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# The Educational Journal.

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## ✻ Editorial Notes. ✻

AN essay on "How to Teach Writing in the Public Schools," by J. B. McKay, Principal of the Dominion Business College, Kingston, was awarded the first prize in the International Penmanship Competition in connection with *The Penman's Art Journal*, of New York. The essay is printed in a neat form and can be had, we presume, from the author. It would no doubt be very serviceable to many a teacher in connection with a very difficult part of his duties.

FROM the announcement in our advertising columns it will be seen that the "Ontario School of Elocution and Oratory," which is to hold a summer session at Grimsby Park, is to be continued permanently in Toronto, where its fall term commences October 5, 1891. So far as we are aware this will be the first and only school of the kind in Ontario. If well conducted, it will do a much needed work, and should be successful. The kind of reading and speaking we too often hear from pulpit and platform affords ample evidence that there is room for such a school in our city and Province.

A PROPOSITION is under consideration in pedagogical circles in England looking to the institution of a degree in Education co-ordinate in rank with the degrees now bestowed in connection with the other learned professions. Resolutions in support of this proposal were, we believe, to have been submitted to the Convocation of the University of London, on May 12th, but we

have not heard what was the result, or whether the memorial was actually presented or not. The suggestion is, to say the least, worth thinking about. The resolutions drafted, as discussed by a correspondent of *The Educational*, seem rather crude, but the general idea is to have a degree equal in value to the present Master of Arts degree, to be called the Degree of Master of Education.

THE enforcement of the new Truancy Act will no doubt make it necessary for cities and towns to make better and ampler provision for the accommodation and training of children of the vagrant classes. A late number of the *Schoolmaster* (London, Eng.), gives some insight into the way the London School Board is taking hold of this part of its work. It contains a report of the inspection of a new truant school which, was recently opened at Highbury Grove:

The school premises formerly belonged to the Church Missionary Society, and were purchased by the London School Board for £9,000. There is accommodation for 160 lads. When a truant arrives he enters by a side door, and is at once conducted to a room where his clothes are taken off and immediately placed in a very hot oven, and afterwards in a locker till he quits the premises. The lad has his hair cut, and is at once bathed. Then he is provided with a suit of school clothes, and is allowed to mix with the other truants. Special attention seems to be paid to the washing arrangements, a most thorough system of shower-baths having been adopted. The dormitories are clean and neat, and a fire-escape passes through them right down the centre of the house. The dining-hall is large and lofty, and the class and officers' rooms are all that could be desired.

We do not suppose that the boarding arrangements will ordinarily be necessary in our cities. When it is necessary that the waifs be taken wholly in charge the industrial schools are the best places for them. But, in a city like Toronto, we have no doubt that the rigid enforcement of the Act will make it necessary to increase considerably the Public School accommodation, and also to provide special schools for those who may require special training before attending the Public Schools.

THE Board of Overseers of Harvard University have rejected, by a very emphatic

vote, the proposal of President Elliott to reduce the Harvard University (academic) course of study from four years to some shorter period, in certain cases, the length to depend on amount of learning accomplished. The proposal had attracted much attention in university and collegiate circles, for it was felt that other schools of higher learning throughout the country would almost inevitably have been compelled to follow so influential a lead had the sixteen course plan been adopted. The conclusion of the Overseers was no doubt largely due to the unfavorable criticism of the scheme by the greater number of the influential papers. The gist of their hostile criticism is well summarized in the *New York Press* as follows:

"They pointed out that the scheme was, in effect, to put an extra premium on that curse of all school studies, cramming; that the very men whose facility in committing lessons to memory is greatest are often the very men who most need the calmness and thoroughness which an ample period of study allows; that the class system, which forms a chief charm and fraternal bond in college and in post-graduate life, would be shaken if not broken; and, finally, that half the value of a college education consists in the social and intellectual atmosphere breathed on the campus and in academic halls, so that any contrivance for diminishing that would result in a loss for which no mere stuffing of the mind with facts and words could compensate."

It is not a little singular that these arguments, most of which might have been expected to weigh specially with Professors, should have been rejected by the Faculties, and have prevailed with the business men of the Board of Overseers. But we suppose that the misapprehensions upon which they are largely based were more readily discerned by the professional teacher than by the newspaper correspondent, or editor or by the man of affairs. The former would readily see that cramming does not at all depend upon the existence of the opposite of a summer session, but upon the quality of the teaching and examinations, and so forth. The action of the Harvard Overseers may check, but will be powerless to stop a movement of which University Extension, and the New Chicago University, are the significant expressions.

## \* Special Papers. \*

## THE COUNTRY TEACHER.

BY SCHOOL-DIRECTOR S. R. THOMPSON, NEW WILMINGTON, PA.

WHEN, at the request of the Editor of the *Monthly*, I consented to "write something for teachers from the standpoint of a director," the country school teacher was in my mind, and still is as I write. Teaching in the city may be as laborious as it is in the country, but it is less discouraging. In what follows, the writer has sought to economise space and time by addressing the country teacher directly.

1. Do not allow yourself to think that your work in the country is less important than that of other teachers elsewhere. It is true that the city teacher has more comfortable surroundings, greater facilities, more encouragement, and is usually better paid than you are; but on the other hand, you have the best, because the most promising material to work on. Remember that from the country schools have come at least four-fifths of the great, wise and influential men and women of the present generation; and that this is certain to be true of the next generation as it is of this. The city and the country teacher may be compared to two workmen who are engaged in making axes; the one has the finer shop and forge, but the latter has the finer steel to work on, and makes the greater number of good axes.

The permanent influence of the faithful country teacher is usually far greater, and this circumstance may well be a set-off to some of the inconveniences of school teaching in the country.

2. You should set yourself to do some missionary work in the cause of education. You will find yourself sometimes in a neighborhood in which ideas of what education should be are terribly insufficient for our time and country. It is your duty, as it may be your high pleasure, to help change this state of things for the better.

You should feel bound by every principle of honor to make your profession as respectable as possible. Read, think, reflect, and having settled for yourself what good school work is, go in with all your force to realize your ideal. Show your patrons that you mean business, and that you have a distinct purpose in what you do, and know what you are doing. Zeal, energy and steady effort will make a mark in any community.

3. Do not think that because the people of the district do not visit your school, they are indifferent to the progress of the scholars. Doubtless, there are some persons in most districts who do not care how the school goes on, but their number is small, and they are usually persons of no influence, perhaps without much character. The chief reason why parents and directors do not visit their school is that they do not see how they can do it any good by such visits. It is a fact that very few persons are judges of school work; the common standard is as often wrong as right, and unless a visitor has such knowledge as will enable him to judge the school correctly, his criticisms are quite as likely to do harm as good. If your school gets on soundly, the fact will become

known in good time, without visits from anybody.

4. Never despise the power of public opinion: it is a mighty social force in this country, and for this reason the wise teacher will try to use it for the advantage of his special work. Some earnest teachers, seeing that some trifling and inefficient teachers, by a plausible manner, and by using some of the arts of the demagogue or the small politician, make for themselves a reputation far beyond their real merits, are disposed to go to the other extreme and make no effort to become popular. Now, this is all wrong. No matter how good a teacher may be, popularity will add increased effectiveness and success to his work.

5. Get a copy of the school law and see what are your rights and duties under it. It is a shame that any teacher should go on teaching from term to term without any care or effort to learn what the law is that controls, or allows others to control his employment. Have your certificate and contract signed before you begin to teach: you may escape trouble sometimes by following this rule.

6. And finally, regard your business with pride and accustom yourself to think of it as a useful and honorable employment. Read the lives of Socrates, Aristotle, Pestalozzi, Arnold and other great teachers of ancient and modern times, not forgetting the Great Teacher, the greatest of all, and muster up your powers to follow in their footsteps.

Do not allow yourself to look upon your work as drudgery. It is and will be laborious, but put your heart into it and the drudgery is gone.

True, faithful, honest labor in the work will result in steady growth of mind and heart, in a way that will be a constant gratification.—*Ohio Educational Monthly*.

## RESPONSIBILITY OF SOCIETY.

DR. FRANCES E. ABBOT says, in a recent address:

"How to secure universal moral education, not at all as a substitute for other kinds of education, such as physical, manual, industrial, intellectual, but rather as the completion of all other training in practical mastery of the art of living aright, is in truth the most pressing practical question of our time. The gravest difficulty lies in the fact that the world has no adequate idea of the magnitude of its own obligation to the child. What more can society do for the individual than to make him? That is what society does in the birth of every child. Yet what greater wrong can society do to the individual than to leave him only half-made? That is what society does when it leaves the individual morally uneducated. The child is born into the right to live and society recognises this right by making it murder to kill him. But the child is also born into the right of being taught how to live; and society tramples on this right in thousands and thousands of cases by leaving the little ones to grow up from the beginning in ignorance, misery and crime. It is every man's concern, it is your concern and my concern, that no

child shall be thus heartlessly and most foully wronged. Parents are, at the bottom, only trustees for society itself; and, if by reason of their own ignorance, or misfortune, or vice, they are unable to discharge the sacred obligations to their trusteeship, then society itself is bound to discharge those sacred obligations, and defend both itself and the child from the consequences of an immoral education. These truths are dimly felt by many, but they are clearly seen by few; and, perhaps, all that we can now do in the matter is to utter them and spread them as widely as we may. For universal moral education can never be realized in the world, until the world first gets an adequate idea of the magnitude of its own obligation to the child—until it comes to understand that it is fundamentally immoral, unjust, and cruel, to make the individual at all, if, by leaving him morally uneducated, it leaves him only half educated at last."—*The New Ideal*.

## THE GREAT TEACHERS.

It was said of Longfellow by Rev. N. H. Chamberlain: "He laid the stress of his refinement on every member of the class." Here is something worthy to say of a teacher. Let us follow the thought a little way. It is easy to see that teachers are of three classes. 1. Those who go through a certain routine of "hearing lessons." 2. Those who pack away knowledge—the memory fillers. 3. Those who would build mind. These last are of many different kinds—Longfellow, for example, led the minds of his pupils towards beauty, taste, refinement.

Now the majority of routinists follow a plan that is deemed to be the correct thing for school rooms. Certain classes are to study arithmetic, geography, etc. They are to stand up when they read, etc. There is to be a recess in the middle of the forenoon. There must be no whispering, etc. These axioms being followed day after day, the teacher persuades himself that he is "keeping school" in orthodox fashion.

Another class go farther than this; they aim at exact knowledge, and the better ones of the class at a comprehension of what is learned; they set lessons and will have them learned; if not learned, they "keep in after school," and press the pupils until it is learned. They lay out so much for the quarter, or term, and by hard work secure progress. They measure progress by pages; they talk about "finishing" botany or geometry in ten or twelve weeks. The pupil acquires the habit of saying he has "been through" geography, and learns to believe that the chief end of school-going is to master certain books. This class rely on examinations; if a pupil cannot answer certain questions, they prophesy evil of him in future days.

This class of teachers is an advance on the first class, those who make the school a treadmill. Splendid work is done by those who grind the pupil fine when he comes to the recitation bench; yet it is not wholly the work of the teacher. These hard drillers do a good work, rather unconsciously than consciously. From this class

come, by slow evolution, a third class—those who build mind. The great teachers of the day were, and are, mind builders. But to be clear it must be said that, after all, the mind fashions itself, and all a teacher can do is to aid in the process by directing towards the knowledge needed, and towards ideals.

What do the great teachers do? Here is a pupil of Longfellow who tells us that Longfellow impressed refinement on every member of his class. He does not say that he learned much about the poetry of Spain, France and Italy from Longfellow; he feels in him a love for the beautiful that he traces back to his teacher, and this he declares to be the great good that Longfellow was to his pupils, and to the world in general.

It does not follow that the great teacher is not thorough, or does not possess exact scholarship; it is very probable that he is a good scholar. But he is more. We have thousands of men with large attainments who would utterly fail as teachers. There must be something more, and that is the power to wake into being the "high instincts" that possess the power to dominate our entire being. It is not the scholarship of the teacher that does this; it is the power within him, born in him, by virtue of which he is a teacher, that does it. Call it by what name you will, the power to teach is the power to inspire pupils to possess ideals of excellence, and to aim to reach them. The reciting of lessons furnishes an opportunity for the teacher to exert his God-given power upon the young beings before him. They must be set to acquire some knowledge, for they cannot comprehend what the teacher is to do for them at that time; when years are passed, they feel what was done.

The child may be made conscious of the universal soul that lies behind his life, of which truth, right and beauty are necessary elements. The common things of existence, when looked at with the eyes of the soul, yield a delight that is not understood by the uneducated. Wordsworth says:

To me the meanest flower that blooms can give  
Thoughts that lie too deep for tears.

But the teacher is needed to open these visions to the child. The great teacher addresses the highest intuitions of the human soul, because these dominate and direct the lower powers.

It is not possible for a teacher to say how he addresses these powers, because it is soul blessing soul. His aim must be to set his pupils to observe the realities about them and to draw inferences. This is exemplified by Mr. Page in the incident of the thunderstorm. "From Nature up to Nature's God" is an axiom of the teacher. Somehow the pupil must be put on the track of looking into, and around, and through the Creator's method. If the subject of his thought is man only, he soon stops short; it must be man and God. Man is the product of some great and wise being—it must be so; the child who early becomes conscious of this has made a great step. Man, Nature and God become subjects of thought; the child realizes that he is one of a trio; all things become illuminated by a new light. Common objects are lifted out of meanness. "The primrose by the rivulet's brim" is

more than a yellow primrose. The child thus being introduced to nature begins to be taught by her. Through her he begins to interpret man and God.

It is in some such way as this that the young being is led by the great teachers. Truth has a wonderful relation to the mind of man. It is truth the child must be led to contemplate; there is a great difference between truth and fact. If a child arranges sticks, three in four rows, and sees that four threes are twelve, it becomes truth to him. If he is commanded to say that four threes are twelve, it is an assertion, a fact.

Let it be remembered that the great teachers have ever pointed their pupils towards the truth, and let every teacher humbly and reverently seek to follow their example. Truth is mighty in its effects on the human mind; but skill is needed, and this will lead the teacher to study methods.—*Pennsylvania School Journal*.

### THE AIM.

BY M. E. A. BOUGHTON.

AIM at the formation of character, first. That includes and implies the rest. Dr. Arnold's great-power as a teacher was not that he taught technical facts, so that they were never forgotten; it was not that his school-room was always found in quiet and death-like order—was not, even, that he rode to perfection the hobby of *method*, upon which this age dotes so fondly; but it was, that he impressed upon his pupils an ideal of character, an ambition to learn and to *be* from which they could never escape.

Recall to mind, your own instructors, upon whom you can look calmly and justly after the lapse of years. Which of them gave to you what you now realize is best in you? Not that one necessarily who gained from you the most unquestioned obedience and the most faultless recitation, but he or she who gave to you an *impulse*, an idea, a standard and a glimpse of the possible to you.

Yes, of course it is hard to do this, and of course you will be criticised by the foggy whose outlook is as narrow as was his schooling half a century ago, but, row up stream, and in spite of the current, hold before your pupils an ideal whose realization will be attained in future decades in those plastic souls whom it is your great privilege now to mould. In these days of general and liberal schooling, the moral education formerly imparted at home by the mother is largely (too largely), relegated to the teacher whose sphere of influence thus becomes almost boundless. Aim then to make the child capable of wise choice in moral questions, ambitious to learn outside and beyond the school-room, and while brightening the intellect, do not neglect to furnish that fountain of being—the heart, "for out of it are the issues of life." The thought is beautifully expressed by Daniel Webster. "If we work upon marble it will perish, if we work upon brass time will efface it; if we rear temples they will crumble into dust; but if we work upon immortal minds, if we imbue them with principles with the just fear of God and love of our fellow men, we engrave upon these tablets something which will brighten to all eternity."—*Journal of Pedagogy*.

## Educational Thought.

TRAINING means accuracy. Observation and accuracy are twins. The beginning of all true work is accurate observation, the end and crown of all true work is an accuracy which observes everything, and lets nothing escape, a power of observation animated by a true love for what it undertakes to investigate, and able through love to discover subtler truth than other people. Observation and accuracy comprise all that it is possible for a teacher to do, whatever may be the subject with which he has to deal. And observation and accuracy ought first to be as the joy of the explorer to the curious child; who should be made to see in every word he speaks, and every common thing he sets eyes on endless surprises, and novelties at every turn of unexpected pleasure, and new delight.—*Thring*.

"THE first thing for a boy to learn, after obedience and morality, is a habit of observation—a habit of using his eyes. It matters little what you use them on, provided you do use them. They say knowledge is power, and so it is. But only the knowledge which you get by observation. Many a man is very learned in books, and has read for years and years, and yet he is useless. He knows *about* all sorts of things, but he can't *do* them. When you set him to do work, he makes a mess of it. He is what you call a pedant, because he has not used his eyes and ears. . . . Now, I don't mean to undervalue book learning, . . . but the great use of a public school education to you is, not so much to teach you things, as to teach you how to *learn*. . . . And what does the art of learning consist in? First and foremost in the art of observing. That is, the boy who uses his eyes best on his book and *observes* the words and letters of his lesson most accurately and carefully: that is the boy who learns his lesson best, I presume. . . . Therefore, I say, that everything which helps a boy's powers of observation helps his power of learning; and I know from experience that nothing helps that so much as the study of the world about you."—*Kingsley*.

### BUSY WORK.

1. WRITE the words of your last reading lesson in columns, making four columns.
2. Arrange the words of your last reading lesson alphabetically; that is, copy first those words that begin with a, then with b, and so on.
3. Arrange the words of your last reading lesson in columns, placing in the first column words of one syllable, in the second words of two syllables, and so on.
4. Arrange the words of your last reading lesson in columns, placing in the first words of two letters; and in the second words of three letters, and so on.
5. Copy from your reading lessons all the words beginning with capital letters.
6. Copy from your reading lesson all the name words.
7. Write on your slate the number of lines in your reading lesson.
8. Write on your slate the number of periods in your reading lesson; the number of commas; of question marks; of semi-colons; of hyphens; of apostrophes.—*Popular Educator*.

IDEAS escape all persecution. When repressed they explode like powder.—*Castelar*.

## \* English \*

Edited by F. H. Sykes, M.A., of the Parkdale Collegiate Institute, Toronto, to whom communications respecting the English Department should be sent.

### LESSONS IN RHETORIC.

BY J. E. WETHERELL, B.A.

#### STUDY OF THE PARAGRAPH.

WHAT is a paragraph? If by a paragraph we mean "a connected series of sentences constituting the development of a single topic," then there are certain essential qualities in a good paragraph—(1) there should be only one principal topic; (2) the topic should be progressively developed, step by step, in the consecutive sentences; (3) this continuity of thought should be clearly indicated when necessary by devices of structure; (4) this continuity of thought should not be obscured and the progressive development of the topic interfered with by any subordinate idea receiving undue attention; (5) the main topic of the paragraph should receive due prominence by being put forward early. Thus we have these Paragraph Laws:

(I.) The Law of Unity.—"Every statement in the paragraph should be subservient to one principal affirmation."

(II.) The Law of Continuity (or Law of Method).—"The sentences making up the paragraph should be so related to one another that they may be naturally recognized as consecutive steps in a progressing thought."

(III.) The Law of Explicit Reference.—"The bearing of each sentence upon what precedes must be explicit and unmistakable."

(IV.) The Law of Due Proportion.—"A due proportion must be maintained between principal and subordinate ideas in the paragraph, each statement having bulk and prominence according to its importance."

(V.) The Law of the Topic Sentence.—"The opening sentence, unless obviously preparatory, should indicate the theme of the paragraph."

These five laws grow out of our definition of a paragraph, and they must all be observed if we are to have a clear and progressive development of the paragraph topic. To these laws may be added two general rules, the first of which, indeed, is almost as important as any of the laws just given:

(I.) The Rule of Parallel Construction.—"When several consecutive sentences iterate or illustrate the same idea, they should, as far as possible, be formed alike." It is natural to express parallelism of thought by parallelism of structure; so the principal subject and the principal predicate should retain their positions throughout, and corresponding clauses and phrases should be formed, as nearly as possible, on the same plan.

(II.) The Length of the Opening and the Closing Sentence.—"The opening sentence of a paragraph, being either the subject-sentence or a transition from the preceding line of thought, is ordinarily a comparatively short sentence."—"The closing sentence of the paragraph, following the principle of climax, is quite generally long, often periodic, and with a somewhat carefully rounded cadence."

The fine passage from Ruskin on "The Sky," published in the last number of THE JOURNAL, will serve as an excellent study in paragraph structure. It will be seen from an examination of this paragraph that a good writer, without taking thought of the matter, instinctively and unconsciously follows the laws of paragraph structure laid down by the rhetoricians.

In this paragraph will be found the various devices for explicit reference—(a) conjunctions and conjunctive words and phrases, (b) pronouns, (c) repetitions, both literal and in substance, (d) inversions and other devices of collocation.

The opening sentence of the paragraph is preparatory, the topic appearing in the second sentence.

The Rule of Parallel Construction may be illustrated by these examples:

(a) "for the perpetual comfort and exalting of the heart; for the soothing it," etc.

(b) "and yet we never attend to it; we never make it," etc.

(c) "things which the angels work out for us daily, and yet very eternally, which are never wanting and never repeated," etc.

A.

#### THE GREAT PLAGUE.

It would, I fancy, have fared but ill with one who, standing where I now stand, in what was then a thickly peopled and fashionable part of London, should have broached to our ancestors the doctrine which I now propound to you—that all their hypotheses were alike wrong; that the plague was no more, in their sense, Divine judgment, than the fire was the work of any political, or of any religious, sect; but that they were themselves the authors of both plague and fire, and that they must look to themselves to prevent the recurrence of calamities, to all appearance so peculiarly beyond the reach of human control—so evidently the result of the wrath of God or of the craft and subtlety of an enemy.

We have learned that pestilences will only take up their abode among those who have prepared unswept and ungarnished residences for them. Their cities must have narrow, unwatered streets, foul with accumulated garbage. Their houses must be ill-drained, ill-lighted, ill-ventilated. Their subjects must be ill-washed, ill-fed, ill-clothed. The London of 1665 was such a city. The cities of the East, where plague has an enduring dwelling, are such cities. We, in later times, have learned somewhat of nature, and partly obey her. Because of this partial improvement of our natural knowledge and of that fractional obedience, we have no plague; because that knowledge is still very imperfect and that obedience yet incomplete, typhus is our companion and cholera our visitor. But it is not presumptuous to express the belief that, when our knowledge is more complete and our obedience the expression of our knowledge, London will count her centuries of freedom from typhus and cholera, as she now gratefully reckons her two hundred years of ignorance of that plague which swooped upon her thrice in the first half of the seventeenth century.—*Huxley*.

B.

#### THE WAR WITH AMERICA.

I cannot, my lords, I will not, join in congratulation on misfortune and disgrace. This, my lords, is a perilous and tremendous moment; it is not a time for adulation; the smoothness of flattery cannot save us in this rugged and awful crisis. It is now necessary to instruct the throne in the language of truth. We must, if possible, dispel the delusion and darkness which envelop it, and display, in its full danger and genuine colors, the ruin which is brought to our doors. Can ministers still presume to expect support in their infatuation? Can Parliament be so dead to their dignity and duty, as to give their support to measures thus obtruded and forced upon them; measures, my lords, which have reduced this late flourishing empire to scorn and contempt? But yesterday, and England might have stood against the world: now, none so poor to do her reverence! The people whom we at first despised as rebels, but whom we now acknowledge as enemies, are abetted against you, supplied with every military store, have their interest consulted, and their ambassadors entertained, by your inveterate enemy; and ministers do not, and dare not, interpose with dignity or effect. The desperate state of our army abroad is in part known. No man more highly esteems and honors the English troops than I do; I know their virtues and their valor; I know they can achieve anything but impossibilities; and I know that the conquest of English America is an impossibility. You cannot, my lords, you cannot conquer America. What is your present situation there? We do not know the worst; but we know that in three campaigns we have done nothing and suffered much. You may swell every expense, accumulate every assistance, and extend your traffic to the shambles of every German despot; your attempts will be for ever vain and impotent—doubly so, indeed, from this mercenary aid on which you rely; for it irritates, to an incurable resentment, the minds of our adversaries, to overrun them with the mercenary sons of rapine and plunder, devoting them and their possessions to the rapacity of hireling cruelty. If I were an American, as I am an Englishman, while a foreign troop was landed in my country, I never would lay down my arms: never, never, never!—*Chatham*.

C.

#### PRECIPICES OF THE ALPS.

Dark in color, robed with everlasting mourning, for ever tottering like a great fortress shaken by war, fearful as much in their weakness as in their strength, and yet gathered after every fall into darker frowns and unhumiliating threatening; for ever incapable of comfort or healing from herb or flower, nourishing no root in their crevices, touched by no hue of life on buttress or ledge, but to the utmost desolate: knowing no shaking of leaves in the wind, nor of grass beside the stream—no other motion but their own mortal shivering, the dreadful crumbling of atom from atom in their corrupting stones; knowing no sound of living voice or living tread; cheered neither by the kid's bleat nor the marmot's cry: haunted only by uninterrupted echoes from afar off, wandering hither and thither among their walls unable to escape, and by the hiss of angry torrents, and sometimes the shriek of a bird that flits near the face of them, and sweeps frightened back from under their shadow into the gulf of air; and sometimes, when the echo has faded, and the wind has carried the sound of the torrent away, and the bird has vanished, and the mouldering stones are still for a little time—a brown moth, opening and shutting its wings upon a grain of dust, may be the only thing that moves or feels in all the waste of weary precipice darkening five thousand feet of the blue depth of heaven.—*Ruskin*.

#### TYPES OF PROSE DICTION.

Of prose diction there are three general types answering roughly to the three cardinal qualities of style. A study of the three foregoing extracts will put the pupil in possession of the salient characteristics of each type.

(A) The Intellectual Type.—Under this head must be classed the great bulk of prose literature. As the prime object of this type is to inform or to convince, the ruling qualities are intelligibility and precision. If figures of speech are employed, it is mainly for purposes of illustration.

(B) The Impassioned Type.—In this type the style takes a step towards the characteristics of poetry. There is a tendency to avoid the commonplace words and the labored constructions of logical prose. The language is heightened by the employment of impressive words and figures. The attractiveness of rhythm and cadence is quite marked.

(C) The Imaginative Type.—This is a still nearer approach to the poetic style. In both diction and structure the resources of poetry are drawn upon. This type of prose diction, if it is of the descriptive kind, revels in word-painting—which term includes not only the picturing power of single epithets and the imagery of pictorial similitudes, but also the flow and rhythm of the language, imitative harmony, alliteration, and the like.

It must not be understood that every literary work conforms throughout to one or other of the foregoing types. The subject and the accompanying mood are the dictators of the type of diction, so that we often have in the same work an alternation of types, or even mixed types.

The foregoing extracts have been selected with a view to exhibit another classification of the types of prose diction—a classification based on the object and occasion of the literary effort.

In (B) we have the diction of spoken discourse. Out of the occasion grow several imperative characteristics: (1) The meaning must be made intelligible at once, and the hearer's interest must be aroused and sustained. This kind of diction employs short and direct sentences and other emphatic modes of utterance. Antithesis, epigram and striking metaphors are frequent. (2) Important thoughts must be repeated in identical or different terms. (3) This form of discourse may be more irregular and abrupt than the written form; exclamatory and interrogative sentences are freely mingled with declarative sentences. Trains of thought are sometimes merely suggested, sometimes begun and left unfinished. (4) This kind of diction abounds in sweeping generalities and bold exaggerations.

In (A) we have the diction of discourse written for public delivery. This kind of discourse is midway between spoken discourse and written discourse, and the diction employed naturally partakes of the characteristics of both spoken and written discourse, or rather strikes a mean between them.

In (C) we have the diction of written discourse. The main characteristics of this type are three: (1)

It is more exact than speech, every statement made being quite within the bounds of truth—literal truth, or, in imaginative, prose, artistic truth. (2) It must be more exact in structure, avoiding elliptical and colloquial phraseology. (3) This form of diction, as we might expect, is more complex and labored than that of spoken discourse: it is also less varied, preserving for the most part one tone of discourse.

### TRIAL EXAMINATION PAPERS ON THE WORK PRESCRIBED FOR 1891.

#### SECOND SERIES.

#### Senior Leaving Examination.

##### GRAMMAR.\*

1. EXPLAIN clearly the difference between grammar and philology. What are the two provinces of the latter, and what is the scope of each?

In which of these provinces are the verb and the noun, respectively, best suited for the purposes of the philologist? Why?

2. "For there is a movement from which there is no going back, a slow but incessant movement which gradually creates a distinction among words greater and more deeply seated than that of the parts of speech."

Explain fully the distinction here referred to and show how it differs from that of the parts of speech. Give examples by way of illustration.

3. Make a clear distinction between the verbs of the old (or primary) and the new (or secondary) conjugation. To which of these classes should each of the following verbs be assigned: Sell, mean, lead, send, hew, read, set, do, write, make, sing, teach? Explain any apparent anomalies in the formation of their principal parts. What objection to the terms "strong" and "weak" as applied to the conjugations?

4. Explain what Earle means by the terms "flat," "flexional" and "phrasal," and exemplify said terms in the case of (a) adverbs, (b) prepositions, (c) syntax.

5. (a) Account for the presence in our language of the following pairs of words: dyke, ditch; fealty, fidelity; kith and kin; personalty, personality; act and deed; hue, color; trouth and honour (Chaucer); readie prest (Spenser); antic, antique. (b) Explain the presence or significance of the italicized letters in the following words: Shall, could, would, told, wrote, hers, mine, am, him, impossible, inflammation, she, what, then, those, men's.

6. Write a short discourse on each of the following philological texts:

(a) "A French family settled in England and edited the English language."

(b) "The first pronouns that we shall consider are a class which combine with their symbolism a certain qualified sort of presentive power."

(c) "The dialects offer peculiar advantages for philological discipline."

(d) "Flexion occupies the middle zone of the whole sphere of human language as it is historically known to us."

(e) "The English language has passed that stage in which words are palpably modified to meet the requirements of the ear."

(f) "As political reasons have lifted our tongue into its present prominence, so in the future, to political reasons will it owe its progress or decay."

(g) "When the same words appear under altered forms in different members of the same family of languages, the diversity of form is found to have a regular method and analogy."

#### Junior Leaving Examination.

##### GRAMMAR.\*

1. Define the terms *stem*, *root*, *word*, *primitive* and *simple word*; and show, by a comparison with other forms, to which of these classes the word "love" is to be assigned.

2. (a) What is gender in Modern English, and of what practical importance is it, if any? What is the distinction between true and natural gender? In how far may English be said to possess true gender and to what is its disappearance due?

(b) "In gender the English language is both more *philosophic* than the classic languages and more *effective*." Explain. Does this expression of

opinion hold in a comparison of English with French or German?

(c) What are the general principles that govern personification in English? Why do we make *love* masculine and *discord* feminine?

3. (a) He was there before. He was there before me. He was there before I came. (b) That is beautiful to look upon. (c) We cannot look upon such acts with approval. (d) He jumped clear over the wall. (e) On my telling him to inquire into the matter he said that it had been inquired into but had never been disposed of. (f) The king as well as the queen was present. (g) The king was present as well.

"Just as prepositions may be described as transitive adverbs, so conjunctions may be described as relative adverbs."

Explain the meaning of the quotation, and show from the above sentences that this comparative view of these three classes of words is substantially correct.

4. Give the grammatical and the logical value of the italicized portion of each of the following sentences:

(a) He struck me *who had done so much for him*.

(b) He came home, *to find the house in darkness*.

(c) *Just say a word to him* and he is angry in a moment.

(d) *Is any afflicted?* Let him pray.

(e) He left the city early in April, *his brother following him the next week*.

(f) She married him, *the servant*.

(g) The eventful day arrived, *when I took my departure*.

(h) It is on page twenty-five, *which see*.

5. Distinguish the meanings of the sentences in the following groups, and comment upon differences of construction: (a) If he comes I shall see him. If he should come I should see him. (b) If I were so unlucky I should leave town. If I should be so unlucky I should leave town. (c) We saw him run the race. We saw him running the race. We saw his running the race. We saw that he ran the race. (d) I have written the letter. I have the letter written. I have, written, my letter. (e) I say that he is mistaken. I should say that he is mistaken. (f) He was fatigued in consequence of his exertions. He was fatigued by his exertions.

6. Discuss any syntactical peculiarities in the italicized words and expressions in the following sentences and describe the grammatical function discharged by each of such words and expressions:

(a) *Alive*, he stood fire; and he died *game*.

(b) *With all his wealth*, this deal left him *out of pocket*.

(c) The placemen were *all tranquillity and smiles*.

(d) *I tell you what*, my dear sir, you are mistaken.

(e) It is you *he is speaking to*.

(f) I never saw him *that I remember*.

(g) This is the man *who he said was there*.

(h) Consider the lilies of the field *how they grow*.

#### Primary Examination.

##### GRAMMAR.\*

1. FOR what am I? What profits me my name of greatest knight? I fought for it and have it. Pleasure *to have it*, none; to lose it, pain. Now *grown a part of me*; but *what use is it?* To make men *worse by making my sin known?* Or sin seem less, the *sinner seeming great*.

(a) Give the grammatical value and the relation of each of the italicized words.

(b) What is the force of *of* in "my name of greatest knight?"

2. "Some adjectives limit the application of the nouns they belong to; some add to the descriptive power of the noun; some limit the application and add to the descriptive power at the same time."

Illustrate these statements by showing how the adjectives in the above extract affect the meaning of the nouns they modify.

3. Distinguish clearly between a *phrase* and a

*clause*. Point out and state the relation of each of the phrases and clauses in the following:

(a) That put the man out of sorts.

(b) I know well where he lives in the city.

(c) I informed him of what we were talking about.

(d) He was in the field at that time.

(e) He came to Toronto by way of Montreal.

(f) A man of his wealth is of great importance in the community.

4. What do you understand by the comparison of adjectives? Distinguish the comparative from the superlative degree as regards form and use. Indicate the comparison effected in the following sentences, noting any peculiarities or anomalies therein:

(a) Dressed thus he looks taller.

(b) This dictionary is larger than all the other books in the library.

(c) Adam, the goodliest man of men since born his sons, the fairest of her daughters Eve.

(d) He is more brave than wise.

(e) My dearest mother, farewell!

(f) He was my senior by seven years.

(g) He has the best of the argument.

5. Define preposition and conjunction respectively, and show that your definitions hold good in the case of the following:

(a) He ate a slice of bread and butter.

(b) He came from under the house.

(c) She rose from out the billows.

(d) He returned with what he could buy.

(e) He cannot oppose the wishes of the Committee and keep his position.

6. Give the name and grammatical value, and state the relation of the italicized words in the following sentences:

(a) He was sent to school *to learn Latin*.

(b) I heard him both read and *sing*.

(c) Here is water *to drink*.

(d) That is easy *to talk about*, but it is not so easy *to do it*.

(e) He came *running* to meet me.

(f) In *crossing* the street *crossing*, the man, *trying* to avoid a *passing* carriage, was struck by a horse and sent *flying*, and it was *passing* strange that he effected a *crossing* at all.

#### CORRESPONDENCE.

SUBSCRIBER.—Charles Mackay was born in Perth, Scotland, in 1814. For some time he was editor of a Glasgow newspaper, and has been a frequent contributor to the *Illustrated London News*, *Blackwood's*, and the *Nineteenth Century*. His chief works are "Hope of the World," "Voices from the Crowd," "Legends of the Isles," "Town Lyrics," "Under the Blue Sky."

Rose Terry Cooke, or by her maiden name Rose Terry, was born in West Hartford, Conn., 1827. She has contributed many short stories, etc., to American magazines. Her chief works are "Poems, by Rose Terry," "Happy Dodd," "Somebody's Neighbors," "Root Bound," "The Sphinx's Children."

J. A. W.—The distinctions between the words given are as follows: "slander" is a false tale, or false report, uttered with malicious intent, and tending to injure another; "scandal" is a statement of censure passed upon the character and actions of another, which may or may not be justified by the facts. "Elder" not only means "older," but also carries with it the idea of priority—precedence as regards another; e.g., you are the elder, you should do it; the elder brother; the elder days of art. "Farther" and "further" are regarded by the Imperial Dictionary as synonymous. A "legislator" is a man who aids in framing the laws of a land; a "statesman" is a man eminent in the art of government. The former is more of a theorist, the latter of a practical ruler. A "politician" is, properly speaking, a "statesman"; in Canada, however, he is very frequently one of a numerous class of men, who, supported by deluded voters, under pretence of serving their country, get the greatest possible good for themselves. You "repudiate" a title when you discard or cast it away; you "denounce" a man when you speak threateningly against him, or inform others (especially those in authority) of his misdeeds. You "affect" a result when you do what changes it in some

\* Grammar papers contributed by the kindness of A. Carruthers, Esq., B.A., of the Parkdale Collegiate Institute.

✱ Correspondence. ✱

A MAGAZINE FOR TEACHERS.

To the Editor of THE EDUCATIONAL JOURNAL

DEAR SIR,—I am a working teacher, and spend six hours in the schoolroom and four hours in the study five days in the week. I find it difficult to do much reading outside the lines prescribed by my professional work, which includes eight hours a day distributed among five different classes. When I have properly prepared these lessons, and have disposed of the written exercises daily handed in, and have taken two hours physical exercise in the open air, I can find no time to visit the reading room to read the periodical press. I suppose my case is a typical one, and that many other teachers are puzzled to find the means of keeping abreast of the times, by reading the best reviews and magazines. In my own case I feel that I must do this or risk the danger of being speedily converted into a machine teacher or a moss-covered fossil. In addition to the best educational papers, which I look upon as part of my daily work, I find that I must keep pace with the literary and scientific thought of the times. In *Littell's Living Age* I get, once a week, a fair selection of the best review articles that appear, and I find that publication worth five times the price, which is only eight dollars a year. I write this short note to recommend the *Age* to any of your subscribers who may not know it. If four teachers club together they each have at the end of the year a fine volume, well worth preserving, and they all have the benefit of the best contemporary literature as it appears. I have never known any teacher who once took the *Age*, who afterwards regretted the small investment. As a class we are under great temptation to settle down into the deep ruts of programme routine, and to keep strictly to the little gin-horse track marked out by our text-books and official examinations. I would like to put in a word for the great world of thought outside the schoolroom; and I know no other publication so well suited to the general wants of the teacher as the one I have here ventured to mention. Yours truly,

ONTARIO.

✱ Mathematics. ✱

All communications intended for this department should be sent before the 20th of each month to C. Clarkson, B.A., Seaforth, Ont.

CORRESPONDENCE.

M. J. M.—Your queries about Square Root, Cube Root, Canadian History, Mason's Grammar, Geography, etc., would require a whole pamphlet in reply. Your best plan is to consult some experienced teacher. The answers possible within the limits of this column would not probably help you.

X. Y. Z.—Your solution of No. 75 follows Form I. given in June number, 1890. The one we have printed was intended to exemplify Form IV. given on the same page. This method resolves some cases that are well-nigh impossible by the common formula. Thank you, all the same, for your excellent solution.

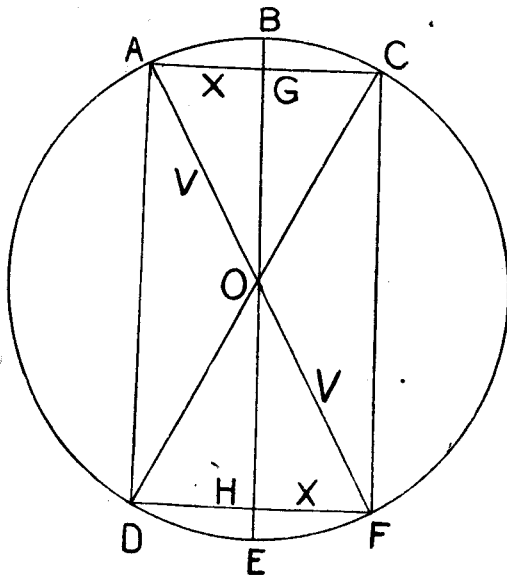
E. D. T.—It would be simply impossible for us to revise and correct all the attempted solutions of all the problems sent in, and to indicate "which are right, and where the others are wrong." That is the work of the private tutor. Your letter is useful, however, as it indicates the wants of a reader. Write again.

SOLUTIONS.

80. THIS and the following one are sent by A. H. D. ROSS, M.A., Almonte.

Find the radius of a circular hole through the centre of a sphere of radius r, which shall remove  $\frac{1}{a}$  volume of the sphere.

Volume of the two spherical segments



$$= 2\pi bg^2 \left( \frac{be}{2} - \frac{bg}{3} \right)$$

$$= 2\pi (bo - go)^2 \left( bo - \frac{1}{3}(bo - go) \right)$$

$$= 2\pi (r - \sqrt{r^2 - x^2})^2 \left( \frac{2}{3}r + \frac{1}{3}\sqrt{r^2 - x^2} \right)$$

Volume of cylinder agcfhd

$$= \pi \cdot ag^2 \cdot gh = \pi x^2 \cdot 2\sqrt{r^2 - x^2}$$

Hence we have to find x from the equation

$$2\pi (r - \sqrt{r^2 - x^2})^2 \left( \frac{2}{3}r + \frac{1}{3}\sqrt{r^2 - x^2} \right) + 2\pi x^2 \sqrt{r^2 - x^2}$$

$$= \frac{1}{a} \cdot \frac{4}{3} \pi r^3 = 2\pi \cdot \frac{2}{3} r^3 \cdot \frac{1}{a}$$

$$(2r^2 - x^2 - 2r\sqrt{r^2 - x^2})(2r + \sqrt{r^2 - x^2}) + 3x^2 \sqrt{r^2 - x^2}$$

$$= 2r^3 \cdot \frac{1}{a}$$

$$2r^3 - 2(r^2 - x^2)\sqrt{r^2 - x^2} = 2r^3 \cdot \frac{1}{a}$$

$$(r^2 - x^2)^{\frac{3}{2}} = r^3 \left( 1 - \frac{1}{a} \right)$$

$$(r^2 - x^2)^3 = r^6 \left( 1 - \frac{1}{a} \right)^2$$

$$r^2 - x^2 = r^2 \left( 1 - \frac{1}{a} \right)^{\frac{2}{3}}$$

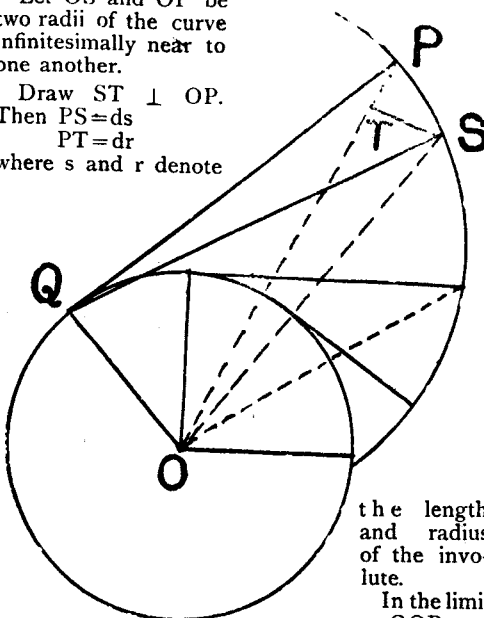
$$x = r \sqrt{1 - \left( 1 - \frac{1}{a} \right)^{\frac{2}{3}}}$$

$$= r \sqrt[3]{1 - \left( 1 - \frac{1}{a} \right)^2}$$

If r=6 and a=2, then  $x = 6\sqrt{1 - \sqrt[3]{\frac{1}{2}}} = 3.649 + 81$ . To find the length of the involute of a circle of radius r

Let OS and OP be two radii of the curve infinitesimally near to one another.

Draw ST  $\perp$  OP. Then PS=ds PT=dr where s and r denote



the length and radius of the involute. In the limit  $\angle QOP = \angle TPS$ , and

$\angle PQO = \angle PTS, \therefore \angle QPO = \angle TSP$

whence  $\frac{PS}{PT} = \frac{PO}{QO} \therefore \frac{ds}{dr} = \frac{r}{a}$

$\therefore ds = \frac{1}{a} \cdot r dr, \therefore s = \frac{r^2}{2a} + C$

To find C we know  $s=0$  when  $r=a$

$\therefore 0 = \frac{a^2}{2a} + C \therefore C = -\frac{a^2}{2a}$  whence

$$s = \frac{r^2 - a^2}{2a} = \frac{QP^2}{2a} = \frac{a^2 \delta^2}{2a} = \frac{a}{2} \cdot \delta^2$$

where  $\delta$  is measured in radius. If  $\delta = 2\pi$  then  $s = 2\pi^2 \cdot a$

$\delta = 2\pi \cdot n \therefore s = 2\pi^2 a \cdot n^2$

Hence if  $\delta = 2\pi \cdot 40$  and  $a = 1\frac{1}{2}$  ft. then  $s = \frac{1}{2} \cdot 9.869604400 \cdot \frac{1}{2} \cdot 1600 = 39,478.4176$  feet.

Since  $s = \frac{a}{2} \cdot \delta^2$  is length traced when a  $\delta$  is length of

rope unwound. Hence "The length of the involute of a circle is = the product of  $\frac{1}{2}$  the angle swept out by the length of the cord unwound."

MR. SEATON, Port Dover, contributes solutions to 83, 84 and 86.

83. Since he professes to retail at 10% profit, he will retail a certain quantity of the goods for  $\frac{11}{10}$  of cost (that is, professed cost). Of this certain amount

$\frac{4}{5}$  is equal in value to professed cost  $\frac{1}{5}$  " " " "  $\frac{4}{5}$  professed cost  $\therefore$  this amount of goods is worth  $\frac{4}{5} + \frac{1}{5}$  of  $\frac{11}{10} = \frac{22}{25}$  of professed cost  $\therefore$  gain is  $\frac{11}{10} - \frac{22}{25} = \frac{7}{50}$  on  $\frac{22}{25}$  or  $14\frac{1}{2}\%$ .

84. Let I be amount of better article and x " " " inferior article, so as to gain 20%.  $\therefore \frac{11}{10}(I+x) =$  retail price  $I + \frac{1}{5}x =$  real cost  $\therefore \frac{11}{10}(I+x) - (I + \frac{1}{5}x) = \frac{1}{5}(I + \frac{1}{5}x)$   $x = \frac{1}{4}I$   $\therefore$  proportion is I : x or I :  $\frac{1}{4}$  or 7 : 5

86.—Equal weights of gold and silver are in value as 20 : 1 or as 700 : 35 Equal volumes of gold and silver are in value as 1284 : 35  $\therefore$  when the certain volume consists of equal weights of gold and silver, the value may be represented by  $700 + 35 = 735$ . And when the volume of silver is interchanged for gold, so as to make the whole gold, the value may be represented by  $700 + 1284 = 1984$   $\therefore$  it is  $\frac{1984}{735} = 2.6993 +$  times more valuable.

MR. SEATON also sends the following three problems, with solutions of the same.

89. Bought a 6 per cent. mortgage for \$2,500 at 5 per cent. discount, with two years to run. What rate of interest is obtained if the mortgage is satisfied at maturity?

SOLUTION.—\$2,500 at 5% discount = \$2,375 Int. on \$2,500 for two years at 6% = \$300.  $\therefore$  at maturity the mortgage yields \$2,800.  $\therefore$  there is gained  $2,800 - 2,375 = \$425$ .  $\therefore$  \$2,375 gains \$425 in 2 yrs.  $\therefore$  " \$212  $\frac{1}{2}$  " 1 yr., that is 8  $\frac{1}{3}\%$ .

90. A note for \$876, dated May 17th, for 90 days, and bearing interest at the rate of 8% per annum, is discounted at a bank on July 3rd at 6 per cent. Find proceeds.

SOLUTION.—The note is legally due on Aug. 18th. From May 17th to Aug. 18th = 93 days From July 3rd to Aug. 18th = 46 days. Int. on \$876 for 93 days at 8% = \$17.856.  $876 + 17.856 = \$893.856$  Int. on \$893.856 for 46 days at 6% = \$6.759 +  $\therefore$  proceeds are  $\$893.856 - 6.759 + = \$887.096 +$  or \$887.10.

91. A [note of \$2,450, dated Halifax, June 1, 1886, for 4 months, bearing interest at 6%, is discounted at a bank on Aug. 15th at 8%. Find the proceeds.

SOLUTION.—

Time from June 1st to Oct. 4th = 125 days  
 " " Aug. 15th to Oct. 4th = 50 days  
 Int. on \$2,450 for 125 days at 6% = \$50.34 +  
 \$2,450 + 50.34 = \$2,500.34  
 Int. on \$2,500.34 for 50 days at 8% = \$27.40 nearly  
 ∴ proceeds are \$2,500.34 - 27.40 = \$2,472.94.

PROBLEMS FOR SOLUTION.

92. A GOVERNMENT which derives a revenue of twenty million dollars from the duty on imported goods, finds it necessary to obtain an additional two millions from this source. Assuming that if the rate of duty be increased by any fraction, say one-fifth of itself, the value of the goods imported will be diminished by one-tenth, and so on; find approximately by what per cent. of itself the rate of duty must be increased in order to produce the revenue required.

93. A dealer buys a quantity of liquor at  $\frac{1}{4}$  of its value, which he keeps for two years and then sells. The value increased 10 per cent per annum by age, 1 per cent is lost each year by evaporation, and there is a waste of 2 per cent. in handling while it is being sold. What rate per cent. per annum interest does he make on his money if he sells at the enhanced value?

94. "In dividing by 73,000 it is advantageous to do so by the following method:—Having written down the number to be divided, we write under it one-third of itself, then one-tenth of this second number, neglecting remainders, and lastly one-tenth of this third number. The sum of these four numbers, with the last five figures reckoned as decimals, will be the quotient required."

Establish the correctness of this method. To what extent can its accuracy be depended upon? Indicate a slight extension of the method which will enable any required degree of accuracy to be obtained.

These three are proposed by J. T. S. The next is sent by E. R. E., Claremont.

95. Hamblin Smith's Arithmetic, page 217, paper 3, question 5:

"A person buys 6% City of Toronto bonds, the interest on which is paid yearly, and which are to be paid off at par three years after the time of purchase. If money be worth 5%, what price should he give for the bonds?"

MISCELLANEOUS EXAMPLES.

We insert the following general examples in the hope that they may prove suggestive and useful to many readers who propose to go up for some of the ensuing examinations, or who have pupils in course of preparation.

96. Construct an isosceles triangle of which each basal angle shall be double the vertical angle.—*Euclid IV. 10.*

Let ABC be the triangle required, AC being the base.

Let AD bisect the angle A, meeting BC in D. Then in the triangles ABC, CAD we have the angle B = angle DAC and the angle C common to both triangles, hence these triangles are equiangular and therefore similar. But ABC is isosceles, hence CAD is also isosceles, i.e., AD = AC.

Also, since the angle DAB = angle B in the triangle, AD = BD and DB is therefore = AC.

In the similar triangles the sides about the equal angles are proportional,

$$\therefore BA : AC = AC : DC$$

$$\text{or } BC : BD = BD : DC$$

i.e., BC, DC = BD<sup>2</sup>. Hence we can find the point D by dividing BC as in Euclid II. 11. Then from centres D and C describe circles with radii = BD, their point of intersection will determine the point A. Then by joining BA and AC we have the triangle required, which is one-tenth of a regular decagon, and the basis of the regular pentagon.

N.B.—For examination purposes, the application of the principle of proportion wherever possible is really equivalent to an extension of time, since a minute saved by means of a short proof is

in fact a minute gained for the solution of riders and deductions. Compare Euc. III. 35 with the solution given in this column, February, 1890.

97. Solve the equation

$$\frac{x+a}{(a-b)(c-a)} - \frac{x-b}{(a-b)(b-c)} - \frac{x-c}{(b-c)(c-a)}$$

$$= \frac{b+c}{(a-b)(b-c)(c-a)}$$

SOLUTION.—It is easy to shew that

$$\frac{x-a}{(a-b)(c-a)} + \frac{x-b}{(a-b)(b-c)} + \frac{x-c}{(b-c)(c-a)} = 0$$

Add this identity, term by term, to the given equation.

$$\therefore \frac{2x}{(a-b)(c-a)} = \frac{b+c}{(a-b)(b-c)(c-a)}$$

$$\therefore x = \frac{1}{2} \cdot \frac{b+c}{b-c}$$

98.  $a^3 + a^2x + ay + z = 0$   
 $b^3 + b^2x + by + z = 0$   
 $c^3 + c^2x + cy + z = 0$

Find x, y and z.

SOLUTION.—Each equation is of the form

$p^3 + p^2x + py + z$ , and the first equation shows that this expression vanishes when  $p = a$ , the second that it vanishes when  $p = b$ , and the third when  $p = c$ . Hence we must have

$$p^3 + p^2x - py + z = (p-a)(p-b)(p-c) \text{ for all values of } p.$$

$$= p^3 - p^2(a+b+c) + p(ab+bc+ca) - abc$$

Equating coefficients in this identity we have

$$x = -(a+b+c); y = ab + bc + ca; z = -abc.$$

99. Solve the equation

$$\frac{2a-b-c}{x+a-b-c} - \frac{2b-c-a}{x+b-c-a} + \frac{2c-a-b}{x+c-a-b} = 4$$

SOLUTION.—There is probably some special method of solving this equation in the usual form, but it may be solved by inspection if the denominators be thrown into the forms  $(x-a) + 2a - b - c$ ;  $(x-a) + (b-c)$ ;  $(x-a) - (b-c)$ . For we see that when  $x-a=0$ , the first fraction = 1, and the other two become  $(2b-c-a) \div (b-c)$  and  $2c-a-b \div (c-b)$  or together  $(3b-3c) \div (b-c) = 3$ , and the whole = 4. Hence  $x=a$  is one root and by symmetry  $x=b$  and  $x=c$  are the other two roots.

100. Let DC be the base of the parallelogram ABCD, and DB its diagonal. Take P any point within the figure, and draw through P the line GH parallel to BC and EF parallel to AB. Prove that the three diagonals EG, HF and DB of the parallelograms AP, PC and AC being produced will pass through the same point.

PROOF.—EG and HF are evidently not parallel; let them meet in some point O beyond B; join OB and complete the parallelogram OD by producing DA to K, DC to L, EF to M, and HG to N. Then the following equations among the parallelograms result, KG = GM, and FL = FN

∴ KG = GF + BM, and FL = GF + NB  
 hence KB = BL; the complements about the diagonal they must be and therefore D, B, O are in a straight line.]

[NOTE.—In problem 81 the printers have substituted the Greek delta for the theta of the copy, not having enough of the latter type in the case. ED. JOURNAL.]

Book Notices, etc.

*The Alhambra.* By Washington Irving. Edited for the use of schools, by Alice H. White. Boston, U.S.A.: Ginn & Company.

*Marmion: A Tale of Flodden Field.* By Sir Walter Scott. With notes by D. H. M. Ginn & Company.

These are the latest volumes which have come to hand of the admirable "Classics for Children," which are in course of publication by the above well-known and enterprising firm. It is necessary only to refer to the titles of the books and the names of their authors to establish their claims to a place in this series. They are of course uniform with the other books of the series, and have the same mechanical excellencies. *The Alhambra* is some-

what abridged, and in such of the stories and legends as have been retained, the necessary alterations have been made to suit them to the class of readers for whom they are intended. Most of the Spanish words and phrases have been left out, and in cases where the author himself has not furnished a translation, an English equivalent has been substituted. In *Marmion* the publishers have used, by permission, Dr. William J. Rolfe's carefully restored text. The notes are at the foot of the page, and, without overburdening the text, are sufficiently copious to meet all the wants of the ordinary reader.

School-Room Methods.

EQUATIONS IN ARITHMETIC.

THE use of the equation in arithmetic enables the pupil to put his work in a compact and orderly form, and the arrangement is convenient for the inspection and criticism of the teacher. After the pupil has a knowledge of fractions, the equation may be used in a wide variety of work.

In forming the first equation the first member of the equation should be of the denomination given or determined; the second member should be of the denomination of the required result. The following will illustrate some of the uses of the equation:

1. In 14 yards how many feet?  
 1 yard = 3 feet.  
 14 yards = 14 × 3 feet or 42 feet.
2. In 54 feet how many yards?  
 3 feet = 1 yard.  
 1 foot =  $\frac{1}{3}$  yard.  
 54 feet = 54 ×  $\frac{1}{3}$  yard or 18 yards.
3. 60 rods are what part of an acre?  
 160 rods = 1 acre.  
 1 rod = 1-160 acres.  
 60 rods = 60 × 1-160 acres or 60-160 acres, or 3-8 acres.
4. If 5 yards of cloth cost \$12 what will \$27 buy?  
 \$12 bought 5 yards.  
 \$1 bought 1-12 of 5 yards, or 5-12 yards.  
 \$27 will buy 27 × 5-12 yards or 135-12 yards, or 11  $\frac{1}{4}$  yards.
5. In 63 pecks how many bushels?  
 4 pecks = 1 bushel.  
 1 peck =  $\frac{1}{4}$  bushel.  
 63 pecks = 63 ×  $\frac{1}{4}$  bushel or 63-4 bushel, or 15  $\frac{3}{4}$  bushels.
6. In 30 rods, 6 yards, 2 feet, how many feet?  
 1 rod = 5  $\frac{1}{2}$  yards.  
 30 rods = 30 × 5  $\frac{1}{2}$  yards or 165 yards.  
 165 yards + 6 yards = 171 yards.  
 1 yard = 3 feet.  
 171 yards = 171 × 3 feet or 513 feet.  
 513 feet + 2 feet = 515 feet.
7. If 6 men in 8 days cut 50 cords of wood, in how many days should 12 men cut 200 cords?  
 If 6 men cut 50 cords in 8 days?  
 1 man would cut 50 cords in 6 × 8 day or 48 days.  
 1 man would cut 1 cord in 1-50 of 48 days or 48-50 days.  
 12 men would cut 1 cord in 1-12 of 48-50 days, or 4-50 days.  
 12 men would cut 200 cords in 200 × 4-50 days, or 16 days.
8. In  $\frac{3}{8}$  or a mile how many rods?  
 1 mile = 320 rods.  
 $\frac{3}{8}$  mile =  $\frac{3}{8}$  of 320 rods or 40 rods.  
 $\frac{3}{8}$  mile = 3 × 40 rods, or 120 rods.
9. \$15 is what per cent. of \$200?  
 \$2 is 1 per cent. of \$200.  
 \$1 is  $\frac{1}{2}$  per cent. of \$200.  
 \$15 is 15 ×  $\frac{1}{2}$  per cent. or 7  $\frac{1}{2}$  per cent. of \$200.
10. 180 is 12 per cent. of what number?  
 12 per cent. of a number = 180.  
 1 per cent. of the number = 1-12 for 180 or 15.  
 100 per cent. of the number = 100 × 15, or 1,500.



# The Educational Journal.

Published Semi-monthly.

A JOURNAL DEVOTED TO LITERATURE, SCIENCE, ART  
AND THE ADVANCEMENT OF THE TEACHING  
PROFESSION IN CANADA.

J. E. WELLS, M.A.

Editor.

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## TEACHERS' CONVENTIONS.

Algoma, at Bruce Mines, June 4th and 5th.  
North Essex, at Windsor, June 4th and 5th.  
Dufferin County, at Orangeville, 11th and 12th.

Will Secretaries of Associations, or Public School Inspectors, have the kindness to forward us programmes of their meetings for announcement as above. Also, will Secretaries please send an epitome of such proceedings as are of general educational interest, for publication in the JOURNAL.

## ✻ Editorials. ✻

TORONTO, JUNE 1, 1891.

### THE PUBLIC SCHOOLS' ACT AS AMENDED.

FOR the information of our readers we propose to note the principal changes that were made in the Ontario Public School Act by the legislation of last Session.

First, and perhaps most important of all, Sec. 117 (1) of the old Act which provided that "the Municipal Council of every township may levy and collect by assessment, upon the taxable property of the Public School supporters of the township . . . the sum of \$100 for every Public School section therein in which a Public School has been kept open the whole year, exclusive of vacations (a proportionate sum be levied for a shorter term, and an additional sum of \$50 for each additional teacher employed the whole year)," has been amended so as to make the levying of the sums indicated compulsory instead of permissive. The Municipal Council *must* now levy the sums indicated.

Second, by another important change it is now provided that a resident of one section sending his children to a school in another section, when the latter is more convenient, is entitled to have a portion of

his school fees remitted by the trustees of the former section.

Other emendations which we hope to see widely taken advantage of are those empowering School Boards in cities, towns, and villages to purchase and provide textbooks for the use of pupils, free of charge, and to establish night schools.

A change of considerable interest and importance to teachers is made in the arrangement of holidays. In rural schools the teaching year henceforth begins on the third Monday in August and the first term ends December 22nd. The second term begins January 3rd and ends June 30th. In cities, towns and villages the year begins the last Monday in August, and there are holidays during the week following Easter Sunday.

Third-Class certificates will not henceforth be granted to any candidate of either sex, under eighteen years of age. These certificates are good, as heretofore, for three years, and are valid for the whole Province.

In rural schools public examinations are to be henceforth held at the close of each term, instead of at the close of each quarter.

Cities and towns separated from counties will now receive from Government five dollars for each teacher employed, as part payment of the salary of the Inspector. This rule is now the same as that in respect to County inspectors.

In order to be eligible for appointment on County Boards of Examiners, teachers must hold First-Class certificates, must be actually engaged in teaching, and must have had at least three years experience in teaching in Public or Separate Schools.

Provision is made for holding Leaving Examinations for Public Schools. These examinations will be conducted in accordance with regulations to be prescribed by the Education Department. The Minister of Education is empowered to have such additional aid as may be voted by the Legislature distributed with a view to giving an impetus to teacher's work in this direction.

The law is much simplified in relation to alterations of school sections, the formation of union sections and the mode of issuing debentures.

A separate Act for the prevention of truancy, and the better enforcement of the provisions of the former Act, requiring the attendance of all children of school age at school for a prescribed number of days each year. This Act is not yet printed, and we are unable to state its exact provisions. Its chief feature is, we believe, that it makes the appointment of a truant officer by the School Boards compulsory, whereas it has hitherto been permissive, and, as a consequence, seldom attended to.

We regard this as a matter of the first importance, and shall take care to state clearly the provisions of the Act as soon as we can procure a copy. All teachers should, as a matter of philanthropy and patriotism, take a special interest in seeing that this law is judiciously enforced.

The "School of Pedagogy" will claim our attention in another number.

### THE UNIVERSITY EXTENSION MOVEMENT.

THIS great educational reform is making in America progress more rapid, if not more substantial, than it has ever made in England, where it originated. Its present position may be thus briefly indicated:

Very little over one year ago, in the spring of 1890, at the instance of the Provost of the University of Pennsylvania, an informal meeting was held in that city to consider the expediency of attempting University Extension work on lines similar to those developed during the past twenty years in England. The result of the meeting was the organization of the "Philadelphia Society for the Extension of University Teaching" on the model of the "London Society" for the same purpose. During the fall and winter the task of establishing "local centres" was undertaken in Philadelphia, its suburbs and neighboring towns, the result being that forty courses of lectures were given, with an aggregate of 250 lectures—a little over six on the average in each course—and an estimated aggregate attendance of 55,500 students. Many applications from other local centres have already been received, so that a large increase in these figures may be confidently predicted for next winter.

Encouraged by this phenomenal local success, the original promoters of the Extension Movement resolved to give it a national character, and steps were some time ago taken to organize "The American Society for the Extension of University Teaching." The Honorary President of this Society is Provost Pepper of the University of Pennsylvania, and on its committee are to be found President Adams of Cornell University, President Angell of Michigan University, President Chamberlin of the University of Wisconsin, President Gates of Amherst College, President Harper of the Chicago University, President Jordan of the Stanford University, President McBryde of the University of South Carolina, President Northrop of the Minnesota University, President Roberts of the Lake Forest University, President Rogers of the North-Western University, President Schaeffer of the University of Iowa, and President

\* Literary Notes. \*

ENGLISH.

(Continued from page 405.)

Warren of Boston University, besides a number of other eminent academical teachers, some prominent non-academical educationists, and a number of distinguished laymen and clergymen. The object of this Society is to act as a bureau for the collection and dissemination of information as to extension experiments in different parts of the world, to prosecute what may be called missionary work by securing the introduction of the system in places where it has never been tried, and to publish a "University Extension" journal. As the forerunner of this periodical the May number of the *Book News* comes to hand described as "a university extension number," and it well deserves the title from the large amount and high quality of extension campaign literature it contains, some of which may receive attention hereafter in these columns.

But the most significant event in the history of the movement is, after all, the unanimous enactment by the New York State Legislature of a "University Extension Law," which has received the Governor's signature, and is to come into operation at once. This statute authorizes the Regents of the University of the State of New York "to co-operate with localities, organizations and associations" in the State which may desire extension courses, "and to aid therein by recommending methods therefor, designating suitable persons as instructors, conducting examinations, granting certificates thereupon, and otherwise rendering assistance in such educational work." The sum of \$10,000 is placed at the Regents' disposal for this purpose, but no part of this amount is to be expended in payment of the expenses of local centres or for the services of instructors. That the example thus set by the Legislature of New York will soon be followed by the Legislatures of other States is highly probable, and the warm commendations of its action, in which the ablest journals of all shades of politics abound, will soon find a local echo in other parts of the United States.

What will Canada do in connection with this movement? Already a number of applications from localities and organizations have reached the Senate of the University of Toronto and have been referred to a committee. It is to be hoped that no time will be lost in sending out to the applicants a favorable response, so that the work of organizing "local centres" may go on during the summer and be completed in the fall. Every important centre of population, every Young Men's Christian Association, every Mechanics' Institute, and every Municipal Library Board should endeavor to aid the work and test the experiment.

THE American Society for the Extension of University teaching will shortly issue the first number of *University Extension*, a journal devoted to the interests of the movement for popular education known as University Extension, which has taken such a strong root in this country at many centres. The periodical will serve as the organ of the Society, and will constitute a general depository of information relating to the subject, and will be devoted to arousing and sustaining a public interest in all that pertains to this branch of popular education. All communications should be addressed to the American Society for the Extension of University Teaching, 1602 Chestnut Street, Philadelphia.

THE popular writer, George Parsons Lathrop, author of "An Echo of Passion," "Newport," "Afterglow," etc., contributes the complete novel to the June number of *Lippincott's Magazine*. The story is called "Gold of Pleasure." It is a tale of love and adventure, with scenes that shift from the quiet surroundings of a New England seaport town to Ceylon. Besides this the contents of the number are: "Some Familiar Letters, by Horace Greeley—IV," edited by Joel Benton; "A Literary Pet," by Edgar Fawcett; "Alexandra, Princess of Wales," by Lucy C. Little; "Oracles," by Clinton Scollard; "A By-Way in Fiction," by Agnes Repplier; "Is Alaska Worth Visiting?" by Caroline Augusta Furness; "Horace Ode, IV. To Sestius," by Grace Peckham, M.D.; "In the Thorvaldsen Museum," by C. H. Herford; "Beneath the Trees," by Charles Morris; "Sonny," by Mary E. Wilkins; "The College Settlement," by Hester Dorsey Richardson; "Before the Hour," by Florence Earle Coates; Two recent novels: "Atman," by A. H. W.; "Romance of a Spanish Nun," by Frederick M. Bird; "With the Wits," (illustrated by leading artists.)

THE table of contents of the *Chautauquan* for June is so lengthy that we have not room for even the titles of the articles. The following specimens will suffice to give our readers an idea of the character of its articles: "The Intellectual Development of the English People," by Edward A. Freeman; "Practical Talks on Writing English," part five, by Prof. William Minto, M.A.; "Life in Modern England," III, by J. Ranken Towse; "Sunday Readings," selected by Bishop Vincent; "England in the Islands of the Sea," by Prof. Calvin Thomas; "Blossom Time," by Emily Huntington Miller; Dr. Schliemann—"The Excavator of Ancient Troy," by Thomas D. Seymour, M.A.; "Periodic Changes in Climate," by E. Richter; "Tennyson's Quotableness," by Eugene Parsons; "The Latest Phases of Electricity," by Robert W. Prentiss; "Christianity as a Factor in Japanese Politics," by W. C. Kitchin, Ph. D.; "College Girls," by Kate Gannett Wells; "The Kitchen Scrap-Book," by Minnie A. Barney; Fenelon's "Education of Girls," by Harriet Carter. The usual departments and editorials receive full space.

measure; you "effect" a result when you obtain or bring about the result you desire. "Morality" has only a shade of difference from "virtue": the former is often held to include acts that spring from a calculating prudence, while the latter is always held to include only acts that spring from a real love of noble deeds and thoughts; it implies active goodness, while "morality" is often passive.

For the answers to your questions about Burns, see THE JOURNAL of December 15th, p. 235. The expression "criticism should be a cold business" means that the critic, in examining a piece of literature, should not allow his admiration for the writer, as a man, to influence his judgment. As a critic he should be without warmth of feeling, with his mind acting only as a "clear, cold, logic engine."

4th R., p. 279.—"My trumpet from the border side," etc. The statement is an exaggerated one made by the king to impress upon the elders that the inspiring news of his victory over the English at the border of Scotland would soon be heard in Edinburgh.

4th R., p. 82.—"As some tall cliff," etc. The joys, trouble and griefs of the little hamlet claimed and received a share of the preacher's care and affection (the clouds surging midway around the tall cliff), but his earnest thoughts, quiet and undisturbed by the tumult of the little lives around him, rose to heaven, fixed on eternal truths (the cliff piercing through the clouds to receive upon its head the eternal sunshine.)

PURDY.—2nd R., p. 95.—The child wishes to be at home to help her brother say his prayers, he needing help from the protecting elder sister, because more inclined to play than to pray. The "bar" is to keep him to his own side of the bed, for the little children evidently sleep together.

Audubon was born in Louisiana in 1780, of French parentage. Early in life he made the resolution to study birds. He studied in Paris, farmed in Pennsylvania, boated upon the Ohio, traversed Florida, but always with his favorite pursuit in mind. His *Birds of America*, completed in 1839, is the great monument of his research. A. died in 1851.

Michelet was born in Paris, 1798. A brilliant student, a famous professor, an opponent of the Jesuits, a great historian. His greatest work is his *Histoire de France*. M. was also author of works on natural history—"The Insect," "The Bird," etc. He died in 1874.

M.R.—4th R., p. 320.—In this stanza the poet cries to the bird singing above him: "Put into my spirit half the glad spirit that must be throbbing in thy brain when thou singest as thou now dost, and my poems would throb with such sweet and mighty passion that the whole world would stop to listen to my song, as I now listen to thine."

TASTE IN THE CHOICE OF WORDS.

(Continued from last issue.)

WORD.	WRONG SENSE.	RIGHT SENSE.
8. Anticipate	I anticipate [suppose] you were pleased. The news is hourly anticipated [expected].	To take before hand; anticipate joys or evils; to anticipate wants; to anticipate an opponent's argument.
9. Apt	That letter is not apt [likely] to reach its destination.	An apt scholar; men are apt to slander; blossoms are apt to be destroyed by frost.
10. As	Not as [that] I know.	
11. Assist	May I assist [help] you to some beef.	You do assist—aid—the storm.
12. Avocation	He followed the avocation [vocation] of lawyer. (Used, however, by Macaulay.)	What calls us away from our business: to the lawyer fishing and hunting are avocations.
13. Awful	It was an awful [serious] mistake. It is awful [very] hot.	Inspiring awe: the awful sight of murdered men.

(To be continued.)

## Examination Papers.

MANITOBA NORMAL SCHOOL—PROFES-  
SIONAL EXAMINATIONS, 1891.

## FIRST CLASS TEACHERS.

PSYCHOLOGY—*Sully and Bain.*

Examiners—  
 { D. J. GOGGIN, M.A.,  
 W. A. MCINTYRE, B.A.,  
 REV. PROF. BAIRD, B.D.,  
 F. H. SCHOFIELD, B.A.

(Candidates to answer two and not more than two questions in each of A, B, C.)

## A.

1. Define Attention. State the relation of Interest and Will to Attention. How may Attention be secured—negatively and positively? How may it be trained?

2. Define Percept, and mention the two stages in its development. Give a series of school exercises suitable for developing the perception of Form. State the general laws of mental development which should govern such exercises.

3. Define Reproductive Imagination, and state clearly its relation to Perception and Attention. State, with reasons, the steps to be employed in teaching pupils to memorize a passage.

## B.

1. Define Constructive Imagination, and state clearly its relation to Perception. Show how it is exercised in a reading lesson.

2. State the successive steps in the formation of a Concept. Show how these steps determine the plan of a lesson on Surfaces (geometrical). How may the distinctness of a concept in the learner's mind be tested?

3. What is the difference between inductive and deductive reasoning? Show clearly which method is employed in proceeding from the Empirical to the Rational. Mention the school studies that lend themselves most readily to the training of the reasoning powers by induction; by deduction.

## C.

1. What is the basis of egoistic feeling? Show the advantages and limitations of the feeling of rivalry as a means of securing good school work.

2. What is the basis of altruistic (social) feeling? Mention a benevolent feeling, and show how it may be used to secure good school work. Mention a malevolent feeling, and show how, while securing well-prepared lessons, it lowers the character of the pupils.

3. What is the æsthetic sentiment? State its educational importance. Indicate, by a series of exercises, the several directions in which the school may cultivate this sentiment.

## D.

1. What is the basis of the Will? Indicate how Will may be trained. State the main conditions in a firm or perfect habit.

ETHICS—*McCosh.*

1. (a) What are appetences?  
 (b) Enumerate several belonging to different classes.  
 (c) Describe fully any one of them.

2. What illustrations of the subjects of appetences would you draw from the character of:

- (a) Pontius Pilate.  
 (b) Robert Burns,  
 (c) The boy who teases smaller boys in school?

3. McCosh says: "It is not the judgment or belief that stirs up emotion but the phantasm of an object fitted to gratify or disappoint an affection." Describe how this principle may be turned to account in the school room.

4. Enumerate and define briefly the principal prospective emotions.

5. Outline a lesson for the purpose of training a class to see beauty in natural objects.

6. Explain fully what Conscience reveals.

7. Describe the influence which the will may exercise on the senses, the memory, conscience.

HISTORY OF EDUCATION—*Compayre.*  
(Candidates may answer two and not more than two questions in each of groups A, B, C.)

## A.

1. State and account for the general characteristics of education among the Oriental nations.

2. State and account for the fundamental characteristics of education in the Middle Ages.

3. Describe the Socratic method of teaching. State its advantages and limitations.

## B.

1. Give the relation of education to the State in Persia, Greece and Rome.

2. Show how Plato's estimate of the educational value of poetry, music and gymnastics, grew in each case out of his view of the end of education.

3. State and criticize the general principles of Rousseau's "Émilé." Show their influence on modern pedagogy.

## C.

1. State and account for the influence of the Reformation on education.

2. What does modern pedagogy owe to Comenius?

3. Outline the system of Froebel and state his influence on the educational thought and practice of to-day.

## D.

Outline Herbert Spencer's book on Education. Criticize his conception of Education, and give your opinion of "What knowledge is of most worth."

## SECOND CLASS TEACHERS.

## SCHOOL MANAGEMENT—SCHOOL LAW.

1. Discuss the value of the education of the playground, and state the teacher's duty in directing the sports of the children.

2. How will you arrive at a method of dealing with pupils who are habitually talkative?

3. There are three quite distinct methods of calling on pupils to recite—the *consecutive* method, the *promiscuous* method, and the *simultaneous* method. State the advantages and defects of each method.

4. Give directions as to the Art of Questioning under the following heads: 1. Qualities of questions. 2. Management of class while questioning. 3. Qualities of good answers.

5. Discuss the claims of the parents to have their claims considered as to modes of punishment, home work and promotion of pupils.

6. What are the teachers' duties as defined by law

- (a) As regards infectious diseases.  
 (b) As regards change of text-books.

7. What are non-resident pupils, and what are their rights?

## MATHEMATICS.

1. State definitely the value of the study of arithmetic.

2. (a) What do you mean by teaching the number nine?

(b) What steps will you take to develop language power while teaching the first ten numbers?

(c) Give samples of seat-work numbers 1 to 20?

3. State the place and value of mental arithmetic.

4. How will you teach and drill the Multiplication Table?

5. Discuss the value of pupils proposing problems to one another. Mention some devices you would employ to assist them in this work.

6. A pupil is unable to solve the following problem: Give the probable sources of difficulty. State what you would do to place him in a position to solve the problem:

"Water expands  $\frac{1}{10}$  in freezing. Find the weight of a block of ice which is 6 metres long, 3 metres broad and 1 metre thick. A gallon of water weighs 10 lbs. and contains 277.274 cubic inches, 32 metres = 35 yards."

7. Apply the principle "Processes before Rules" to the teaching of division of fractions.

8. Outline a lesson on Insurance.

9. Why teach geometry? What do you consider the necessary preparatory work?

10. Name some principles that will guide you in teaching algebra. Illustrate them.

## HISTORY AND GEOGRAPHY.

1. State, in order of importance, the reasons for giving geography a prominent place in school studies.

2. In your class of boys, whose ages vary from eight to ten years, are several who frequently make absurd statements, such as that a river runs towards a mountain range, or from the coast to the interior, or that it is wider at the source than at the mouth. Outline a lesson or several lessons whose object is to give clear ideas of the relation of surface to the course, length, volume, etc., of rivers.

3. Outline a lesson on Brazil for a class whose average age is ten years. In what order would you take up the various headings? Give reasons for your answer.

4. Show the correlation between geography and history. To what extent would you introduce history in teaching geography and conversely? Give reasons.

5. State, in order of importance, the benefits to be derived from a study of history.

6. Name some of the aids to history. Show how they may be used, and that the results justify their use.

7. Outline a lesson on the Normans, to be taught to a class of beginners.

8. Outline your assignment of a lesson on the reign of Elizabeth.

## For Friday Afternoon.

## GOOD-MORNING AND GOOD-NIGHT.

GOOD-MORNING peeped over the eastern gate,  
 To see if the children were up;  
 And laughed at the bumblebee coming home late,  
 Who was caught in a hollyhock cup.  
 Good-Morning has eyes like the glint of the skies,  
 When they're bright as the sun and the stars  
 mixed together,  
 And her lips are so sweet, and her steps are so fleet,  
 She can dance like a thistledown, fly like a  
 feather.  
 You "never have seen her?" Oh, me! Oh, me!  
 What a dull little sleepy-head you must be!

Good-Morning can sing like a brook or a bird;  
 She knows where the fairies all hide;  
 Some folk, hard of hearing, say they never have  
 heard

Her sing, though they often have tried.  
 Good-Morning has hair made of sunshine so rare,  
 The elves try to steal it to weave in the weather;  
 Which made her afraid, the bonny wee maid,  
 To swing on the gates many minutes together.  
 You "never have seen her?" Ah, me! Ah, me!  
 What a cross, lazy lie-abled you must be!

Good-Night is her neighbor, a dear little soul,  
 Who swings in a hammock, and not on a gate,  
 She half shuts her eyes with a great yawn, so droll,  
 It would make an owl laugh, I will venture to  
 state.

Good-Night always brings the most wonderful  
 things,  
 To hide in the children's beds, glittering and  
 gleaming!

Such tales she can tell, and she tells them so well,  
 You could listen all night, and believe you were  
 dreaming!

You "never have heard her?" Oh, me! Oh, me!  
 What a small naughty wide-awake you must be!

Good-Night has a house full of beautiful toys,  
 That she keeps for the children—no grown folks  
 are there;

And she carries them off, the wee girlies and boys,  
 To her magical palace, and, oh, how they stare!  
 Good-Night never frowns when she sees the white  
 gowns

Come trooping to beg for more stories—the dear!  
 But with kisses and smiles, the time she beguiles,  
 And bids them to come again soon—do you  
 hear?

You "never have been there?" Ah, me! Ah, me!  
 What a very sad, grown-up young chick you must  
 be!

—*St. Nicholas.*

Primary Department.

FROM THEORY TO PRACTICE.

ARNOLD ALCOTT.

FROM a lecture on education, the following thought was gleaned, viz., that environments more than heredity determine the future of the child.

The statement at first seemed doubtful, inasmuch as the old theory of heredity seemed to proclaim that there was no chance of escape from certain foregone conditions. Happily for us in this the latter part of the nineteenth century, the era of a new civilization has brightly dawned and opened to us a future which demonstrates plainly that the less-favored little beings of to-day have the prospect of being trained specially along the lines in which they have been denied fulness of strength.

Not now, as in olden time are the sickly, the deformed, physically and mentally, destroyed. Christianity has since shown the sin and responsibility of such a course. Now we have special schools for the blind, for the deaf and dumb, and the Kindergarten for the little ones. The principle should be, that to every human creature should be accorded the chance to become all that he may become by careful development. The weakest side of the nature should be the one most developed. For example, if the physical be the weakest, then most attention should be given to strengthening the muscles, to increasing the vitality, etc. If the intellect be the defective part of the being, then that should be carefully fostered; and if the moral be lacking, it should certainly receive special training.

The influences which surround our lives will certainly affect us more than heredity can. Those of us who have true and good influences around us can never be too thankful that our lot has been cast in such pleasant places. Environment, it seems to me, almost makes us, at least it exerts a most powerful influence over us. How much more so over the little ones!

We should be no better than, nay, not as good, as some of the profligates of the slums had we had no better forces about our lives.

In the light of the preceding thoughts does it not seem that our duty is plain? Help, we ought, and help, we must.

While in an office down town I heard the shrill, strident tones of the telephone; all in the room heard the call. The person who was called up put his ear to the instrument and heard the still, small voice. He received the message. All heard the call; only one heard the message. A good deal of observation has shown me that many of us know the true principles of teaching in a kind of intellectual way, but that many of us have never made them a matter of the heart. We all hear the call in a general sort of way, but a few only, by comparison, heed the message.

A short time since, an artist in New England had taken his camera and placed it so as to secure a picture of one of the cliffs of the White Mountains. He supposed he would reproduce a landscape scene. After the picture was taken he found it to be a human face—perfect in form and expres-

sion. Ever afterwards when looking at that cliff he could feel the eye of the face resting on him. Would it not be well for us, and for our pupils, did we not remember that there is an Eye which sees us altogether. Then we, as teachers, would not so often forget that the little pupils are not to spend all of their lives within the four walls of the schoolroom, and we would widen our influences and train them as a unity—physical, mentally and morally.

So much for this plea toward the nearing close of a long session when we are apt to become too prosaic and too symmetrical because our thoughts turn to those *betes noires*—examinations.

A word or two on methods in

ADDITION.

Teach the combinations by the use of objects, such as pegs, splints, slats, tooth-picks, etc. Let each child have his own peg-bag and supply of pegs of two colors, white and red. Every child should find out the answer to each combination for himself. Suppose I want to teach the combination of 7 and 5. I put it on the blackboard thus: 5

7

Now, each child places seven (white) pegs on his desk, or slate, and above he places five (red) ones, thus:

IIIII  
IIIIIII

Then he finds the sum is 12.

I put it on the board thus:

5 = IIIII  
7 = IIIIIII  
-----  
12.            12

Some educators advocate the teaching of the combinations which make ten, first. Thus 5 and 5, 6 and 4, 7 and 3, 9 and 1; then the doubles, such as 9 and 9, 8 and 8, and so on; then the remaining 1 and 2 = 3, 1 and 3, and so on. Altogether, there are forty-five combinations to be taught. Of course, in order to give the pupils a fair chance, and to properly apply their knowledge, the teacher must make up her own examples in the special combinations, and she must be careful to make these sums from the bottom upward. Otherwise, as the pupil adds from the bottom up he would have to encounter combinations which he had not previously learned. The following sum is a drill on the tens and contains the new combinations which we taught to-day, viz.: 9+9=18.

968  
949  
383  
787  
224  
996  
995  
565  
-----  
5868

But it is not necessary to exemplify further.

We shall stop somewhat abruptly, owing to this being a rather lengthy paper, and shall continue our hints on methods in addition, in the next number of THE JOURNAL.

SUGGESTIONS ON SPELLING.

RHODA LEE.

SPELLING is certainly one of the trials that beset the teacher of the classes between the phonic and the more advanced grades. "All things are not as they sound," is the text for our reflection at this juncture. The impressing of unphonetic words is undoubtedly a difficulty, but nevertheless is one that can be removed with the application and practice of a few unerring principles. It was only the other day I heard a teacher of the Senior First book grade bemoaning the fact of her bad spelling, and taking occasion to enquire the method of preparation, I learned that the pupils were required to spell the words orally a certain number of times, and, without any further fixing process, the teacher expected the words to be written correctly on the slates the day following. Surely these were "great expectations," seldom to be realized. Results proved some error in method.

There should be no doubt as to the relative merits of oral and written preparation of spelling. The work should be prepared by writing repeatedly on slate and paper, the words of the lesson. It is in this way the forms are impressed and the order of the letters fixed on the mind. To quote the familiar saying

"That which strikes the eye  
Lives long upon the mind; the faithful sight  
Engraves the knowledge with a beam of light."

Therefore, instead of the oral preparation see that your pupils write the words at home, and at school also, if time permits. Use blank books for the words to be studied at home. Make sure that the children understand the words and are able to use them intelligently. In this way the spelling lesson becomes one in language and composition, paving the way for future work of this kind.

You may think it totally unnecessary for me to say a word in regard to oral recitation, and yet there may be some who still advocate the old method; defending it with the argument of its being a training for both ear and eye. And there is truth in this, but for a moment let us look at the advantages of a written exercise.

In the first place we are required in our life-work to use spelling almost wholly in writing, in fact we rarely spell in any other way.

Every time we write a word the tendency is to impress upon our minds the word picture.

Again, the attention of every pupil is held in this method, every one being intent upon the work and in this way a great many more words may be spelled in the same time than could possibly be by the oral method.

When a mistake is made in writing a word it may be compared with the right form, examined and corrected.

And to sum up the whole matter, in no other way, with our limited time, can we be certain that the words are thoroughly known. Certainly it takes time to correct the slates or books, but while this is being done the scholars may be copying their lessons for the next day, or be otherwise profitably employed.

Just one or two words of caution. Do not waste time with words which present no real difficulties. Do not repeat a word in dictating the lesson unless some unusual noise overpowers your voice.

Do not pronounce the word in any incorrect way to make sure of having it spelled correctly. This is a crippling process and should always be avoided.

Do not give the words in the order in which you gave them to be learned. Writing the words from dictation is a test of knowledge and if the words are properly fixed in the mind they will be written correctly in whatever order they may be given.

Better that at the end of the week your list of pupils having had no mistakes, should be very very small than that it be augmented by pupils unconsciously assisted by your sympathy and perhaps selfishness, for the motive seems somewhat akin to that when examined closely.

Like all other subjects spelling is apt to lose its interest unless we occasionally introduce variety. Many ways of doing this will doubtless have suggested themselves. One plan that will give zest to the week's work is to take a review on paper. Distribute long slips of paper, and after dictating thirty or forty words from the week's lessons, collect and examine. This will insure a thorough review besides being a good test of the work of the week.

Occasionally require as homework a list of names such as all the trees in our country; things in a grocery store; or in a book store; everything in a kitchen, vegetables, flowers, fruits, birds, etc. Help may be obtained from different sources at home, to insure the correct spelling, and when the exercises are collected, select from the lists names common to all and use them as the lesson for that day.

NEARLY all of our constituency of readers consists of teachers who are, or should be, total abstainers. The marked difference there is in mortality experience between abstainers and non-abstainers, as shown by actual experience, should give them great satisfaction and should induce them to carefully consider the plans and terms of the Temperance and General Life Assurance Company. The names of the chief officers, who have been successful teachers, is a guarantee of careful and successful management.

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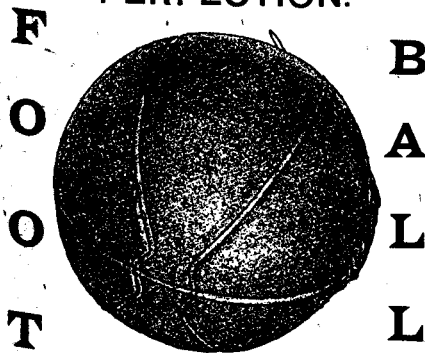
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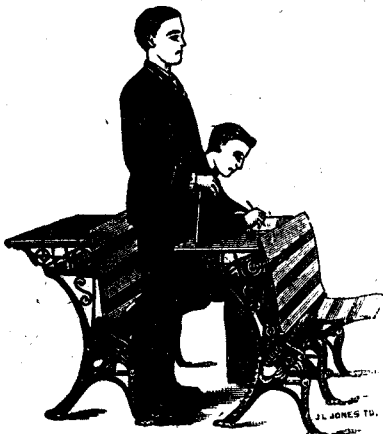
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June:

8. Examinations at Normal Schools begin.

26. Kindergarten Examinations begin.

July:

2. High School Entrance Examinations begin.

7. The High School Primary, Junior Leaving, and University pass Matriculation Examinations begin.

14. The High School Senior Leaving and University honor Matriculations begin.

The High Schools Act, as amended in so far as it relates to Entrance Examinations is as follows:—

38. (1) A uniform entrance examination for the admission of pupils to high schools shall be held annually in every high school district according to such regulations as may be prescribed by the Education Department. Examinations may be held at such other places in every county as shall be recommended by the county council of which notice shall be given to the inspector by the county clerk. Such places shall be affiliated for the purposes of the examination with a high school in the same inspectorial division. R.S.O. c. 226, s. 38.

(2) Every high school district shall be under one board of examiners. The trustees of the public and separate schools of the city, town or incorporated village in which a high school is situated shall on or before the 1st day of June each appoint an examiner, for the purpose of such examination. The Inspector or inspectors of public schools of the inspectorial district within which the high school is situated and the principal of the high school shall be *ex-officio* members of such board.

(3) The persons qualified to be appointed examiners shall be persons holding certificates as first-class teachers actually engaged in teaching, provided always that any person actually engaged in teaching who is the holder of a second-class provincial certificate and who has had five years' experience as a teacher may be appointed examiner, where a first-class teacher is not available within such high school district.

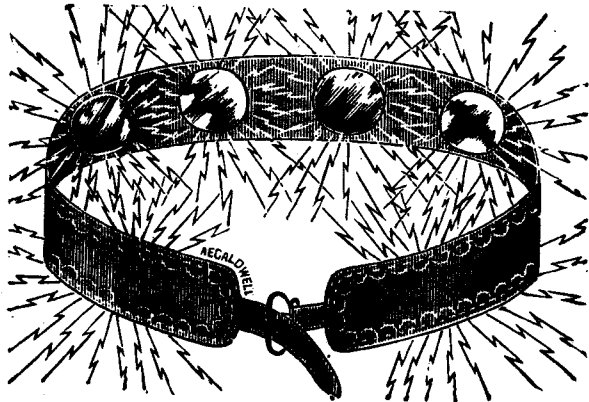
(4) The Board of Trustees and the Board of Examiners may agree upon the sum to be paid annually for the examination of such pupils, but in the absence of any agreement, examiners shall be allowed the sum of one dollar per pupil for conducting such examination and this allowance shall include the travelling expenses of the examiners, presiding at the examination reading and valuing the papers of candidates and reporting the results to the Education Department.

(5) The board of education, or the trustees of the high school district within which the examination is held shall on the requisition of the chairman of the board of examiners pay all the expenses of the examination at such high school, and such expenses shall be deemed to be part of the cost of maintenance of such high school. At affiliated schools the travelling and other expenses of the presiding examiner shall be paid by the county council.

(6) Any pupil passing the entrance examination may be admitted to a high school provisionally, but it shall be competent for the Minister of Education to consider the appeal of any candidate with regard to the reading and valuation of his papers or on the report of the high school inspectors, to confirm, or disallow the admission of any pupil, or to require of any pupil further tests of proficiency in any of the prescribed subjects of examination. R.S.O. c. 225, s. 41.

(7) County pupils whose examination has been confirmed by the Minister of Education shall have the right to attend any high school aided by the council of the county in which their parents or guardians reside. Resident pupils shall have the right to attend the high school of the district in which their parents or guardians reside. Non-resident pupils may attend any high school at the discretion of the trustees of such school.

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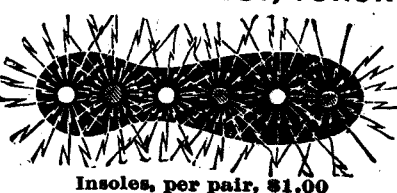


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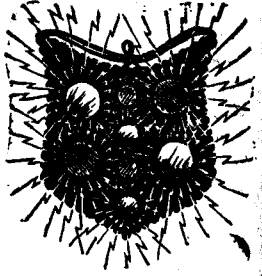
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