraction of all the children of a state ever do, or ever can, avail themselves of any such opportunity; and, secondly, that a system of education that aims at, and can only be finished by, the university, cannot be adapted to the needs of the immense majority, who will never come in sight of the university."

This suggests several questions, such as, whether what is called the higher education of the few might not be provided for in a much more simple, direct, and inexpensive way; whether the ends aimed at by these few are not generally purely personal ends, in no way entitling them

to tax their hard-worked neighbors to help pay their expenses; and, above all, whether a graded system of teaching, which begins with the primary school, and whose logical end is the university, can be one best adapted to the needs of the great majority, who, as a matter of fact, do not even get through the grammar school, or its Canadian equivalent, the high school? We must content ourselves, for the present at least, with merely epitomizing these suggestive questions, and leaving our readers to think them out for themselves. They contain seed germs for a crop of vigorous reflections.

"Public money for public ends," is the sound principle which Mr. Savage reaches. Three things, he thinks, constitute the great essentials of what the public schools, based on this principle, should teach. First in order, both of time and of importance, is that "each child should be trained into fitness for honest self-support." The relation of this to the incorporation of industrial training as an integral part of the public school system is obvious. In this connection Mr. Savage fails to recognize what we believe to be a fact and an important factor of the problem, that a judicious admixture of manual training would in skilful hands rather facilitate than hinder the mental development of children not yet in their teens, one-half of whose school hours are now of necessity wasted simply because it is impossible for the child brain to work vigorously for several hours continuously.

Second, in a democratic community every man is an active part of the governing power, and should be trained into an ability to use this power intelligently. In other words, the child should be trained for future good citizenship.

Third, "he should be so educated morally that if afterward he chooses to do wrong it may be apparent that he does it with his eyes open, and not through ignorance."

Under this last requirement the writer discusses at some length the pressing question of the relation of religious instruction to the public school system. This same much-discussed but still unsettled question is brought afresh to public notice, in this Province, by an anonymous pamphlet which has come to hand, entitled "Religious Instruction in the Schools of Ontario." Some few things we may have to say on this subject must be reserved for another issue.

MANUAL TRAINING IN NEW YORK SCHOOLS.

THE subject of industrial education is attracting more and more the attention not only of educationists but of the public in various countries. One of the most direct practical experiments in the way of engrafting a course of manual training upon the ordinary public school system is that now being tried in connection with some of the New York schools. The following clear and succinct account of the arrangements, which we take from the *Christian Union* of Jan. 5th, will be read with interest. We shall chronicle from

time to time, as the facts come to hand, the progress and results of the experiment:

"The arrangements have now been completed for introducing manual training into the New York public schools. This introduction, however, takes place merely as an experiment. The appropriation is but \$15,000, or only one-eighth of the sum which would be necessary to carry on the course in all of the schools. Consequently the schools of four wards have been selected in which the trial will be made. Three extra teachers have been engaged, one for carpentering, one for cooking, and one for sewing, and these will aid the regular teachers in carrying on their work. Only two hours a week will be devoted to manual training. The time for the new study is found by lessening that devoted to the geography of the commercially unimportant parts of the world, such as Siberia and South Africa, and also lessening the time that is now given to reading, the children being expected to learn to read while studying their other lessons and while carrying on the courses of supplemental reading in general literature which have been introduced to such advantage. In the primary schools the manual training course will consist of drawing on paper, cutting paper into designs, modelling in clay, etc. The materials to be used are all cheap—paper, pasteboard, clay, and bits of thread or wire—and the children are expected to fashion different objects which are shown them, thus training their observation as well as their skill in handicraft. The cooking lessons will begin in the third grade of the primary school. The child will be taught the cost and nutritive value of different foods, and will be given as many practical points as possible regarding the kinds of stoves to be used, the use of various kitchen utensils, and the value of different articles of fuel. She will also be told the tests to be used in buying meat and such articles. The proficiency of the pupil in cooking will be tested by actual exercises before the class. In the higher grades of the primary schools sewing lessons are introduced; and in the grammar schools the girls will be taught how to cut their dresses as well as sew them. The manual training for the boys begins with drawing, pasteboard, and clay work; and in the grammar schools they take up wood-work, cutting first with a knife and afterwards using other tools from the carpenter's bench. The scholars are to be encouraged to do as much work as possible outside of the school-room—an experiment which has been tried with great success in some of our western schools where progressive teachers have introduced manual training before the Boards of Education have passed the appropriations necessary for its thorough prosecution."

THE TRUE END OF EDUCATION.

WE have had by us for some time some extracts from a report in the *Kingston Whig* of an address delivered by Mr. R. K. Row, Principal of the Kingston Model School, before the Frontenac Teachers' Association. Judging from the extracts the address was an excellent one. Its central thought, that the true end of all education is the development of character, cannot be too often or too strongly insisted on.

"Every thought and act," said Mr. Row, "tends to fix habit, to form character. Every school exercise to be valuable must tend to develop some good habit, and the teacher should give every lesson with a definite purpose to make it bear on character-formation at some point. Love of truth, patience, self-control, in-

dustry, justice, mercy, and humility are some of the qualities that can be exercised favorably in the school room. Remove every temptation to deception. The fear of severe punishment makes many liars. Copying at examinations, changing the figures to make the books balance, appropriating extra change at the counter, making false entries, forgery, is a regular descent from the school room to the penitentiary. A person does not become dishonest in a day, or a month, or a year. Much crime and vice is the direct result of idleness. Not one child in a thousand is naturally idle. Industry is a habit as much as idleness."

OUR EXCHANGES.

THE January number of the *Atlantic Monthly* fully sustains the high character of this standard American magazine. An excellent steel portrait of Miss Murree ("Charles Egbert Craddock") forms the frontispiece. In addition to a number of stories by well-known authors, two of which are commenced in this number, there are unpublished letters of Benjamin Franklin to his brother printer, Sarahan of England; a postscript to his "Hundred Days in Europe," by Dr. Holmes; and other articles, some weighty, some descriptive, others in lighter vein. Also usual book reviews and Contributors' Club.

In addition to the Educational article discussed in another column, the *Forum* for January contains its usual quota of short, crisp, vigorous articles by able writers on various topics of current interest. The *Forum's* list of contributors for the current volume contains many distinguished names, American and English.

THE *Century Magazine* for January comes to us with a varied table of contents. Mr. Rannan's record of personal investigations of Russian provincial prisons, is a startling article and will be read with great interest, as will also by many Dr. Schaff's illustrated article on "The Catacombs of Rome;" letters on "Industrial Education in the Public Schools," from superintendents who have tried it; Professor Atwood's paper on the "Pecuniary Economy of Food;" and numerous others, according to the varied tastes of readers.

THE number of *Littell's Living Age* dated January 7th begins a new volume—the one hundred and seventy-sixth—of that standard weekly magazine. The first number of the new year and new volume has the following table of contents:—"The Life and Letters of Charles Darwin," *Contemporary Review*; "The Magic Fan," by John Strange Winter, author of "Bole's Baby," etc., *English Illustrated Magazine*; "Mohammedanism in Africa," *Nineteenth Century*; "Lord Macaulay and Madame D'Aublay," *National Review*; "A Dramatic Effect," *Blackwood's Magazine*; "The Future of the Negro," *Spectator*; "Early English Navigators and their Nautical Instruments," *St. James's Gazette*; "New Names for New States," *Spectator*; "Old Silver," *St. James's Gazette*; with choice poetry and miscellany. A good time to subscribe.

BOOK NOTICES.

A Christmas Chat, by T. Arnold Haultain, M.A.

WE are rather late in noticing *A Christmas Chat*, though, as its chief connection with Christmas is that the dialogue sets out from the text chosen for a Christmas sermon, the chat is as readable at any other season. The dialogue, if such it can be called when the talking is nearly all on one side, is carried on between the interlocutor who speaks in the first person, and does not describe himself, and a somewhat narrow, "mildly intelligent" curate, "very orthodox" and with a leaning to ritualism which incidentally comes in for rather rough handling. The central thought of the chief speaker is the resemblance between love and religion. The little work is suggestive and well worth reading. Mixed up with a little Arnoldism, a little pantheism, and not a little pedantry, the excursions of the chief speaker in the realms of fancy bring back to us some good thoughts, neatly and vigorously expressed, and well adapted to elevate and expand the strait-laced views of his listener, though startling and even shocking to his rather shallow orthodoxy.

Literature and Science.

WHITTIER'S BIRTHDAY POEM.

THE *Critic* offers its personal congratulations to the Nestor of American poets—the singer of fire-side ballads and impassioned battle-cries of freedom, the lover of good and hater of iniquity, the pure-minded and true-hearted man and Christian, whose eightieth year is rounded out to-day. In the hearts of his fellow-countrymen Mr. Whittier holds a place that has been filled by none of his predecessors, and is unlikely to be occupied by any succeeding poet. While his birthday is the subject of universal comment from without, it is interesting to read again the poem in which he recorded, years ago, the thoughts suggested in his own mind by a recurrence of the anniversary. The poem is called—

MY BIRTHDAY.

BENEATH the moonlight and the snow
Lies dead my latest year;
The winter winds are wailing low
Its dirges in my ear.

I grieve not with the moaning wind
As if a loss befell;
Before me, even as behind,
God is, and all is well!

His light shines on me from above,
His low voice speaks within,—
The patience of immortal love
Outwearying mortal sin.

Not mindless of the growing years
Of care and loss and pain,
My eyes are wet with thankful tears
For blessings which remain.

If dim the gold of life has grown,
I will not count it dross,
Nor turn from treasures still my own
To sigh for lack and loss.

The years no charm from Nature take;
As sweet her voices call,
As beautiful her mornings break,
As fair her evenings fall.

Love watches o'er my quiet ways,
Kind voices speak my name,
And lips that find it hard to praise
Are slow at least to blame.

How softly ebb the tides of will!
How fields, once lost or won,
Now lie behind me green and still,
Beneath a level sun!

How hushed the hiss of party hate,
The clamor of the throng!
How old, harsh voices of debate
Flow into rhythmic song!

Methinks the spirit's temper grows
Too soft in this still air;
Somewhat the restful heart foregoes
Of needed watch and prayer.

The bark by tempest vainly tossed
May founder in the calm,
And he who braves the polar frost
Faint by the isles of balm.

Better than self-indulgent tears
The outflung heart of youth,
Than pleasant songs in idle years,
The tumult of the truth.

Rest for the weary hands is good,
And love for hearts that pine,
But let the manly habitude
Of upright souls be mine.

Let winds that blow from heaven refresh,
Dear Lord, the languid air;
And let the weakness of the flesh
Thy strength of spirit share.

And, if the eye must fail of light,
The ear forget to hear,
Make clearer still the spirit's sight,
More fine the inward ear!

Be near me in mine hours of need
To soothe, or cheer, or warn,
And down these slopes of sunset lead,
As up the hills of morn!

—The Critic.

PERSISTENCE OF MISQUOTATIONS.

EVIDENCE of what may be called the intellectual depravity of human nature is found in the tendency to follow errors of citation, even from well-known authors.

Some one happens to blunder into a misquotation, and the incorrect version is sure, in a little while, to drive out the correct one from the minds of many persons who ought to know better. A few instances of misquotation occur to me which I have myself noted, and the list might no doubt be easily lengthened. The first that comes to mind is Milton's line at the conclusion of the *Lycidas*, "To-morrow to fresh woods and pastures new," where *fields* is commonly substituted for *woods*.

So slight a change as that of a preposition puts a somewhat different meaning into Ben Jonson's memorial verse, "He was not of an age, but for all time." Here *for* is often made to replace *of*, in the first clause.

We are all supposed to know our Shakespeare, but in fact a good many persons' knowledge is of the second-hand sort that does not enable them to detect a misquotation. When Mr. Booth or Mr. Irving delivers the "To be or not to be" soliloquy, some who hear him speak of "the thousand natural shocks that flesh is heir to," may be surprised into fancying that the actor is making a slip, the substitution of *ills* for *shocks* being so common that the right word sounds strangely. In speech and writing how often mention is made of the "bourn" whence no traveller returns. Shakespeare wrote of the "undiscovered country, from whose bourn no traveller returns." These misquotations are from one of the best known plays, often acted on the modern stage, and from the most hackneyed lines in it. Again, people cite from *The Merchant of Venice*, "The man that hath no music in his *soul*," where the text has "in *himself*."

It is curious to note that certain verses, very familiar to us in their present shape, are plagiarisms—or allowable borrowings, if you please—from older authors. The modification of the original has sometimes been an improvement, sometimes not, but in either case the newer form has supplanted the old. The modern author gets that possession of the poetical property which is nine points of the law, as Campbell has done with the well-known line, "Like angels' visits, few and far between." This is tautological, for if the visits are far between, it is needless to say they are few. John Norris, who in the latter half of the seventeenth century compared the "joys most exquisite and strong," which soonest take their flight, to "angels' visits short and bright," may never have written anything else worth the stealing, so it seems rather cruel that he should lose the credit of his happiest thought. Later Robert Blair helped himself to Norris's verse, altering "bright" into "far between." It is probable, therefore, that Campbell "conveyed" from Blair, rather than from the original writer. In like manner, Pope made himself free with Dryden's verse, "From grave to light, from pleasant to severe," changing *light* into *gay*, and *pleasant* into *lively*; and with Prior's "Fine by degrees and beautifully less," in this instance altering the sense as well as the words. But "fine by defect and delicately weak" is an unmistakable imitation of Prior. No doubt the same thought may occur to more than one man, and since human experience repeats itself, reflections on life are likely to resemble each other. Gray wrote, "Where ignorance is bliss, 'tis folly to be wise." Prior, before him, made the proposition a universal one when he asserted that "from ignorance our comfort flows, the only wretched are the wise;" and centuries before Prior, a nameless Jew had set it down in his book that "he that increaseth knowledge increaseth sorrow."—*January Atlantic*.

Miscellaneous.

PRACTICAL CHARACTER-BUILDING.

THE following is an extract from a paper read before the Ohio teachers, last summer, by Miss Marie Jaque:—

The case of a miserable, ugly, freckled-faced, red-headed lad of about nine years of age, came under my observation. His father had deserted his mother, who had then become a wash-woman. The boy was poorly clad and only half clean. His moral character was even worse than his appearance. He had stolen repeatedly, was of course untruthful, and had such a passionate nature that he was constantly quarrelling and fighting with his comrades and resisting the commands of his teachers.

Finally he came into the hands of one of those dear, noble women, whose tender hearts go out always, and especially to those wretched children, whom everyone else neglects and dislikes. She knew just how to get at the spark of good, hidden somewhere beneath the dirty jacket and insolent manner. She received him into her room as if she had every reason to believe him a fine fellow. She kindly inquired where he lived, and a few evenings afterward went home with him, he walking proudly by her side showing her the way. She found the mother to be one of those hard-working, honest, but ignorant creatures who knew nothing at all about managing boys. She was greatly distressed that David would act as he did, yet she could do nothing with him. She said he was idle, impertinent, and often got into a furious temper when she asserted any control over him. The teacher understood the situation and first set about it to arouse the boy's self-respect.

She gave him money to get his mop of hair cut, then commented on his improved looks. From some friends she begged a suit of clothes, and she made him the children's protege, too, by allowing them to supply collars and neckties. When he came to school wearing these things, they all noticed and spoke of how nice he looked, and he felt the immense satisfaction there is in appearing well. Of course all this was done with the delicacy and tact of a cultured woman, and without hurting the boy's feelings in the least.

From pride of appearance she appealed to pride of character, and soon had David working nights, mornings, and Saturdays about the house of another friend whom she enlisted in the good cause. When, at length David came to school one day, wearing a "bran" new suit, the price of which he had earned and saved every cent himself, there was great rejoicing in the whole room at this triumph over idleness, and David was the hero of the hour, consequently proud and happy. He was sure it paid to work, and so he has thought ever since. He is now saving his money to surprise his mother with a clothes wringer to lighten her labor. She says he is a different boy entirely about the house. He seldom gets angry, is helpful, kind, and obedient to her, and has never taken anything not belonging to him since he came under the influence and wise direction of this good woman.

"Why, he would wade through fire for his teacher," his mother exclaimed. "She is the first person that ever cared anything about him. I never would have believed he could have changed so!" This David had certainly conquered his Goliath, and the battlefield which saw the victory was located where the boundaries of Utopia and Ohio lap.

The school board knows nothing about this boy and that woman's glorious work; she got no pay, no praise, from any of the authorities, but who shall say it was not the crowning act of her year's labor in service to society and to the state, though all unheeded it was done.

DON'T keep a whole class waiting while you punish or reprimand a culprit. It is not fair for the class, best for culprit, or wise for the teacher. It is bad business management. No boss would stop his engine, call to attention his army of employes, while he administers a formal rebuke to some recalcitrant worker. Such foolishness is known only in the school room.—*National Normal Exponent*.

Educational Meetings.

ANNUAL MEETING OF THE MODERN LANGUAGE ASSOCIATION

THE first annual meeting of the Modern Language Association of Ontario was held at the rooms of the Canadian Institute, Toronto, on the 28th and 29th of December, the President, W. H. Vandersmissen in the chair.

Dr. Wilson, Honorary President of the Association, read a paper on "The Influence of the French Revolution on English Literature." The intimate relation between national life and intellectual and literary activity was illustrated by reference to Grecian, Roman, and modern European history. The general principle thus evolved was then applied to the special case under consideration.

The reading of the Sec. Treasurer's report, nomination of members, etc., occupied the remainder of this session.

In the afternoon, F. F. Macpherson, B.A., read a paper on "English Metre." The writer dwelt on the importance of paying close attention to metre, in order to the full apprehension of the thought and feeling expressed in poetry, and pointed out methods of simplifying the work of teaching metrical facts and laws. The discussion of the subject was continued by Mr. Balmer.

G. E. Shaw, A.B., read a paper on "The Natural Method of Teaching Languages." Mr. Shaw outlined a course of lectures to which he had listened at the Summer College of Languages, at Oswego, N.Y., last summer. The discussion was continued by a number of members of the Association.

The next paper was by G. A. Chase, B.A., on "Language and Thought." The close connection and interdependence of the two were pointed out. Discussion continued by several speakers.

In the evening the president delivered an address on "History and Literature," showing by reference to German history and literature how the literature reflects the national life and also how it has influenced the national life.

"The Study of English in Ontario" was the subject of the next paper, which was by D. R. Keys, B.A. This paper took the form of a criticism of an article in *The Week* by T. A. Haultain, M.A. Several members continued the discussion.

J. M. Hunter, M.A., LL.B., then read a paper on "Our Text Books," in which he discussed the unsatisfactory mode of authorizing text-books by the Department of Education, and pointed out a number of unsatisfactory features in several of the text-books now in use. Considerable discussion followed.

A motion was offered by A. W. Wright, seconded by E. J. McIntyre, that a committee of members consisting of Messrs. Squair, Shaw, Whetham, McIntyre, and Sykes be appointed for the purpose of compiling a reader for use in the First Form of our high schools, and, in the event of the book being authorized that any money paid as royalty on the sale of such book belong to the revenues of the association.

The resolution was on motion laid on the table till next day.

On the morning of the 29th the society proceeded to the election of officers. The following were elected:—Dr. Wilson, Honorary President (by acclamation); Mr. Seath, President; Mr. Squair, Secretary-Treasurer; Messrs. Shaw, Keys, Whetham, Wright, Chase, Huston, Robertson, and Vandersmissen, Councillors. Several new members were nominated.

The secretary was, on motion, instructed to issue a circular to be sent to the modern language teachers in the province, asking them to send in to him, before the next meeting of the association, the names of such works in English, French, and German as they think suitable for the junior and senior matriculation examinations.

The following resolutions were moved by C. Whetham, and seconded by R. Balmer. Resolved:

1. That this association is of opinion that no text book should be authorized by the Department of Education for use in the high schools of this province, until at least one year has elapsed from the date of its publication.

2. That no text book should be authorized by the Department of Education for use in the high schools, except with the written approval of at least twenty teachers actually engaged in teaching in the high schools or colleges of the province of Ontario, in the special department of study to which the proposed text book belongs, and known to be specially qualified to judge of the merits and demerits of such proposed text book; the names of the teachers recommending any text book to be made public at the same time that the authorization of the text book is announced.

3. That the object of authorization of text-books for high schools should be to recommend, rather than to prohibit text-books, and that any teacher in charge of a special department of high school study should have the privilege of using in his own school any text-books which he, with the approval of the board of trustees, may consider best adapted to supply the wants of his classes.

Debate on the resolutions was adjourned. At the afternoon session Mr. Fraser read a paper on "The Ear and Eye in Modern Language Teaching." The essayist thought too much attention had been paid in the past to reading, and not enough to speaking in the teaching of modern languages. Discussion ensued.

Moved by Mr. Seath, seconded by Mr. Chase, and resolved: That this association request the Senate of Toronto University to instruct its examiners in French and German to test all candidates presenting themselves at Toronto in dictation and oral exercises in these languages.

Mr. A. W. Wright followed with a paper on "Translating French." The writer dwelt on the necessity of carefully weighing both the French from which you are translating and the English into which you are translating, in order to get the fullest benefit from the exercise. Discussion followed.

The discussion of Mr. Whetham's resolutions on text-books having been resumed, W. A. Fraser moved in amendment, seconded by F. H. Sykes: That in the opinion of this Association, it is of great importance in the selection of text-books for use in the schools of the province, that the Department of Education should attach due importance to the knowledge and experience of the teaching profession; that, in the selection of modern language text-books heretofore, the Department has not fully availed itself of that assistance in selecting text-books which might have been obtained by more direct communication with the teachers engaged throughout the province in this branch of instruction; and that the Minister of Education be urged to devise some means by which, in reference to this important matter, the opinions of teachers may be known to the Department, and their advice made available.

A motion to postpone consideration of the matter until the next meeting of the association was lost, and Mr. Fraser's resolution declared carried. The executive committee was instructed, on motion, to lay the resolution before the Minister of Education.

Moved by A. W. Wright, and seconded by F. H. Sykes, that in view of the very unsatisfactory nature of De Fiva's Reader, we make the following recommendations to the Department of Education:—

(1) That the compilation of a new text-book of suitable selections be entrusted to a committee of this Association.

(2) That a committee be now appointed to compile the book, in case of our request being granted. Moved in amendment by R. Balmer, seconded by A. F. Chamberlain, that this Association express its emphatic disapproval of De Fiva's Reader. Carried.

Moved by R. Balmer, seconded by A. F. Chamberlain, that this Association express its disapproval of the "Word Book" authorized by the Education Department, and recommend its removal from the list. This motion was declared carried, but was afterwards, on motion of the mover, reconsidered and withdrawn.

After some formal addresses and resolutions the Association adjourned.

In English, French and German the name of the great Russian novelist should be written *Tolstoy*, not *Tolstoi*, the reason being that the family itself writes *Tolstoy*.

Correspondence.

THE HIGH SCHOOL PHYSICS.

To the Editor EDUCATIONAL JOURNAL.

SIR,—I have read with pleasure the article on the Steam-engine, by Mr. James Asher, published in your issue of yesterday. In this article Mr. Asher properly objects to the use of the word "always" in line seven, page 198, of *The High School Physics*, and also to the diagram on page 197. For the word "always" should be substituted the phrase, "during the greater part of each stroke," and the diagram should be so changed as to represent the valve crank less in advance of the piston crank. The angle between these two cranks depends upon the extent to which the expansion of the steam is made use of, but in all cases it is between one and two right angles. I shall take care to have these corrections made in future editions of the book, and I hope that those having the first or second edition will make the corrections for themselves.

I am very thankful to Mr. Asher for pointing out this error, and I hope that he and others will point out any errors that may be discovered.

Mr. Asher also objects to the statement that the steam-engine is a "wasteful" machine. I do not see any force in this objection. It seems to me proper to call a machine wasteful which utilizes less than one-fifth of the energy supplied to it, even though it may be capable of little improvement.

The steam-engine of to-day is wasteful, not from faults of construction or design, for in these respects more than a little improvement is impossible, but because, working within practical limits, steam is not an economical vehicle for conveying the energy from the furnace to the engine. The steam-engine is wasteful in the same sense as a well-constructed turbine would be wasteful, if for some reason with which the turbine had nothing to do, it were absolutely necessary to set the turbine near the head instead of at the foot of the fall whose energy it was intended to utilize.

With regard to rotary engines, I do not think that they will be used except where speed without gearing is the main object, and fuel is of little account. At what temperature does Mr. Asher hope to discharge the steam from a rotary engine? I think he will find one of these only less wasteful than his proposed reaction engine.

In the improvement of heat-engines the most promising field seems to me to lie in the development of the gas-engines. The absolute efficiency of a good gas-engine is to-day higher than that of the best steam-engine. The steam-engine is almost as good as it can be made, the efficiency of the best being more than half the ideal efficiency which a perfect engine would show when working through the same range of temperature. In the gas-engine at present the actual is less than one-fourth of the ideal efficiency. It is possible for the gas-engine to work through a greater range of temperature than the steam-engine can. In other words, the gas-engine can make use of a greater fraction of the total heat than the steam-engine can, hence its greater possible absolute efficiency.

I trust that Mr. Asher's communications will not close with your next number. Science has received little attention in our educational papers. I hope that Mr. Asher's paper will serve to introduce a discussion of the subject, which will go on without interruption. Yours &c., C. FESSENDEN.

NAPANEE, Jan. 3, 1888.

MESSRS. D. FOTHERINGHAM, P.S.I., and R. Dawson, B.A., T.C.D., presiding examiners, authorize the following:—At the examination of applicants for admission to high schools and collegiate institutes, held simultaneously at the Weston High School and the Parkdale Model School, 106 candidates presented themselves—62 girls and 44 boys. Of these, 41 have been provisionally admitted by the examiners, 24 at Parkdale and 17 at Weston; two have been recommended, one at each place; and the remaining 63 have failed to reach the standard necessary for passing. The failures were fairly distributed among the several subjects, and appear to the examiners to be due mainly to inadequate preparation on the part of the pupils, no single paper being justly chargeable with the result.—*The Globe*.

Educational Notes and News.

THE University of Michigan has at present a total enrolment of 1599. Among the number are twenty Japanese.

GRAND RAPIDS (Mich.) schools contain 567 boys of five years old and older who use tobacco. The proportion is no worse there than in many other cities.—*The Moderator*.

EDUCATE only a man's head and you make him an infidel; educate only a man's heart and you make him a fanatic; but if you educate them both together, you have the noblest work of God.

THE teacher who does not subscribe for at least one educational journal is not the progressive, intelligent, public spirited, "abreast of the times" person that a teacher should be.—*National Educator*.

THE work which our teachers do in the world can be discussed and criticised by small men and women; but it cannot be undone or brought back. They kindle a light which flames on forever and forever.

THE following colleges have reported more than one thousand students each: Harvard, 1,690; Columbia, 1,489; University of Michigan, 1,475; Oberlin, 1,302; Yale, 1,134; North-western, 1,100; University of Pennsylvania, 1,069.

THE following cities of the world, according to the latest evidence, have over one million inhabitants:—Aitichi, Japan; Berlin, Prussia; Canton, China; Changchoofoo, China; London, England; New York; Paris, France; Siam, China; Tschautchaufu.

IN Prussia a large number of ladies have petitioned the Minister of Education against appointing male instead of female teachers for the upper classes in girls' schools. They take the ground that male teachers do not understand the inner life of girls, and that, therefore, the education of the latter must to a great extent be inconsistent and superficial.

THE Milwaukee School Board have instructed the city superintendent to prepare a plan by which the 7th and 8th grades of the city schools may be enabled, with their teachers, to visit the city museum at stated times; and also to arrange for lectures upon such parts of the contents as may be suitable for the purpose, to be delivered to the pupils by the custodian or other suitable person.

PROFESSOR ALEXANDER JOHNSON, of Princeton, is an athlete as well as a historian and political economist. It is related that at the end of last summer's vacation a pedantic young tutor asked him what special work had engaged his attention during the summer. "For my part," said the young man, "I completed my monograph on the different Latin pronunciations. What did you do?" "I covered second base for the local team," said the professor of economics, "and we won five out of the eight games this season."—*Ed News*.

It seems to be becoming impossible for any one to write "round" simply. It must always be "around," a word which can rarely be legitimately used, except in poetry. Webster gives two examples which illustrate with clearness the poetical and graceful, and the common and vulgar use of the word—

"A lambent flame around his brows"—*Dryden*.
"I was standing around when the fight took place."—*N. Y. Police Gazette*. And, no doubt, he gave full nasal twang to his evidence. If one were hypercritical, it might be open to ask how a fellow could be standing around anything; to get round it he must move, and when he moves he is not standing. It is quite possible the "a" was originally prefixed when an additional foot was required to round a metre.—*Franco-Tireur in Halifax Critic*.

AN exchange says that there are no fewer than 700 teachers in Quebec, who have no professional certificates, in spite of the fact that the highest diploma required there does not need as stringent an examination as the lowest diploma granted in the Province of Ontario. This fault lies principally with the wretched salaries offered to teachers in

the rural districts of Quebec. One hundred and fifty dollars a year is the usual inducement offered throughout the eastern townships. The consequence is that few men or women of ability care to enter the profession there, and the state of education is said to be very deplorable.

FIFTEEN states of the American Union have adopted compulsory education. The ages within which the acts apply are, in ten states, from 8 to 13 years inclusive, in one from 7 to 13, in one from 7 to 14, in one from 5 to 14, in one from 7 to 11, and in one from 10 to 14. The law in several of these states is strengthened by the factory laws, forbidding the employment of children under certain ages, varying from fourteen to sixteen, unless they have attended school during certain prescribed periods of the preceding years.

MR. BENJAMIN FREER, M.A., was presented with a fine gold watch and a warm-hearted address on the occasion of his resigning the head mastership of the Kincardine High School, to take charge of the Church school for boys in Toronto. Several leading men of the town also delivered highly complimentary addresses. Mr. Freer's history is in one respect unique. He has been head master of the Kincardine school for 19 years. The tone of address and reply shows that the right kind of feelings and relations existed between Mr. Freer, his pupils and their parents.

THE following is the work of a Choctaw Indian boy fourteen years of age, living in Indian Territory. A translation of one of Aesop's fables was read to him, and he reproduced it from memory. "Travelers and the ass. Two travelers made journey to their homes. Travelers saw an ass in their way, was feeding by in desert. Travelers ran to it with joy. One of the travelers want to ride by self. But this other one want to ride too. So this two travelers were began to quarrel each other. At this moment an ass was run off. This two travelers none of these two did not take their position. This fable teaches us to be good and kind each other. Yours truly, _____ I dont think you cant read this fable. Just mixed up."

AN uncommonly sensible will has been left by Mr. R. Quain, F.R.S., whose death took place on the 15th of September. Practically the whole of his fortune, amounting to £75,000, has been bequeathed to University College, London, and for the specified purposes of his noble gift about £60,000 will be immediately available. An impetus will be given by the endowment to the study of branches of knowledge which stand very greatly in need of stimulus in this particular way. To his thinking all the learning that hinges on the classics or thinking of the ancients is already well provided for, and he has assigned the whole of his fortune most wisely to encourage, in connection with University College, "general education in modern languages (especially the English language and composition) and in natural science." The trustees are not very strictly tied down in the method of giving effect to these provisions; but whatever they may do in professorships, scholarships or fellowships, they are not likely to bury the money in buildings.—*Leeds Mercury*.

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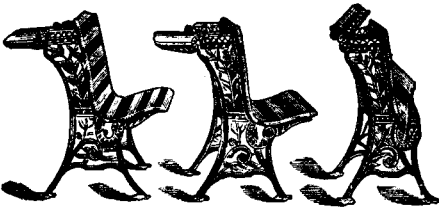
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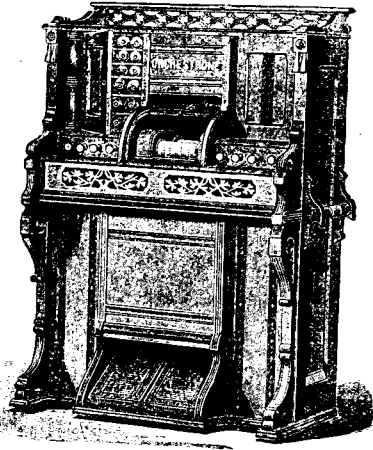
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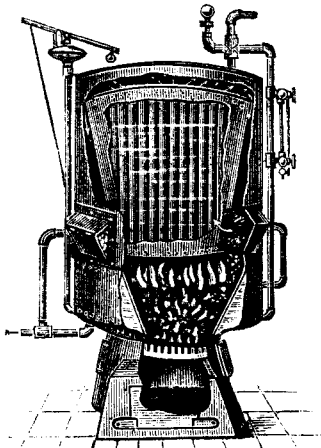
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