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# The Edturational §lournal. 

Consolidating "THE EDUCATIONAL WEEKLY" an̨d "THE CANADA SCHOOL JOURNAL."

## The Educational Journal.

## Published Semi-monthly.

a journal devoted to literature, science, art, and the advancement of the teaching profrssion in canada.
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## Table of Contents.

Epitorial Notes ..... AGGE
Educational Thought ..... 214Our ExaminatMusic Department
English-
Second-Class Literature
Entrance Literature. Notes on Entrance Literature.
Question Drawer..............
Book Reviews, Notices, etc.
Mathematics....
Examination Papers-
Education Department, Ontario, Midsummer Examination, 1888...............
School-Room Methods-
Learning to Scan.
Addition.
The Competitive Examination Must Go.
"School Work and Play"
ontributors' Department -
The Study of Butany as an Avocation'for Teache
Literary Notes
Educational Mertings -
Peterborough Teachers' Institute.
South Grey Teachers' Institute....
For Friday Afternoons-
The Fireman...
Little by Little.
Hints and Halrs-
Promissory Notes and Drafts..
Corraspondence-
The Mimico Industrial School

## Editorial Notes.

Lonk out for the sample copies of "School Work and Play," to which reference is made in our editorial columns.

We are sorry that the pressure on our space compels us again to divide Mr. Mackay's article on Examinations. The article is opportune just now, when the Nineteenth Century protest against competitive examinations is attracting so much attention.

A friend has called our attention to the fact that two questions in "Question Drawer" of last number were misapprehended and irrelevant answers consequently given. We have repeated the questions in this issue, with correct answers, and will try to be wider awake in future.

Some weeks since we were requested by a subscriber to give what we deemed the best method of teaching children to scan. Through pressure of other matters the answer was delayed. In the "Methods" department of this number will be found briefly outlined a mode which will we think be found simple and effective. We should, however, be glad to have some teacher who may have adopted a different course with success, give our readers the benefit of his experience.

While we have no objection to answering questions asking for general information on subjects not strictly educational, so far as our space limits will allow, it would be obviously improper for us to reply to questions involving matters of opinion, or partyism, on political or other noneducational topics. Inquirers will also please note that questions referring to mathematical, English, and musical subjects, will be answered in those departments respectively and not in "Question Drawer." It is better to keep such questions distinct from those asking for general information, and to address them to the editors of the proper departments.

The educational tendency of the time is well shown in a recent astounding innovation in one of the great public schools of England, Harrow. It is announced that in future a knowledge of Greek will not be required from students entering the classical side. Rev. Mr. Willdon, the head master, has come to the wise conclusion
that boys who want only enough Greek to "stumble through a passage in the Iliad with the help of a lexicon and a crib, had better leave it alone altogether." Boys who intend to proceed to the university will of course be obliged to take Greek. Any time saved by nonGreek pupils will be devoted to modern languages. Harrow was founded in 1571 , and chartered by Queen Elizabeth.

At the instance of Lord Stanley, the GovernorGeneral, it is proposed to begin in Ottawa, on the line of the Cambridge University Extension Union, a series of free popular science lectures, more particularly for the benefit of the working classes. This is, we believe, the first systematic movement of the kind in Canada. It is not to the credit of our Universities that they have so far failed to follow the lead of their English prototypes in providing lectures on scientific subjects for the benefit of the people. It is said that there is hardly a town of twenty thousand population in England to-day which has not en. joyed every winter for the past few years one or more courses of lectures of a popular character, bearing on some branch of science.

A communication from "Alpha" appeared in the Globe a week or two since, in which the writer says :-"I have three children attending Public School here, and am interested in the mode of education in Toronto. But I fail to see the good derived by occupying a consider. able portion of the morning in devotional exercises-explanations from the Bible by teachers in each department." As the "Regulations" of the Education Department provide that the "Scriptures shall be read dailp and systematically without comment or explanation," it is clear that there is a misunderstanding somewhere. Either "Alphe" is astray in his facts, or some Public Sctfool is disregarding the regulations. The former seems more probable.

Principal McHenry, of Cobourg Collegiate Institute, gave voice to a conviction that is steadily growing in the minds of thoughtful educators, when he said at the Institute commencement a few weeks ago, that "the time has come when some respect should be paid to the opinion of teachers, as well as to the judg. ment of examiners. "Theformer," Mr. McHenry went on to say, "have had the candidates in many cases for years under daily examination, where every opportunity is afforded for know. ing their capacity and attainments.
examiner, on the other hand, who has no knowledge of the candidates, must depend on a hurried glance over a few pages of manuscript to form an estimate and give a verdict that shall determine, perhaps, the entire life-destiny of those examined."

Dr. Charcot, an eminent French specialist, has propounded the novel theory that children under sixteen cannot have their brains overworked, simply because their brains will refuse to do more work than they are fitted for. At a certain point they become "stupid," and must stop whether they will or not. It would be very convenient and comforting could it be shown that Nature has indeed constructed the brains of children with such a self-acting stop-cock or safety-valve arrangement. We fear that many an anxious parent and teacher has been taught a different lesson by sad experience. At the same time we have no doubt that much of the evil attributed to over-work of the brain is in reality due rather to negative causes, such as insufficiency of fresh air, recreation, and sleep. But where this deprivation takes place in order that more time may be had for lessons, it amounts to very much the same thing in the end.

The refusal of the Senate of Victoria University to concur in the proposal of the Board of Regents to take immediate steps for the consummation of the proposed federation with the Uni versity of Toronto, has reopened the federation discussion. The possibility of failure, in the face of a strong and determined hostile opinion, to raise the sum of money necessary to transfer Victoria to Toronto for the purpose of federation, combined with liberal offers of aid to endow Victoria as an independent institution, has given encouragement to the anti.federationists. It would be unbecoming in us to express an opinion as to the merits of the controversy, which we have no doubt many of our readers are following with great interest, if not actually taking a hand in it. We shall all agree in wishing health and prosperity to an institution which has given so many good men to the teaching profession as Victoria, whether in federation or out of federation.

One of the best of our Exchanges says that "the teaching profession suffers more from the misguided enthusiasm of narrowing minds than from all other sources." The writer is dwelling upon the necessity of the teacher broadening his ideas and aspirations, and avoiding the too comrnon mistake of belittling himself mentally and socially by allowing all his thoughts and interests to revolve about the routine of thè schoolroom. "It matters not how broad a man may be by nature, if he rivets his attention upon the minor matters of his profession, he is sure to have his common sense submerged in a sea of trifling details. There is no cumulative force in centring upon the lesser matters of the school
room." There is great truth and force in this view. It is not that the teacher should not be an enthusiast in his profession. Every true teacher will be that. But no one, whatever his success in his profession, should be content to be " only a school-teacher," as no one should be content to be "only a farmer," or "only a mechanic," or even "only a lawyer or doctor."

In China the training of persons to become expert detectives of counterfeit money, consists in the incessant handling of good, not bad, coins. Thus their touch, accustomed to only the real, at once detects any counterfeit. Teachers, if you would enable a child to detect wrong forms, so familiarize him with right ones that he will recognize the spurious at once. It is a mistake to teach wrong forms for any purpose.- $N . \quad Y$. School Journal.

The general principle laid down in the foregoing is no doubt correct. An exception to the rule would be, we should say, such wrong forms as may be habitually used by the children of the school. It will be found, we think, very useful to put such solecisms prominently before the school, on the blackboard or otherwise, as expressions to be avoided. There can be no danger of teaching them to the children who already use them. Care should be taken, however, to indicate that they are wrong and to be shunned, so plainly that the fact cannot be overlooked or forgotten. In this way a critical habit may be encouraged which, within proper limits, is useful and desirable.

At the late annual meeting of School Trustees of Ontario, the Secretary, Mr. J. B. Dow, read a paper affirming that it is desirable to make the teaching of the fifth form in the Public Schools compulsory. .This opinion was supported by a number of the trustees and disapproved by others. One of the strongest arguments in its favour was drawn from the alleged tendency of the High School training and infuences to turn aside the pupils from farming and country life, and to set their faces towards the professions. The President, Mr. J. E. Farewell, pointed out in his address that the published statistics, if correct, do not support this view. These give but 797 out of the more than 15,000 pupils in the High Schools and Collegiate Institutes as reading for professions. This is, however, far from conclusive, as probably but few of these boys and girls have as yet decided on their future occupation. The real question is, how will those who have no profession in view feel about going back to the farm or the workshop when they have finished their High School course? A still more important question is that of the completeness of the ordinary Public School course as an education for the masses of children who cannot attend the High Schools. From this point of view it may be urged with great force that the subjects of the Fifth Form are, with few if any exceptions, such as should be studied by every boy and girl in the land. The trustees took no action.

## Educational Thought.

IT is possible to conceive of a time when the poorest cottage between the four seas shall be a home of life in its truest and best sense ; and its inhabitants move with firm step in the great freehold of cultivated mind.-Thring.

Knowledge gathered from the books may linger in the mind or be lost from it, but teach a child to see, to think, and to express his thoughts, and you send him out into life equipped to be a vital, intellectual force, rather than a mere receptacle of facts. -Boston Journal.
Not a leaf waves in the wind; not a drop of dew comes sparkling out of nothing to gem the bladed grass with orbs of light, :without telling something to those fitted to receive.it. Thought touches thought with quickening spirit and life enriches life with wealth, until ever mounting upwards, the mind becomes a new kind of created king, a lord of thought, lord of an endless kingdom full of light and pleasure and power.-Thring.

In my opinion, the boy who leaves at the end of a common-school course, with a love of reading good books, is better prepared for a life of honor and influence than one who passes through a highschool course without that love; and he who has an ordinary high-school education combined with a taste for good rea ling, is better equipped for the duties of life than the graduate of the best college or university in the country without that taste.John B. Peaslee.
MERE teaching, without formative influences on character, is simply a trade. But can education ensure right character? No. Character is not from the intellect, but from the will; or, rather, the person that lies back of the will. To the old question whether virtue can be taught, we say no. Some knowledge may be forced upon us; a right character cannot be; still, there are indirect formative influences, and the education that ignores character is radically defective.-Mark Hopkins.

BEAR constantly in mind the truth that the aim of your discipline should be to produce a selfgoverning being, not to produce a being to be governed by others. This it is which makes the system of discipline by natural consequences so specially appropriate to the social state which we have now reached. Another great advantage of this natural system of discipline is that it is a system of pure justice, and will be recognized by every child as such. Whoso suffers nothing more than the evil which obviously follows naturally from hiso own misbehaviour, is much less likely to think himself wrongly treated than if he suffers an evil artificially inflicted on him, and this will be true of children as of men.-Herbert Spencer.

Man movesin an everlasting mystery of unknown life, from which a new truth may flash at any moment ; and education trains the loving eye into a working power able to see truth. Even as the microscope has revealed new worlds, so have the mental lenses of the great poets and thinkers done. Beauty beyond all expression in the meanest created things can be seen by the ordinary eye of even ignorant man by looking through a microscope; and unknown infinities of smallness and perfection, which baffle, even when seen, the powers of the mind to grasp, have become visible to common sight. In like manner literature, and true training, create sight. And the world of common men, generation by generation, may look through the magic glasses of the mind, and gradually become conscious of the same infinity of unsuspected glory in the midst of which we go about our daily tasks, and move always in it, never aware of its presence till some trained eye descries it, and makes it its own, and gives it as a gift to ignorant men, or we ourselves in some happy hour light on some fair discovery of hidden thought. - Thring.

Where the solid qualities are in excess of accomplishments, we have rusticity; where the accomplishments are in excess of the solid qualities, we have the manners of a clerk. When the accomplishments and the solid qualities are equally blended, we have the man of complete virtue.-Confucius.

## Special Papers.

OUR EXAMINATION SYSTEM.*
CERTAIN DEFECTS ; A FEW REMEDIES SUGGESTED.
Granted that our different examinations are fairly well conducted, what then ? Is there any evil that seems to accompany as an invariable concomitant or to follow as an invariable result? Have examinations too prominent a place in our education system? Or to put the question in a more practical form, "Is the pupil who attends one of our schools, and who does not desire, and who has no occasion to take any of the departmental examinations, in any way prejudicially affected by the fact that he is necessarily placed in a class-room among a host of others who are directly preparing for one or other of these examinations?" I think a close inspection of our High Schools and Collegiate Institutes will disclose the fact that the student who is not preparing directly for any particular examination is, if not neglected, at least unduly urged to study for one or other of the ex. aminations.

The report of the Minister of Education for 1886 shows that of a total attendance of about 15 ,000 High School pupils, 5,777 were preparing fora teacher's non-professional certificate. High school Inspector Seath, commenting upon this statement in his report for 1887 , goes on to say that "this must, however, be the number actually preparing for the next ensuing examination. It does not include those in the lower classes whose course had not then been clearly determined; for in July, 1887 , no fewer than 5,689 wrote at the third and second class examinations alone. I am, I believe, within the mark when I say that about half of the pupils in attenfance at the High Schools have a teacher's certificate in view. This condition of matters, there is every reason to believe, is due to two main causes
(a.) The influence exerted by the teachers to induce their pupils to take the non-professional examinations, and
(b.) The comparative ease with which the aspir ant can obtain a teacher's professional certificate, especially of the lowest grade.

That indisputable reports reveal to us the fact that at least one half the pupils attending our High Schools and Collegiate Institutes are to-day preparing for a teacher's non-professional certificate, should certainly lead all concerned to earnestly and thoughtfully enquire whether, after all that is said of our much boasted school system, some radical changes are not needed to make is even approximate a model system. The same report that is authority for the statement that in 1886 there were 5,689 candidates for a teacher's non-professional certificate, contains on pige twenty the following sentence: "There are now 5,454 school houses in the province." It seems then that in 1886 we had 5,454 school houses and that there were in the same year 5,689 candidates who wrote for teacher's cer-tificates-more candidates in one year at one examination for certificates, a goodly number of which when granted would be life-long-than there were schools in the province. Oqe thing we can certainly boast of and that is a bountiful harvest of aspirants to the teaching profession, but how bootless is the boon! Surely we are wasting our energies in producing that which perisheth, else how soon would there be a plethoric ill among the pedagogues. But, alas! alas! the grass withereth, the flower fadeth and the teacher tarrieth not with us! It needs no argument to convince one that the majority of those engaged in teaching are travelers and not sojourners. They are hastening on to what they consider a better land, and use the teacking profession, as do the wandering Italians the harp, for the purpose of making money wherewith to speed them on their journey. We say that this is an abnormal and an undesirable state of affairs. Reform is needed somewhere. Changes, and radical changes, should be made ; none but radical changes will eradicate the evils of any system. And no eradication can take place without affecting the root of the evil, and to reach the root
*Paper read by A. G. McKay, M.A., at the West Grey Teachers' Association, Owen Sound, Oct. 5, 1888.
of the evil we must begin where? With university education? No. Collegiate Institute training No. High School work? No. Common School work ? Certainly.

This conclusion raises the question, "What should be the subjects of study in our Common schools?" This calls for the solution of a prior and more ultimate problem, "Why should children be educated?" As to the "why" of education we might dismiss it with the statement that the child is taught in order that he or she how this state of future usefulness is best obtained opinions differ. There are those who hold that a child's early education should be general and theoretical; at all events that the ratio essendi of the school room is not to train students for any particular profession or occupation. We accept the latter statement as negatively setting forth the correct ideal of the school room. But should not the student be allowed that option of studies which, while affording equally good mental gymnastics with another or others, bears most directly on his future life's work? Is not this principle admitted and do we not find it objectivised around us in our present educational institutions? Nay, verily have we not gone a step further and do we not in our state schools train directly for some of the professions? Do we not actually train teachers at the public expense? Have we not a faculty of medicine and a school ofengineerng in connection with our national university ? Also, on paper at least, a law course. Are we not agitating for and about to establish a chair of pedagogics, and is its prospective occupant not already selected? I do not wish to be understood as saying that lawyers and doctors are educated at the public expense. The law society is a student-and-profession-sustained institution ; is entirely separate from our national system of education; is not supported from the public chest ; we may therefore disregard it. The teacher, however, is the peculiar pet of the state; he receives all his education, both non-professional and professional, barring the payment of a few nominal fees, at the public expense. Does this
give you any cue as to why candidates for the give you any cue as to why candid
teaching profession are so numerous?
But I am digressing. The point I wish to make is that, particularly in our more advanced state schools, the principle of optional courses of study is recognized as desirable and advantageous. The prospective physician is allowed to be graduated from our national university in a particular de partment, e.g., chemistry or biology. Nay, he is now assisted, as I understand the affiliation scheme, a very little, it is,true, but still nevertheless assisted, in his purely professional studies for the degree of M.D.
What suitable optional course has the prospective farmer or mechanic? How is the state manifesting its interest in them ? The majority of our citizens are and must continue to be agriculturists. On them more than on any other class depends the future of our nation. Its rank and status among the nations of the world will vary in no small degree with the varying success of the farming community. The more scientifically we farm, the more successfully we farm. While the prescribed optional courses are numerous on our curriculums, which of them has any practical bearing on the duties of farm life? Prescriptive authority, couched in departmental regulations and edicts, says to a student, "Certain studies you mUST take, others you may"; but in the long lists that follow the " must" and the "may" we look in vain for a single text on any agricultural subject. It may be argued that the common school is not the place for optional studies; that specific courses should not be pursued until a later stage. If this be so we are practically argued out of court, for the hoi polloi, the masses, the great majority of students, do not complete even a common school course. Is there not a danger in our common schools, in our desire to avoid trairing the boy for any particular profession or occupation, that we have gone into the other extreme; and, to the boy whose school days' circumstances terminate all too soon, that the training we give him is too unpractical and that it does not sufficiently bear upon his after-life strug. gle for bread and butter ? Let us exemplify. You teach the prospective farmer that the Ural, Volga, Don, Dnieper and Dneister flow in certain directions -rivers he never saw and never will see-and yet
he leaves the common school, and so far as your teaching is concerned, he knows not whether heavy clay, mixed loam, or pure blow sand is or is not well adapted for wheat growing. Again the boy can string off the different counties in England in beautiful rotation, yet, so far as his school education goes, he knows not the difference between a Durham and a Devon, a Cotswold and a Southdown, a Percheron and a Clyde, an Essex and a Berke.

Now what is the result ? If mere ignorance of everything agricultural were the only result, the evil would be comparatively light and would soon be remedied. But suppose we place in your common school a boy who has a natural liking for farm work and farm life, but who desires a fitting education, both general and special. In his desire for knowledge he climbs higher and highèr, until he has reached the end of the ascending common school road. Here the state authorities intervene, examine him carefully, and peradventure he is given a ticket that allows him to enter a High School car. He steps aboard and is carried onward and upward until he reaches the next station, which! is duly announced as the "third-class" city, the inhabitants of which are pedagogues in a primeval state of existence. Possibly the conductor is scrupulously conscientious; if so, he merely announces the name of the city; if not, he urges the traveller to at least pass through the city, remarking that he may take in the sights for the small sum of $\$ 5$; that he can board the car at the other side and that he will thus bring glory and honor to both himselt and the conductor. Here is the first trap-door ; that escaped, he is carried onward until the " sec-ond-class city" is announced. Here citizenship is not so easily acquired, for the aspirant must have certain other passports than that of the ordinary traveller; still the additional requirements are few and may have been easily acquired en route. Again the traveller sees a goodly number leave the car never again to return. This station passed, he soon reaches the Grand Junction, where are numerous diverging lines leading to quite different termini, towards each or any of which a Government car is ready to conduct him. One manned by a dozen or so burly conductors will carry the traveller, he having first paid some pretty heavy fees, to the terminus marked M.D.; another with a paste-board car and no conductor points to the city of the LL.B.'s; an other with a fair staff of officials is ready to carry him to the city of the C.E.'s. Along another somewhat broad avenue he sees Government officials busy surveying, planning and mapping out a route, and plainly visible is the portly figure of the prospective conductor who is yet to guide the traveller to the city of the professional pedagogues. In vain does he strain his eyes for the conductor with the sunburnt countenance and the brawny arm, who is to conduct him to the fertile plains where the professional farmer is wont to dwell. Somewhat disappointed, he again enters the car, determined still to take another chance; the car moves on until it makes its final halt, and the traveller finds himself in the fast growing city of the B.A.'s.

But you ask me, "Why all this figurative romancing ?" I answer that I have endeavored faithfully to picture the boy's course from the day he enters the common school until he is graduated from our national university, and it is almost a certainty that he will not now return to farming. But you say, "Might he not have taken a course at the Agricultural College and have taken a B.S.A. (Bachelor of the Science of Agriculture) instead of having taken an Arts course and a B.A. ?" True. But notice how the prescribed course of studies in the common and the High Schools naturally led him to adopt the latter course and to shun the former. There is not one book on the whole common school curriculum that serves to remind him of the farm and the nobility of farm life; not even an optional study to keep up old farm associations. When he enters the High School, in addition to the fact that he must leave home and the old home associations, he finds a special course mapped out for the teacher; another, the commercial course, for the future business man. Law, medical and arts students are prepared for their matriculation examinations ; but students preparing for matriculation or entrance to the Agricultural College, he findeth not. Like the Ancient Mariner, he is "Alone, alone, all, all alone. . . .

## English.

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

## SECOND CLASS LITERATURE.

OWEN SOUND COLLEGIATE INSTITUTE MONTHLY EXAMINATIONS.

## I.

Such is the custom of Branksome Hall. Many a valiant knight is here;
But he, the chieftain of them all,
His sword hangs rusting on the wall,
Beside his broken spear.
Bards long shall tell
How Lord Walter fell.
When startled burghers fled, afar,
The furies of the Border war ;
When the streets of high Dunedin
Saw lances gleam, and falchions redden,
And heard the slogan's deadly yell-
Then the Chief of Branksome fell.
Canto I., St. VII.
I. Explain the references in italicized portions.
2. Develop any characteristics of the stanza to which we may attribute ( $a$ ) its vigor, and (b) its artistic arrangement.
3. Write a note on Branksome Hall.
4. What are the poetic motives for mentioning Lord Walter's death ?

## II.

Develop fully anything in the arrangement or selection of incident in the poem that tends to arouse and hold the reader's attention.

## III.

But when he caught the measure wild,
The old man raised his face and smiled;
And lighten'd up his faded eye
With all a poet's ecstasy!
In varying cadence, sott or strong,
He swept the sounding chords along;
The present scene, the future lot,
His toils, his wants, were all forgot:
Cold diffidence, and age's frost,
In the full tide of song were lost ;
Each blank, in faithless memory void,
The poet's glowing thought supplied;
And, while his harp responsive rung,
'Twas thus the Latest Minstrel sung.
Introd.
I. Give, in the author's words, if possible, the other side of the picture to that in "But when he caught the measure wild."
2. Explain in simple, well-chosen words the meaning of the italicized expressions.
3. Note any mannerisms exemplified here, and quote any other examples of the same you may have met.
4. Mention any instances in which the poet's selection or arrangement of words has a strong poetic effect. Give reasons for choice.
5. What role does the Minstrel play in the poem? Account for his introduction.

## ENTRANCE LITERATURE.

## REVIEW QUESTIONS ON "THE FORSAKEN MERMAN."

t. Tell in your best style the story of "The Forsaken Merman."
2. Who is supposed to be speaking and where are the words spoken?
3. Quote a description of: (a) the life of the mermaids under the sea; (b) a storm at the ebb of tide; (c) the effect upon the mermaid of the remembrance of her former life under the sea; (d) the scene at the bottom of the sea.
4. Explain the meaning of:-" This way, this way," "The wild white horses foam and fret," (Stanza II.); "Where the spent lights quiver and gleam," "Dry their mail," (Stanza III.); "'Twill
be Easter time in the world," (Stanza IV.); "By the sandy down where the sea-shells bloom," "And we gazed up the aisle through the small leaded panes," "Her eyes were sealed to the holy book," (Stanza V.); "She sits at her wheel," "And the holy well," (Stanza VI.); "She will start from her slumber when guests shake the door," "A ceiling of amber, a pavement of pearl," (Stanza VII.); "When spring-tides are low," "From heaths starred with broom."
5. Give an appropriate title for each stanza that will show its connection with the subject, "The Forsaken Merman."
6. Distinguish champ and chafe, surf and swell, foam and tret, quiver and gleam, coil and twine, caverns and caves, gase and stare, roar and whirl.
7. What time is supposed to elapse during the recital of these words?
8. Show as well as you can that the italicized words are correctly used :-Wild with pain; white-walled town; windy shore; sand-strewn caverns; the salt weed sways in the stream; whales come sailing by; on a red gold throne; the kind sea-caves; her eyes were sealed; the whizzing wheel ; there breaks a sigh; sorrow-clouded eye; the cold strange eyes; the hoarse wind; when clear falls the moonlight; the rocks throw mildly on the blanched sands a gloom.
9. Point out any sentences in which the words are not placed in their natural order, telling as well as you can why another order was used.

## NOTES ON ENTRANCE LITERATURE.

 the battle of bannockburn.
## I.

SEE that each pupil understands the line of thought followed by the author, as shown by the following paragraph headings.
I. The advantages and disadvantages of the Scots.
2. Bruce's plans to make up for the disadvantages.
3. The approach of a portion of the English army and its attack by Randolph.
4. The departure of Douglas to assist Randolph.
5. The assistance not needed.
6. Arrival of van of English army.
7. Contest between Bruce and the English knight.
8. Commencement of battle.
9. English thrown into confusion and defeated.
ro. Magnitude of the defeat.
II. Result of battle on England.
12. Result of battle on Bruce.
13. Result of battle on Scotland.
II. See that pupils understand the nature of the fight by asking them to draw a plan of the battle.
III. Let the various scenes be described in their own words orally or on paper by the pupils.
IV. See that the pupils understand the meaning of the words, testing them on : Assembled, gathered; commanded, ruled; nobles, barons; exceed, surpass ; wealthy, rich; purpose, intention ; occupied, held ; terminated, ended; brook, creek; information, news; anxiously, carefully ; relieve, aid; danger, peril; fame, honor; pony, horse prepared, ready; disorder, confusion ; rabble, crowd; pursued, followed; prisoners, captives; exile, banishment; free, independent ; princes, kings; warriors, soldiers.

Learning without thought, is labour lost; thought, without learning, is perilous.-Confucius.
A man should say, I am not concerned that I have no place: I am concerned how I shall fit myself for one; I am not concerned that I am not known : I seek to be worthy to be known.Confucius.

## Music Department.

All communications for this department may, until further notice, be addressed to A. T. Cringan, 23 Avenue St., Toronto.

The Tonic-Sol-Fa system is divided into carefully graded "steps" which serve as a guide to teachers in arranging the work to be done. At the close of each step it is advisable to review and decide whether sufficient progress has been made to warrant the introduction of the next in order. The review of the practical work can only be accomplished by an oral examination, but the theoretical examination may be conducted by a series of questions requiring answers, written and verbal. The following set of questions will assist the teacher in this work.

## TUNE.

To sing from the modulator the tones $\mathrm{d}, \mathrm{m}$ and $s$ in any order and in any key within the compass of the pupils' voices.
To sing short phrases composed of the above tones written on the black board, first using syllabic names, and afterwards the syllable* laa. Example: $\mathrm{d} \mathbf{s d m s d ^ { \prime }} \mathrm{m} \operatorname{sid}$.

TIME.
To sing on one tone to time-names and laa exercises in two, three, or four-pulse measure, containing full-pulse tones, continuations and half-pulse tones.
qUESTIONS FOR oral and Written examination.
Write on slates or books a diagram showing the tones $\mathrm{d} \mathrm{s} \mathrm{m} \mathrm{d} \mathrm{d}^{\prime} \mathrm{m}^{\prime}$, in their proper (vertical) position. See first page, Book I.

What is the mental effect of doh, of me, of soh?
Write an example of two, three, and four-pulse measure.
Write the following on your slates, and give the time-names underneath $|\mathrm{d}: \mathrm{d} . \mathrm{d}| \mathrm{d}:-\mid \mathrm{d} . \mathrm{d}: \mathrm{d}$.
d|d :-\|| d :-: d.d|d : d.d : d ||
All the exercises must be sung with a pure soft quality of tone. Whenever pupils attempt to sing loudly or harshly they must be repressed instantly. The voice exercise No. 54, on page 9, will be found useful in softening and purifying the voices. In a future paper the subject of vocal physiology will be treated, and instructions given in tone production. The following lesson on the above exercise will meanwhile be found sufficient for all practical purposes.
lesson on voice production.
Teacher.-While you were studying your former music lessons I did not think it necessary to say very much about your voices, but now we are going to study how to produce the sweetest possible quality of tone. (Writes Ex. 54 on black board.) This is practiced until pupils can sing it easily from memory and can give undivided attention to voice production. Care must be observed in singing the upper doh without any signs of straining or forcing the voice. T. -Gives order to "t stand up." (Pupils stand in an easy position, with hands by their side, and heads erect, but not thrown back.) "Take breath slowly while I count four, inhaling through the nostrils." Pupils in doing this will probably raise shoulders and bulge out the upper part of the chest. $\dagger$ This is an altogether "wrong and vicious method of breathing, and must not be tolerated. The teacher must give an example of breathing by expansion of the lower part of the chest. $f$ Pupils will now imitate. Now take breath as above, and hold it under control for four seconds by simply keeping the chest expanded, then letting the breath escape suddenly through the mouth. When this has been repeated a few times pupils will have gained a certain degree of control of the respiratory organs and will be prepared to sing the exercises in the following manner:
ist. Sing to vowel ah very slowly, taking breath before each tone. In singing ah the mouth must be opened sufficiently to enable the tips of the thumb and forefinger to be placed between the teeth.

[^0]2nd. Sing to vowel 00 in same manner, with mouths moderately well opened and the lips nicely rounded.

3rd. Sing to 00 or $a h$ quickly, the entire exercise being sung to one breath.
4th. Sing smoothly, using the vowels in the order given in the exercise.
At first the tone must be as soft as can possibly be obtained and gradually increased in force, but never louder than the medium force of the voices. Should any harshness of tone be apparent return at once to the soft tone, and practice repeatedly until the voices are blended and the harshness is gone.

## Question Drawer.

[N. B. The first two of the following questions were misapprehended and so not correctly answered in last issue.-Ed.]

In your paper of the 15 th ult., You say those who pass Junior Matriculation with honors are entitled to a First Class Certificate. Have they to take honors in any special subject or group of subjects? -C. E. W.
[There is ajoint arrangement between the Department and the University as to the I. C. Examination. University candidates have their standing in detail certified to the Central Committee, which judges whether a certificate should be awarded. Honor standing in all the subjects required for I. C. is necessary.]

I hold a Second Class Non-Professional Certificate. As I wish to attend the Normal School, I would like to read the books required to be read for my Professional Certificate. Kindly give list.Dominie.
[In addition to The books prescribed for Forms I.-V., of Public Schools, the following are authorized for Provincial Normal Schools :-

Browning's Educational Theories. . . . . . . \$o 80
Hopkins' Outline Stady of Man. .
125
Fitch's Lectures on Teaching. . . . . . . . . . . I 00
Baldwin's Art of School Mngt. (Can. Ed) o 75
Manual of Hygiene.
100
Houghton's Physical Culture.
o 50]
Please explain through your Question Drawer "The difference between Commercial Union and Unrestricted Reciprocity, as applicable to Canada and the United States." L. J. G.
[" Unrestricted Reciprocity" means simply that each country would admit all products of the other free of duty, still regulating as it pleased its own tariff in respect to other countries. "Commercial Union" implies not only free trade between the two countries, but complete assimilation of their tariffs on importations from other countries. It may also imply that the revenues from such assimilated tariffs would be collected by a common Governmental bureau or department, and divided on some basis agreed on, e. g., that of population.]

Kindly inform me through the columns of the Educational Journal of any plan by which children who stutter can be,aided to overcome their difficulty in talking and reading.
W. H.
[Perhaps some teacher or elocutionist who has had experience will kindly answer. Much can undoubtedly in most cases be done towards overcoming the difficulty. A simple and natural remedy is patient, continuous practice in distinct articulation of sounds and syllables, first singly, then in slow succession.]

Please insert an article on the best way of scan-
ing poetry. ning poetry.
H. C.
[See article in another column.]
I. What is the most suitable book from which I can get stories to have read for reproduction in an ungraded school?
2. Give the name of any book from which suitable selections could be made for a public examina-
tion.
3. Give name of any book containing a collection of easy Kindergarten songs.
4. Could you or any of your readers suggest a programme suitable for a public examination in a very small country school ?
5. Give a list of subjects suitable for object lessons in Part I. and II.
J. C.
[See our advertising columns, especially the advertisement of the National School of Elocution and Oratory, and that of the Canada Publishing Company.]

Where can I procure copy of last examination papers, First C.?
[All surplus papers were sent out to the School Inspectors, and High School Masters. From these they may be obtained, if now at all procurable.]
[J.A.A.- Your questions are hardly in our line. They should be sent to some political or general newspaper.]

Is " Question Drawer," Nov. 15, in answer to the query as to the name of the last letter of the alphabet, you say, unqualifiedly, "Zed." If not impertinent, I would ask, for what reason? If you reply, usage, it may be said that at one time usage sanctioned that absurd name "Izzard" (not to speak of "Ampusand" for the character \&). Webster says, "It is pronounced Zee," and while I am not a devout follower of Webster, I think that in this case, at least, he has common sense on his side. Looking at other letters of the alpmabet, we find that the names generally have been arranged to vary from the sounds as little as possible. The exception in the case of $W$ is, one would think, enough to answer for the whole alphabet, without adhering to Zed. It cannot, surely, be treason for one who writes honor, labor, etc., to say Zee.-H.
[We regard the question merely as one of usage. We know no other law for pronunciation of English. Zee is given up in later edition of Webster. If one is courageous enough to adhere to Zee, he will have logic on his side, but will, we fear, be lonely.]

In estimating the amount of work in painting, plastering, etc., the following rule is given in the Public School Arithmetic, p. 83 :-
"Measure the total area within the boundary lines of the work, including all openings; from this gross area deduct half the area of all doors, windows and other openings, and take as the net area the whole number of square yards nearest to the remainder."

Why not deduct the whole area of all openings?
EIt is customary to charge for half the area of openings, etc., as compensation for the trouble and loss of time they involve. The half rule is not invariable in this country. It is customary, e.g., we are told by an architect, for painters to charge for the whole of window spaces.]

## Book Reviews, Notices, Etc.

A Quiz Manual of the Theory and Practice of Teaching, by Albert P. Southwick, A.M., author of "Handy Helps," "Short Series inlLiterature," etc. New York and Chicago : E. L. Kellogg \& Co.
A very helpful book, full of practical hints and suggestions which can scarcely fail to prove of great service to young teachers.
Sheldon's Elements of Algebra. Sheldon \& Co., New York and Chicago. 360 pp .
The binding and typography are a model of what our school books ought to be. This book will outlast five copies of any authorised school-book in Ontario. It is in all respects a better school-book than Hamblin Smith's, and contains a copious and well-graded series of examples very suitable for a first course.
The Earth in Space, a Manual of Astronomical Geography, by Edward P. Jackson, A.M. D. C. Heath \& Co., Boston.

This little volume of 70 pages forms an admirable companion to the first chapters of the High able companion to the first chapters of the High
School Geography, and to some parts of the Public

School Geography. The diagrams are very fine. For second and third class work it will be found very helpful.
Dynamics for Beginners, by the Kev. J. B. Lock, M.A. MacMillan \& Co., London ; Williamson \& Co., Toronto. pp. 178 . $\$ 1.00$.
This is an excellent treatise, full of good solutions and with abundance of problems of a practical kind. The sixteen sets of Cambridge examination papers at the end are the type of our University papers. For the average student of the 2nd or the 3 rd year this volume will be serviceable.
Chemical Problems, by J. P. Grabfield, Ph. D., and P. S. Burns, B.S., Mass. Inst. of Technology, Boston ; D. C. Heath \& Co., Boston. 87 pp.
This little volume will be found extremely useful by the Science Masters of High Schools and Collegiate Institutes. It is short, clear, and practical, containing over 40 pp . of examination papers with numerous hints and solutions. The Periodic System of the Elements is exhibited in a table.

1. Unconscious Tuition, by F. D. Huntington, D.D.
2. How to Keep Order, by James L. Hughes.
3. Froebel's Kindergarten Gifts, by Heinrich Hoffman.
These three booklets, neatly bound in paper, make Nos. 7, 8 and 10 of the Teachers' Manuals, published by E. L. Kellogg \& Co. The subjects of the Manuals and the names of the authors will combine to attract the attention of teachers of all grades. Many Canadians will be glad of the opportunity to get Inspector Hughes' well known treatise in this cheap form.
The First Four Books of Casar's Commentaries on the Gallic War. Consiating of the original and translation arranged on opposite pages. New York : A. Lovell \& Co.
This little book forms one of the series of the Parallel Edition of the Classics, in course of publication by Messrs. Lovell \& Co. The opinions of the teaching fraternity will no doubt be divided with regard to the utility or the opposite of placing such a book in the hands of the junior student of Latin. Under the eye of a judicious and capable teacher, who knows how to ensure that the meanings, constructions, and relations of the Latin are thoroughly comprehended, we are not prepared to say that a parallel series might not greatly facilitate the learner's progress. That the series is admirably adapted to secure its two-fold chief object, viz : "partly to help those who, by their own efforts, desire to acquire a knowledge of the writings of the masters of two such languages as are without a rival, and partly to afford an opportunity to such as have studied them, and were at one time familiar with them, to refresh their memories and kindle anew the associations of the past," caonot be doubted.
I. First Greek Grammar, by W. Gunion Rutherford, M.A., L.L.D., Head Master of Westminster.
4. Easy Exercises in Greek Accidence, by H. G. Underhill, M.A., Assistant Master St. Paul's Preparatory School.
5. Stories and Legends. Á First Greek Reader with notes, vocabulary, and exercises, by F. H. Colsen, M.A., late Fellow of St. John's College, Cambridge, and Senior Classical Master of Bradford Grammar School.
6. Stories from Aulus Gellius, being selections and adaptations from the Noctes Atticae, edited with notes, exercises, and vocabularies for the use of lower forms, by the Rev. G. H. Noll, M.A., Assistant Master at Westminster School.
The above are all from the prolific presses of Mac Millan \& Co., London and New York. The first three form parts of MacMillan's Greek Course, the fourth belongs to his series of Elementary Classics. As aids in the early stages of the study of the most precise of languages, in its most precise forms, they are probably unsurpassed.
We 'have received also from the same firm $A$ Latin Reader for the lower forms in schools, by $H$. J. Hardy, M. A., Assistant Master in Winchester College.

## Mathematics

All communications intended for this column should be sent before the 2oth of each month to C. Clarkson, B.A., Seaforth, Ont.

## PROBLEMS AND SOLUTIONS

I. What price must I pay for bank stock 3 months before the dividend is due, so as to make $9 \%$ on my money, the half-yearly dividend being $8 \%$ on the par value?

Solution by M. M.:-
Considering $8 \%$ half-yearly $=16 \%$ per annum, the price of the stock, without regard to the coming dividend, would be $100 \times \frac{16}{16}=177 \frac{7}{3}$, But the buyer is entitled to one-half of the half-yearly dividend, viz., $\$ 4$ due in 3 months. The P.W. of this @ $9 \%=4 \times \frac{409}{109}=3,912$, which must be added to the price of the stock, $\therefore$ total price of stock $=177 \%+3 \cdot 912=\$ 181,689 . \quad N . B .-8 \%$ half-yearly is $=16 \%$ per annum + interest on $\$ 8$ for 6 months, so that the first assumption is only commercially accurate.
2. $A$ and $B$ enter into partnership for 3 years. A puts in $\$ 20,000$ and $B \$ 5,000$. $\quad \mathrm{B}$ is to manage the business, and the profits are to be equally divided; but at the end of the first year A increases his stock to $\$ 36,000$. How shall they divide a gain of $\$ 28,500$ at the end of the three years?
Solution by J. H. :-
It is evident that B's services are considered equal to $\$ 15,000$ capital. Thus A has $\$ 20,000$ invested for one year, and $\$ 36,000$ for 2 years $=\$ 92,000$ for one year and B has the equivalent of $\$ 20,000$ for 3 years. Hence their stocks are as $92: 60$, or as $23: 15 ; \therefore$ A's share $=\frac{23}{3}$ of $28 \frac{1}{2}$ thousands $=\frac{23}{3} \frac{3}{8} \times{ }^{57} \times 1000=17 \frac{1}{4} \times 1000=$ $\$ 17,250$; and $B^{\prime}=$ remainder $=\$ 11,250$.
3. Two quarters of beef weigh altogether 252 lbs .; one cost $7 \frac{1}{2}$ cents and the other $5 \frac{1}{2}$ cents per lb . They cost $17 \frac{1}{2}$ cents more than they would have cost at the average price, $6 \frac{3}{8}$ cents per lb . Find the weight of each quarter.

Solution by Dr. Mclellan :-
If both quarters had been bought at $6 \frac{3}{3}$, every lb . of the first would have cost $\frac{7}{8}$ cent less, and every lb. of the second $\frac{7}{8}$ cent more than was actually paid. Now, if the quarters had been of equal weight, the loss would have balanced the gain. But the cost was $17 \frac{1}{2}$ cents more than the average price, $\therefore$ the first quarter was the heavier by $17 \frac{1}{2} \div \frac{5}{8}=20 \mathrm{lbs}$.; and consequently the second quarter weighed $(252-20) \div 2=116 \mathrm{lbs}$., and the first $116+20=136 \mathrm{lbs}$.
4. A piece of land was bought for $\$ 1000$, to be paid in 5 years with interest @ $10 \%$. The purchaser was allowed a choice of two modes of payment:-(1) To leave the principal unpaid to the end of the fifth year, and pay the interest at the end of each year ; (2) To pay $\$ 200$ of the principal each year, together with the accrued interest. Determine which of these modes was the more profitable, and how much the land cost at the end of the period by that mode of payment, money being worth $10 \%$ compound interest.

## Solution by S. G. M.:-

Ist mode. He pays $\$ 200$ a year interest, which is the same as he would pay in principal by the $2 n d$ mode, and as money is worth $10 \%$ in both cases, the two methods amount to the same thing.
Cost = amount of $\$ 1000$ for 5 years @ $10 \%$ cpd. interest.
$=1000\left(\frac{1}{1}\right)^{5}=1000 \times 161,051 \div 100,000=\$ 1610.51$.
5. A person invests a certain sum (U.S. currency) in U.S. 5 's, $10-40$, and $70 \frac{10}{1} \%$ more than that sum in U.S. 6's, 5-20. The former are at a discount of $5 \%$, and the latter at a premium of $8 \%$, and the interest on both is payable in gold. His interest from the whole investment is $\$ 1400$ in gold. Find the amount of U.S. currency invested in each kind of bonds. (Second class, 1876.)

## Solution by Dr. McLellan :-

$701 \frac{10}{9} \%=\frac{87}{85}, \therefore$ for every dollar of the first investment there are $1 \frac{67}{95}=\frac{162}{95}$ of the second.
In the first 95 produces an income of 5 , i.e., ${ }^{5}$. per unit. second 108
$\frac{163}{95}$ produces an income of $\frac{163}{95} \times \frac{18}{85}=\frac{9}{95}{ }^{\frac{10}{85} 8}$ per unit;
$\therefore$ incomes are as $5: 9$, or $\$ 500$ and $\$ 900$; $\therefore$ investments are $\$ 9500$ and $\$ 16,200$ respectively.

By Professor Matz, M.A.:-
6. If $\left(a^{2}+b^{2}+c^{2}\right)^{2}=3(a+b+c)(b+c-a)(c+a-b)$ ( $a+b-c$ ), prove that $a, b, c$ are all imaginary or all equal.
Solution by A. M. Williams, M.A.:-
The equation reduces to $\left(a^{2}-b^{2}\right)^{2}+\left(b^{2}-c^{2}\right)^{2}+\left(c^{2}-\right.$ $\left.a^{2}\right)^{2}=0$. If $a, b, c$ are real, each term must be $o$, i.e. $\mathrm{a}=\mathrm{b}=\mathrm{c}$; otherwise the expression must take the form $x^{2}+y^{2}+z^{2}=0$, which is impossible unless $a, b, c$ are all imaginary.
7. $\mathrm{AC}, \mathrm{BD}$ are diagonals of a quadrilateral. AF parallel to $B C$ cuts $B D$ in $F$; $B E$ parallel to $A D$ cuts AC in E. Prove that EF is parallel to CD. Proposed by W. J. Greenstreet, M.A.
Solution by E. M. Langley, M. A.:-
Let AC, BD cut in O ;
then $O E: O B=O A: O C$,
and $O B: O D=O F: O A$,
$\mathrm{OE}: \mathrm{OD}=\mathrm{OF}: \mathrm{OC}$,
EF is parallel to CD
By W. J. Greenstreet, M.A. :-
8. $A B C$ is a triangle; $A B=A C ; D, E$ are midpoints of $B C, A B$. Join $A, D$; draw FEL perp. to $A B$, cutting $A D$ in $L$, and a perp. at $B$ to $B C$ in $F$; draw FH parallel to AC. Show HLF is a right angle.
Solution by the Proposer:-
AD bisects the vertical angle A ;
Angle $\mathrm{FBE}=\frac{1}{2} \mathrm{~A}$, because AD is parallel to BF ;

$$
\begin{aligned}
& \mathrm{EBL}=\frac{1}{2} \mathrm{~A}, \\
& \therefore \mathrm{FE}=\mathrm{EL} .
\end{aligned}
$$

Again, angle $\mathrm{BFN}=\frac{1}{2} \mathrm{~A}$, since BF is parallel to AD , and HF parallel to $\mathrm{AC} .[N . B .-\mathrm{N}$ is the point where FH cuts AB .] Hence $\mathrm{BN}=\mathrm{FN}$; and since NH is parallel to AC , the angle $\mathrm{NHB}=\mathrm{C}=\mathrm{B}, \therefore \mathrm{NB}=\mathrm{NH}$, and therefore, $N$ and $E$ are mid-points of $F H$ and $F L$, consequently EN is parallel to HL , and, therefore, $\mathrm{HLF}=\mathrm{a}$ right angle.
9. Factor $\left(\mathrm{a}^{2}+2 \mathrm{bc}\right)^{3}+\left(\mathrm{b}^{2}+2 \mathrm{ca}\right)^{3}+\left(\mathrm{c}^{2}+2 \mathrm{ab}\right)^{3}$
$-3\left(\mathrm{a}^{2}+2 \mathrm{bc}\right)\left(\mathrm{b}^{2}+2 \mathrm{ca}\right)\left(\mathrm{c}^{2}+2 \mathrm{ab}\right)$. -MçLellan's Elements, p. 90́, number 16.

Solution by the Editor :-
Put $\mathrm{a}^{2}+2 \mathrm{bc}$ et seq. $=\mathrm{x}, \mathrm{y}, \mathrm{z}$, and we get $\mathrm{x}^{3}+\mathrm{y}^{3}+\mathrm{z}^{3}-$ $3 x y z$, of which the factors are $x+y+z$, and $x^{2}+y^{2}+z^{2}$ $-x y$, etc. We now requife to restore the values of $x, y, z$. Observe that
$x, y, y+z=(a+b+c)^{2}$; this disposes of the first factor. Second factor $=(x+y+z)^{2}-3(x y+y z+z x)$
Now, $x y=a^{2} b^{2}+\left(a+b+c c^{2}-3\left(2 b^{3}+2 b^{3}\right.\right.$, and by symmetry $y z=b^{2} c^{2}+4 a^{2} b c+2 c^{3} a+2 b c^{3}$
$2 x=c^{2} a^{2}+4 a b^{2} c+2 a^{5} b+2 a^{3} c$. Add these columns. Sum $=\left(a^{2} b^{2}+b^{2} c^{2}+c^{2} a^{2}\right)+4 a b c(a+b+c)+2\left(a^{3} b+\right.$ $b^{3} c+e t c$.)
$=(a b+b c+c a)^{2}+2 a b c(a+b+c)+2\left(a^{9} b+e t c.\right)$
$=(\quad ، \quad)^{2}+2(a b+b c+c a)\left(a^{2}+b^{2}+c^{2}\right)$
$=R^{2}+2 R S$, when we write $R$ for $a b+e t c$.
and $S$ for $\mathrm{a}^{2}+\mathrm{b}^{2}+\mathrm{c}^{2}$. So then
$3(x y+y z+z x)=3 R^{2}+6 R S$
Now, $(a+b+c)^{4}=\left[\left(a^{2}+b^{2}+c^{2}\right)+2(a b+b c+c a)\right]^{2}$ $=(2 R+S)^{2}$ $=4 R^{2}+4 R S+S^{2}$
$\therefore(a+b+c)^{4}-3(x y+e t c)=.R^{2}-2 R S+S^{2}$
$=(S-R)^{2}$
$=\left(a^{2}+b^{2}+c^{2}-a b-b c-c a\right)^{2}$.
Thus the whole expression
$=(a+b+c)^{3}\left(a^{2}+b^{2}+c^{2}-a b-b c-c a\right)^{2}$, and these are the four factors.
Note.-This is not the shortest possible solution, but it is a good example of substitution. A neater and shorter method results by applying the principle developed at the end of this column in the October number.
10. Factor $2\left(c^{2}+c a+a^{2}\right)\left(a^{2}+a b+b^{2}\right)-\left(b^{2}+b c+c^{2}\right)^{2}$ $+2\left(a^{2}+a b+b^{2}\right)\left(b^{2}+b c+c^{2}\right)-\left(c^{2}+c a+a^{2}\right)^{2}$ $+2\left(b^{2}+b c+a^{2}\right)\left(c^{2}+c a+a^{2}\right)-\left(a^{2}+a b+b^{2}\right)^{2}$
Solution :-
Let $x, y, z$ stand for the brackets ; thus we have $\left(2 x y-z^{2}\right)+\left(2 y z-x^{2}\right)+\left(2 z x-y^{2}\right)$, which reduces to $(x+y+z)^{2}-2\left(x^{2}+y^{2}+z^{2}\right)$. Now observe that $x+y+z=2\left(a^{2}+b^{2}+c^{2}\right)+(a b+b c+c a)$
$=2 S+R$, say as in preceding example.
$\therefore(x+y+z)^{2}=4 S^{2}+4 S R+R^{2} \ldots \ldots \ldots$ (I) ;
Also, $x^{2}=c^{4}+a^{4}+3 c^{2} a^{2}+2 c^{3} a+2 a^{8}$
$\mathrm{y}^{2}=$ analagon
$\mathrm{z}^{2}=$
adding and multiplying through by 2
$2\left(x^{2}+y^{2}+z^{2}\right)=4\left(a^{4}+b^{4}+c^{4}\right)+6\left(a^{2} b^{2}+e t c.\right)+4\left(a^{3} b+\right.$ etc.), which may be reduced to
$4\left(a^{2}+b^{2}+c^{2}\right)^{2}-2(a b+b c+c a)^{2}+4\left(a^{2}+b^{2}+c^{2}\right)$ $(a b+b c+c a)$
$=4 S^{2}+4 S R-2 R^{2}$ (ab).
$\mathrm{N} \subset \mathrm{w}(\mathrm{I})-(2)=3 \mathrm{R}^{2}=3(\mathrm{ab}+\mathrm{bc}+\mathrm{ca})^{2}$
1I. Factor $(3 a-b-c)^{3}+2$ anals $-3(3 a-b-c)(3 b-c$
$-a)(3 c-a-b)$.

## SOLUTION:-

Write $x, y, z$ for the brackets, and expression $=x^{3}+y^{3}+z^{3}-3 x y z$
$=(x+y+z) \frac{1}{2}\left\{(x-y)^{2}+(y-z)^{2}+(z-x)^{2}\right\}$
We see that $(x+y+z)=a+b+c$, the first factor.
Observe next that $x-y=4(a-b), y-z=$ etc.
Second factor $=\frac{16}{2}\left\{(a-b)^{2}+(b-c)^{2}+(c-a)^{2}\right\} ;$
and the whole expression becomes
$16(a+b+c)\left(a^{2}+b^{2}+c^{2}-a b-b c-c a\right)$,
or $16\left(a^{3}+b^{3}+c^{3}-3 a b c\right)$.

NoTE.-A considerable amount of correspondence is held over. We invite all our friends to take part in making this column lively and useful. In an educational point of view the simplest elementary work is of the greatest importance. Teachers, support your professional journal in every possible way, and thus help to elevate the professional esprit de corps.

## Examination Papers.

## EDU'CATION DEPARTMENT, ONTARIO.

 MIDSUMMER EXAMINATIONS, 1888.
## THIRD CLASS TEACHERS.

## ENGLISH PROSE LITERATURE, AND

 COMPOSITION.Examiners: $\left\{\begin{array}{l}\text { John Seath, B.A. } \\ \text { M. J. Kelly, M. D., LL.B. }\end{array}\right.$
Note.-All candidates will take sections III. and IV. A choice is allowed between sections I. and II. I.

It was one of their happy mornings. They trotted along and sat down together, with no thought that life would ever change much for them; they would only get bigger and not go to school, and it would always be like the holidays; they would always live together and be fond of each other. And the mill with its booming-the greatchestnuttree under which they played at houses-their own little river, the Ripple, where the banks seemed like home, and Tom was always seeing the waterrats, while Maggie gathered the purple plumy tops of the reeds, which she forgot and dropped after-ward-above all, the great Floss, along which they wandered with a sense of travel, to see the rushing spring-tide, the awful Eagre, come up like a hungry monster, or to see the Great Ash which had once wailed and groaned like a man-these things would always be just the same to them. Tom thought people were at a disadvantge who lived on any other spot of the globe; and Maggie, when she read about Chrisitiana passing "the river over which there is no bridge," always saw the Floss between the green pastures by the Great Ash.
Life did change for Tom and Maggie; and yet they were not wrong in believing that the thoughts and loves of these first years would always make part of their lives. We would never have loved the earth so well if we had had no childhood in it-if it were not the earth where the same flowers come up again every spring that we used to gather with our tiny fingers as we sat lisping to ourselves on the grass-the same hips and haws on the autumn hedgerows-the same red-breasts that we ased to call "God's birds," because they did no harm to the precious crops. What novelty is worth that sweet monotony where everything is known, and loved because it is known?
I. What are the subjects of the foregoing paragraphs, and which are the topic sentences ? What part does "Life-Maggie," l. I8, play in the para-graph-structure of the extract ?
2. Name and explain the value of the different kinds of sentences in the extract, pointing out the most marked example of each kind. Exemplify, from the paragraph, the principle of Parallel Construction.
3. Distinguish, " booming," $1 .{ }^{4}$, and "roaring" " at a disadvantage," and "at a loss"; "gather," 1. 23, and "collect"; "tiny," l. 23, and "little" and "lisping," 1.23 , and "talking."
4. State, with reasons, which of the following is preferable in the foregoing extract: "bigger," l. 3 or "larger"; "great," !. 5 , or "big"; "come up like a bungry monster," 11 . II-12, or "come up"; "green pastures," J. I7, or "verdant meadows"; " not wrong" II. 18-19, or "right"; and "What novelty-known?", 11. 25-26, or "No novelty is worth-known."
5. Point out and account for the difference between the diction of "And--them," and "We ——crops," $11.5-13$, and 20.26, and that of ordinary prose. Comment on the ellipses in "Wecrops," ll. 20-26.
6. What qualities of style are exemplified in the extract? Point out one marked example of each quality.

## II.

It was six o'clock. The battle had continued with unchanged fortune for three hours. The French, masters of La Haye Sainte, could never advance further into our position. They had gained the orcbard of Hougoumont, but the chateau was still held by the British Guards, although its blazing roof and crumbling walls made its occupation rather the desperate stand of unflinching valor than the maintenance of an important position. The smoke which hung upon the field rolled in slow and heavy masses back upon the French lines, and gradually discovered to our view the entire of the army. We quickly perceived that a change was taking place in their position. The troops which on their left stretched far beyond Hougoumont, were now moved nearer to the centre. The attack upon the chateau seemed less vigorously supported, while the oblique direction of their right wing, which, pivoting upon Planchenoit, opposed a face to the Prussians,-all denoted a change in their order of battle. It was now the hour when Napoleon was at last convinced that nothing but the carnage he could no longer support could destroy the unyielding ranks of British infantry; that although Hougoumont had been partially, La Haye Sainte, completely, won; that although upon the right the farm-houses Papelotte and La Haye were nearly surrounded by his troops, which with any other army must prove the forerunner of defeat : yet still the victory wais beyond his grasp. The bold stratagems, whose success the experience of a life had proved, were here to be found powerless. The decisive mancuvres of carrying one important point of the enemy's lines, of turning him upon the flank, or piercing him through the centre, were here found impracticable. He might launch his avalanche of grape-shor, he might pour down his crashing columns of cavalry, he migit send forth the iron storm of his brave infantry; but, though death in every shape heralded their approach, still were others found to fill the fallen ranks, and feed with their heart's blood the unslaked thirst for slaughter. Well might the gallant leader of the gallant host, as he watched the reckless onslaught of the untiring enemy, and looked upon the unflinching few, who, bearing the proud badge of Britain, alone sustained the fight, well might he exclaim, "Night, or Blucher !"
I. What are the subjects-leading and subordi-nate-of the foregoing paragraph, and which sentences contain them? Account for the order in which the subjects are introduced.
2. Name and explain the value of the different kinds of sentences in the paragraph, pointing out the most marked example, of each kind. Exemplify from the paragraph the principle of Parallel Constructions.
3. Distinguish "desperate," 1. 6, and "hopeless"; "unflinching"; and 1. 6, "unyielding"; "convinced"; 1. 16, and "certain"; "carnage," . 17, and "slaughter"; and "reckless onslaught," 11 . 3233 and "thoughtless attack."

4, State, with reasons, which of the following is preferable in the foregoing extract: "fortune," Il. I-2, or "luck"; "the entire of the army," 1.9, or "all the army"; "support," l. I', or "maintain"; "forerunner," l. 21, or "forerunners"; "whose success," 1.23 , or " the'success of which "; " were," l. 26, or "was"; and "well might he exclaim,"' 35, or "exclaim."
5. Point out and account for the difference between the diction of the last two sentences and that of ordinary prose. Write a plain unadorned paraphrase of these sentences, using as few words as possible.
6. What qualities of style are exemplified in the paragraph? Point out one marked example of each quality.
III.
" It is an acknowledged and generally admitted fact that the sparrow is both insectivorous and graminivorous: That I might have full opportunities to watch them and see for myself, I had several houses raised on poles, these poles having wires strung on them, on which I trained my vines. I may mention that on two such rows of poles I grow on an average over half a ton of grapes every year, of Concord, Eumelan, Rebecca, Delaware, Creveling and many others. The houses were made of boxes about $I_{4}$ inches long, 7 high, and 8 in breadth, divided in the middle and a door on each
end. This box was fastened on a broad board for a floor, and formed a full nest house on each side and could serve for two couple. I have shot many at the other end of the village, but never near my own residence. I carefully protect them. I coincide with the statement that they eat both wheat and oats, as also many varieties of grain and seed. In the winter they can get little else than refuse whea and other grains, and what bits of cooked potatoes, bread crumbs, etc., their quick eyes can pick up. This food is varied, as the snow disappears, with early flies and other insects. I have seen sparrows, bluebirds, and robins chase and catch an early water fly, often on the snow in April, termed by rout fishers in England "March browns.". I have seen them chase them on the wing and on the ground, and then fly directly to their nests to feed the young.
I. Re-write the foregoing paragraph in good literary form.

## IV.

Write a compusinon on either of the following subjects, using as paragraph subjects the subordinate subjects appended :
I. The Robin : (1) His moral character ; (2) Lowell's experience of him ; (3) An estimate of his value.
2. The Vicar of Wakefield's Historical Family Piece: (i) The Vicar and his family: (2) The picture; (3) Its fate, with reflections thereon.

## School-Room Methods.

## LEARNIITG TO SCAN.

A SUBSCRIEER asks us to explain the best method of teaching scansion to beginners. We are of opinion that all that is necessary for the ordinary school-boy or school-girl to learn in regard to English metres may be taught in a very short time. The scansion of poetry is by no means the difficult matter it is often supposed to be. The only correct method of teaching this, as most other subjects, is the inductive. That is to say, instead of beginning with hard names, definitions, and rules, the skilful teacher will begin with the thing itselt, the poetry. He will not begin too soon. It is useless to attempt to convey to children a proper idea of metre until they are able to read ordinary simple poetry with readiness, intelligence, and expression. When the members of the class can do this the rest is easy.

Let us suppose such a class drawn up before the teacher, and about to receive the first lesson in metre. The teacher chooses some simple verses representing two of the more common metres, say for instance, Spondaic and Iambic Tetrameter. Let several of the best readers read a few stanzas of each. Some of them will be sure to catch the rhythrn and involuntarily intensify the accent. Ask the whole class meanwhile to note carefully the sound, and try to detect the difference in the structure of the two kinds of verse. It may help them to have it pointed out that the number of syllables is the same in the two kinds of line, hence the difference is not in the length of the lines. This may be done by writing specimen lines on the blackboard. Take, for instance, the following :-

## Down-dropt-the-breeze,-the-sails-dropt-

down.
Come-thou-fount-of-ev'-ry-bles-sing.
It can scarcely be difficult to elicit from the pupils themselves by patient and skilful questioning, that the lines are so constructed that we are compelled to lay stress in reading on the alternate syllables, and that the difference in structure between the two is that in the first case the stress or accent falls on the second, fourth, sixth, and eighth, and in the second, on the first, third, fifth, and sev enth syllables. Practice and illustrate with numerous examples from different poets, until eacn child readily detects the difference, and can distinguish quickly between the two kinds of metre. A third example may then be taken, e.g.,

- In the banks of the Shannon when Sheelan was nigh."
A good reader will not go very far before the readier ears at least will discover that here is quite a differ-
ent rhythm, and that the accent or stress of voice falls naturally on every third syllable. For the sake of practice it will be well to continue for several lessons to place a number of lines of different metres promiscuously upon the board, and have the pupils reproduce them on slate or paper, with the accents and metrical divisions marked thus:
Down dropt' - the breeze', - the sails' - dropt down'.
"Come' thou-fount' of-av'-'ry-bles'-sing." On the banks' -of the Shan' - non when Shee ${ }^{\prime}$-lah was nigh'.
Not until every member of the class is able to mark readily the place of the accent in the more common varieties of poetry, should they be troubled with the technical names of the feet, measures, etc. It is easy to teach intelligent children to mark a fact by means of a technical name, when they understand the fact. Reversing the process, and beginning with the names or terms before the things designated are understood, is the cardinal vice of much of the old teaching, and has caused grammar, prosody, and many other subjects to be clothed with hateful associations and almost universally detested by the child mind.


## ADDITION.

The devices in arithmetic, which I wish to give my fellow-teachers, I have used for years, and they have been a great help to me. In nearly all of my schools I have taught intellectual and written arithmetic combined, sometimes several terms, without a book in the hands of the pupil.

I got the idea of the principle from an arithmetical game, and have made a prastical application of it to aid overworked teachers. It is on the principle that one 9 and $I$ are ten; two 9 's and 2 are 20 ; three 9 's and 3 are 30 , etc.

I have a class in addition without books, and wish to put their written work on the blackboard. Unless the teacher has a number of arithmetics, it will be difficult to find graded examples in a book suitable for the class. If made up by the teacher, he will have to add them, in order to be certain whether each pupil has the correct answer. By this device he can grade the examples and know positively the answer without any effort or time on his part.

Teachers need something by which they can keep their pupils busy, and at the same time reserve their strength and energy.

As will be seen by the following examples, I write the first or index number, laige or small, also the figures, as I desire, so that the right hand figure in the index number indicates the number of g's in each column below the index number. The answer is seen by a glance at the example, and is obtained by prefixing the right hand figure of the index number to this number.

If I do not wish the result in any column to exceed 12 , I write I for the right hand figure in index number, and no figure above 2 in this number; or if the result in any column is not to exceed 15 , write I for right hand figure in index number, as in examples 1 and $2 b \leqslant l o w, ~ a n d ~ n o ~ f i g u r e ~ a b o v e ~ 5 . ~$ If a result between 20 and 30 in any column is required, write 2 in units place of index number; between 30 and 40,3 in units place; between 40 and 50,4 in units place, etc., as in examples 3, 4, and 5. If you wish to add by a particular figure, as by 2 in the first example, do not make any figure in addends larger than the one you desire.
(I)
(2)
(3)

3454
121
222
222
121
212
212
222
222
010
010
1120
$20 \quad \overline{1540}$

|  |
| ---: |
| 542 |
| 445 |
| 554 |
| I 540 |


| 342 |
| :--- |
| 543 |
| 356 |
| 456 |
| 543 |
| 2340 |


| 783 |
| ---: |
| 846 |
| 153 |
| 675 |
| 324 |
| 3780 | 4567

I expected to give two more under fur rules, but will forbear this time may be an aid to some of the hard hoping this one and country teachers - $M$ hard-working primary and country teachers.-M. J. Green, in Indiana
School Journal.
$\qquad$
$\qquad$

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1
$$




1











[^1]


[^2][^3]
## BUSINESS NOTICES.

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

We offer, to-day, a chance for clubbing with this paper, whereby our subscribers may secure certain desirable publications below the ordinary prices. We also offer certain premiums as an inducement for new subscriptions or prompt payment of old ones. We have taxed our generosity pretty severely in some of these expensive offers, but we do it for the general good of the cause, of course. Please give the announcement a careful perusal and write early.

TO MODEL SCHOOL STUDENTS.
WE are frequently asked for special rates for the Journal to the teacher-students at the Model Schools. In consideration of their position, not being yet in the active work, we have décided to grant them the special rate of $\$ 1.002$ year, provided they subscribe while they are in such institutions. Model School students, therefore, who would like the Journal for 1889 for $\$ 1.00$, may take advantage of this offer before the coming Christmas vacation, when they will be entered for the balance of this year and the whole of the next. Perhaps it would be desirable for all such subscriptions from any school to be sent in one order ; and if the Principals of school to be sent in one order ; and if the Principals of
Model Schools throughout the Province will take a kind interest in this matter, and act for their students, they will do both them and us a favor.

## Editorial.

## TORONTO, DECEMBER 1 , 1888.

## THE COMPETITIVE EXAMINATION MUST GO.

The current number of the Nineteenth Century is of great interest to educators everywhere. It contains a protest signed by more than four hundred of the most eminent men and women in the intellectual life of England, against the competitive examinations which now hold so high a place in the educational system of the kingdom. The list of names attached to the protest includes men of all ranks, creeds, and professions, and of all shades of politics. The protest is accompanied by short articles enforcing its main positions, from Max Muller, Edward Freeman, and Frederic Harrison. It is doubtful if ever before so vigorous an assault, supported by such an array of authoritative names, was made on any feature of an educational system. It seems impossible that the evil thus assailed can survive the onslaught. The educational authorities will, at any rate, be hard pushed to defend their fetich.

The arguments adduced against the competitive examination are not, in the main, original with those who have issued this remarkable manifesto. They have, in substance, been often urged by educators and other thoughtful observers. The readers of the Educational Journal are familiar with them. The competitive examination is the well-known foster parent of the worst kind of cramming. This process of cramming is one which "strengthens the rotefaculties to the neglect of the rational faculties." It cultivates "a quick superficiality and power of cleverly skimming a subject." It puts an unnatural and dangerous mental pressure upon pupils of all ages and grades of progress. It
promotes precocity of a certain kind at the expense of soundness, strength, and vigor of mind. It is favorable to mechanical methods of study rather than to true intellectual development.
The action of the competitive examination is deleterious to the moral as well as the intellectual character of the student. It induces, we are told, " a disinclination to undertake work which is not of a directly remunerative character, after the excitement and strain of the race." It certainly substitutes an artificial and question: able stimulus for the natural and healthful motives which should impel the learner to exertion. Instead of laying hold upon the intense and laudable curiosity, the innate thirst for knowledge, which may be made to supply ample and healthful motive power for every active mind, it appeals to an unworthy ambition, a petty vanity, or, worse still, to an ignoble desire for pecuniary rewards.
In no respect is the evil influence of the competitive examination more apparent than in its almost inevitable effects upon teaching. The true teacher is "cabined, cribbed, confined," shut in to methods which his soul abhors. Turn whithersoever he may he is confronted by the grim visage of the coming examination. Not " How can $I$ best interest and instruct my pupil ?" or, "How can I most effectively stimulate his intellectual energies and develop the student spirit, that burning desire to know and understand, which will urge him ever onward up the steeps of learning?" or, "How can I make his mental training subservient to the higher end of calling forth and strengthening all that is best and noblest in his moral nature ?" but "How can I fit him in the shortest time, and in the surest manner, to answer all questions which the ingenuity of some examiner may frame in connection with the subject under consideration ?" must be his constant anxiety. As the Christian Union well puts it: "The born teacher fumes and frets against the iron bars which enclose him, and ends in despair by becoming as mechanical as most of his co-educationists. Instead of pouring himself out as a personal force, he finds himself the mere director of a machine, a superior mechanic whose personal skill is lost in the great shop of which he is a mere director. Under the influence of this system teachers lose faith in themselves, efface their personalities, and sink into the position of their own textbooks."

The evils of competitive examinations are, of course, much greater in England at present than in Canada. They are developed and intensified in their worst form by the system of "payment by results." Against this system teachers have long been protesting and prophesying apparently in vain. They may congratulate themselves that their speeches and writings are now bearing fruit. With such a host of powerful auxiliaries now coming voluntarily to their aid, the reform for which they are struggling cannot be much longer delayed.

Canadian teachers and educators may congratulate themselves that many of them are in the van of this important movement. Payment by results, in its worst form, was long since abandoned. Though the system of prizes and scholarships still survives in too many of our higher institutions, it has been happily curtailed in the Provincial University. Its extinction is but a question of time and reforming effort. There is still much ground to be won, and it must not be forgotten that reforms do not move forward of themselves. They have to be pushed.
It is, of course, unnecessary to explain that to say "the Competitive Examination must go," does not mean that the examination must go. The written examination has its place. It is indispensable in all school and college work. Both as an educational instrument, and as a means of classification and grading, it is invaluable. It is the unnecessary and mischievous competitive element which must be eliminated and eradicated.

## "SCHOOL WORK AND PLAY."

OUR readers are no doubt wondering why the sample number of the new paper for boys and girls announced in the Journal of November ist, has not yet made its appearance. Some delays incident to working out the details of the plan have occurred, but we are happy to announce that the sample copies will be distributed within a few days. After mature deliberation it was decided to make the paper at the start somewhat larger and better than was at first proposed. This will involve a considerably greater outlay and will necessitate a slight increase in the price, which will still, however, be found to be extremely moderate. The publishers are determined that School Work and Play shall from its very first issue be a paper which the boys and girls in the schools of Ontario may be proud of, and which none of them will be willing to do without, when once they have seen it.

School Work and Play will be an eight-page paper-each page measuring 10 in . by 15 in. The paper, typography, and numerous illustrations will be all of the best class the excellent facilities of the Grip Publishing Company enable it to send out. Prominent amongst its attractive features will be a full-page engraving on the first page of each issue. Interesting and helpful sketches of the lives of eminent men, truthful accounts of boys and girls who have made themselves famous, lively descriptions of the schools of other countries and times, entertaining stories, Friday-afternoon exercises and recreations, games and how to play them, puzzles, charades, etc., will go to make up the fortnightly bill of fare. The little ones of the primary school and home will not be forgotten, but a page is to be set apart for their especial delectation. Prominence will be given to letters from boy and girl contributors. A unique feature will be the reserving of a space in each issue for pictures designed and produced by juvenile artists. These
will be reproduced in fac-simile, and prizes will from time to time be awarded to successful competitors in this and probably in other departments of the paper. But why particularize further when both teachers and pupils will so soon have the opportunity of seeing and judging for themselves?

We again appeal to teachers of all grades to give us their indispensable aid in this attempt to help them in their noble work by amusing, instructing and stimulating to high endeavor the boys and girls in Canadian schools. We need only add that the new paper is to be under the editorial management of Mr. W. H. Huston, M. A., himself an earnest and successful teacher, aud one who understands well and sympathizes heartily with the feelings and aspirations of school children, to convince our readers that neither pains nor expense are being spared to make School Work and Play in every way worthy of their approval and aid.
The attention of teachers is kindly called to the circular with sample, and to the generous premiums offered for the formation of clubs.

## THE HABIT OF ACCURACY.

Accuracy is one of the trade-marks of scholarship. A man's education has failed in a very important particular if it has failed to form and confirm in him the habit of observing closely and remembering with exactness the essential qualities of that which is for the time being the object of study, whether that object be a thought or a thing.

The power of accurate observation is one that can be formed only by practice. The student should remember continually that in both worlds with which he has to deal-the world of thought and the world of action-everything is exactly what it is. The mertal image should be an exact reproduction of its essential features, not an indefinite, hazy approximation. The habit once formed is invaluable. It shows itself in everything, in pronunciation, in quotation, in description, in all making and doing.

It by no means follows that teachers and others who recognize the value of this habit, and strive to attain it, need make themselves pedantic or finical in their relations to others. The distinguished (?) school man, of whom a contemporary tells, who said that he never went to hear a certain renowned orator because he mispronounced the name Galileo, has too many counterparts, even amongst teachers, in those who are always more ready to be impressed with a mispronounced word or a grammatical solecism, than with an inspiring thought or a solid argument. On the other hand, those who are never able to reproduce correctly the simplest proposition or quotation may take warning from the case of a recent author criticized by an exchange. This book was called "A Primer of Memory Gems, Designed Especially for Schools," and out of 260 quotations examined by the critic no less than ninety-three were wrong. The story conveys its own moral.

## Contributors' Department.

## THE STUDY OF BOTANY AS AN AVOCATION FOR TEACHERS.

By T. w. s.
IT is generally conceded that every one ought to pursue some special study, or engage in some employment not directly connected with one's every day work. The reason is evident. Such employment or study not only broadens a man's intellect and extends his sympathies, but it is also the very best means of giving him complete rest from his daily routine of work. The teacher perhaps more than most men, needs to have some occupation in which he can take an enthusiastic interest, that will make him forget all the fretting and worrying incidents of the day, and thus enable him to begin the teaching of each new day with renewed courage, and with a fresh supply of patience and good temper. A well-constructed bridge does not yield to any weight that is upon it more than it can recover by its own elasticity when the weight is removed. If it should do so the bridge would become weaker with every successive carriage that crossed it, and of necessity must soon break down altogether. So, if the teacher permits any of to-day's depression or irritation to cling to him until to-morrow, he is losing his elasticity, and, both as a teacher and as a man, he is gradually but surely being destroyed.

As a means of preventing such a calamity I would recommend to teachers, especially to those in country districts, the study of botany. There are other pursuits and forms of amusement more or less profitable, of which, I doubt not, many teachers avail themselves already for the same end ; yet, in my opinion, few if any of them are so advantageous for the teacher in every way as the study of botany.
For most persons who have begun this study properly-that is, those who have studied plants themselves, and not books merely-it possesses that first requisite, absorbing interest. Further, inasmuch as one must take frequent rambles by roadsides, in meadows, and through woods, in search of specimens, no avocation could be more healthful. But some teacher may interpose, "I am a practised pedestrian and take long walks regularly," or, "I ride a bicycle and thus get all the fresh air and exercise I need." If you are accustomed to take long walks, or rides on the bicycle already, so much the better. You want some errand on which to go, or your walking and riding will be only half the benefit to you that they would be otherwise. With the study of plants in view you will explore the whole district within a radius of several miles from your home, and your excursions will be infinitely more pleasant and profitable than if you rambled aimlessly, merely for the sake of exercise.

A great deal might be said of the value of the study of botany as a means of training the faculties of observation and generalization, and of cultivating scientific habits of thinking and reasoning, but I pass on to explain why I make these suggestions now with winter staring us in the face, instead of waiting until the resurrection of plant-life next spring shall bring with it the opportunity of beginning the study in the proper way. By reading during the winter such an introductory book as Spotton's Part I., using for illustration any house-plants that may be at hand-the geranium, for instance-the student may make himself familiar enough with the methods of analysis and the principles of classification to be able to begin with earliest spring an intelligent examination of all the flowering plants that come under his observation. If he
were to wait until spring to begin his study, many
interesting flowers would bloom and fade before he could acquire the alphabet of the science, and, consequently, he would lose much of that most delightful season for botanizing.
Perhaps I ought to apologize for using the masculine pronoun throughout this paper in referring to the teacher. This, I am well aware, is an assumption quite at variance with fact. Nevertheless it is by no means to be inferred that the study of botany is here recommended only to the men of the profession. On the contrary, I am convinced that the ladies would take as much pleasure in the study, and would derive even more benefit from it than their brethren, who already have more opportunities of taking exercise in the open air. Let every teacher who has not yet undertaken any definite form of recreation or line of study, give at least one year of trial to the practical study of botany.

## Literary Notes.

The fight is still raging over Mr. Edmund Gosse's recent dictum that no American poet, not now living, is worthy to be ranked with the thirteen English bards whom he named as the "inheritors of unassailed renown." In The Critic of November 24 there is a symposium on the subject, in which many of the paper's best-known contributors participate.
The editors of America, the Chicago magazine, offer a prize of $\$ 150$ for the best essay on "The Evils of Unrestricted Immigration." Essays must be written on the type-writer, and must not contain more than 25,000 words. They must be received before April 3 oth, 1889 , by Richard T. Ely, Ph. D., Johns Hopkins University, Baltimore, Md., secretary of the American Economic Association, which has full control of the com petition and the award.

The venerable American poet Whittier wrote one of the articles which appeared in the initial number of the Atlantic Monthly for November, 1857, and he has since been a frequent contributor to its pages. A new steel engraving of the dean of living American poets, which is promised for the coming January number, will be an interesting reminder to many readers of the Atlantic, as well as an appropriate compliment to its valued contributor.

In the October number of the Forum Archdeacon Farrar made a narrative of Tolstoi's remarkable career, explained the religious meaning and the literary value of his great novels, and criticised his religious teachings. Both American and English readers expressed a desire for a more specific explanation by so high an authority of the difference between Tolstoi's rigid interpretation of the teachings of Jesus and the interpretation made by the mass of Protestant believers. This second article will appear in the Forum for December.

Amona the articles in the November Atlantic to which the teacher and scholar will turn with special interest, is that by John Trowbridge on "Economy in College Work." Mr. Fiske's historical paper is entitled "The Eve of Independence," and is as usual terse and vigorous. The lovers of fiction are well supplied in the instalments of "Passe Rose" by Arthur Sherburne Hardy; "The Despot of Broomsedge Cove," by Miss Murfrees, and other stories, Poetry, reviews, the usual "Contributors' Club," etc., make up'a good number.

## Educational Meetings.

## PETERBOROUGH TEACHERS'INSTITUTE

(Condensed from Peterborough Review.)
The annual convention of the Teachers' Institute of the County of Peterborough, was held in the Model School building, Norwood
Mr. A. Hutchinson, President, was in the seat of honor and opened the Convention with a short and happy address.

The first subject taken up was reading, by Mr. J. C. Brown. He dwelt on the first four readers and pointed out several points to be emphasized in teaching this subject. The First Reader, he said, was intended to give the pupils a thorough knowledge of the alphabet, which meant a good deal more than merely teaching the names of the let-ters-they should know the use of the letters. The words at the margin should be thoroughly mastered by pupils before proceeding to read the lesson. In the second part, he would advise teachers to make an index of the lessons, as none was provided in the book. The difference between prose and poetry should be pointed out and the best pieces of poetry committed to memory. It is a good exercise to have pupils give the substance of lessons in their own words, and pupils will be led to take a good deal more interest if they are led to know something of the authors of the lessons. Mr. Brown also spoke on the remaining three books, and in a similar manner showed how they should be taught.

Arithmetic was the second subject on the programme and was handled in an interesting and instructice manner by Miss Kate Lewis, of Norwood. Among other points she showed her method of presenting short division to a class for the first time.

Mr. K. Mark, of Keene, then followed on composition as he teaches it in his own school. The principal points brought out by the speaker were: Commence composition first day of school life. Before words must be ideas, and children should use their own language. Statements at first should be simple, but afterwards two or more might be joined in one. To get pupils interested a short story should be read and then the pupils reproduce it in their own words. Business forms of all kinds should be taught, such as making out accounts, orders, drafts, promissory notes, etc.

Miss M. McDonald read an essay full of good suggestions on "How to make our Institute more proftable."

A pleasant and successful entertainment was given on Thursday evening by the Norwood teachers.

The morning session on Friday opened with the consideration of the question, "Are uniform promotion examinations desirable ?" A lengthy discussion took place, which was entered into by Messrs. Hutchinson, Rooney, Mark, Matchett, Brown, Kelly and Misses Scott and McDonald. From the remarks of the several speakers it appeared that the general feeling was that such an examination was desirable. This examination is intended to take the place of the one which was to be held in November next. The first of the uniform examinations is to be held about the first of December.

Then followed the reading of an essay on "School Discipline" by Mr. A. Hutchinson; the President. He handled the subject in a very masterly style and touched on every conceivable point of difficulty which a teacher is liable to have to deal with in the way of discipline.
"Geography" was the next subject which came before the Institute, and the method of treating the subject by Mr. J. C. Brown, Inspector, was interesting and instructive. In the first place, he said, he would teach the names of the continents and oceans, with their relative positions. Then he would teach the names of the countries and capitals, then the islands, etc., and lastly he would enter upon the Dominion of Canada more minutely. He stated that he believed that if the children were taught from the two maps-that of the world and the Dominion of Canada-they would receive more geographical knowledge than they do at present.
The first feature of the afternoon was the introducing to the Institute of Mr. W. S. Ellis, of the

Peterborough Collegiate Institute. The subject upon which he addressed the teachers was "Teaching Science Incidentally." He showed in a conversational manner how pupils might be led, without receiving any set lessons, to gain a great deal of information on scientific subjects. Mr. Ellis received the undivided attention of the Conven tion.
Miss Scott, of Norwood, showed her method of teaching reading to a class, having a class of pupils whom she employed to illustrate practically. Miss Scott showed that she understood thoroughly the art of tea hing reading.
Mr. W. S. Ellis then spoke on the subject of "Developing the Reasoning Powers of the Pupil." He took arithmetic as a means of accomplishing this, and by simple exercises on the black board he showed that all arithmetic could be taugnt inductively, and should be so treated, taking the four simple rules as a basis.
The last hour was spent in answering questions proposed by the teachers. No person's ignorance was exposed, as the questions were first on slips of paper, then collected and read out by the Presi dent and answered by the teachers.

## SOUTH GREY TEACHERS' INSTITUTE

The annual meeting of the South Grey Teachers' Institute was held according to Departmental appointment, in Flesherton

The President, Mr. Ramage, was in the chair. Attendance good.
Mr. Smith, Crawford, read his paper on "How to Interest Parents in School Work." The points emphasized most were (I) the teacher should visit the homes of the pupils-he should impress upon the parents that he is interested in the pupils; (2) he should hold regular public examinations to which the parents are invited. At these examinations the regular work of the school should be done. Examinations should not be allowed to degenerate into exhibitions.

Mr. Gillespie, No. 4 Proton, did not approve of interesting parents by means of examinations.

Mr. Ramage delivered an address on "An Enquiry into the Various Incentives to Study in School." He referred pointedly and forcibly to (1) The love of praise ; (2) Emulation ; (3) Rewards and punishments ; (4) Percentages and examinations; (5) Duties to parents, to society ; (6) Duty, in itself considered.
Mr. Ramage's addresses are always well received by the teachers, He spices them with the practical, and teachers can use the hints he gives in their daily work.

The secretary, Mr. Irwin, of Flesherton, then took up a review lesson on the railway system of Ontario, with a class of his own pupils. His method was to begin with Flesherton as a centre and from it take imaginary trips by rail to the more important cities and towns in the Province, and from these again to one another. The main railway lines were first thoroughly reviewed. Railway junctions were considered important. Many teachers present used maps in a review lessonMr. Irwin used maps in teaching but not in reviewing. Messrs. Kerr, Clark, Gillespie and Glendinning gave some hints relative to their methods of corducing reviews.

Mr. Sproule, principal of Maxwell Pub'in School, gave an excellent exhibition of the Holt system of teaching music. He brought a class of a dozen or more of his own pupils to illustrate the success of the method. The proficiency attained by the class with only six months' teaching, was a surprise to the teachers.
Miss Anderson, as critic, in one expressive sentence gave her opinion of the lesson: "The system is certainly a wonderful system, or the class a wonderful class, or the teacher a wonderful teacher, before such wonderful results were obtained." Miss Porter, as assistant critic, endorsed Miss Anderson's criticism.

Mr. McLelian, the director of Teachers' Insti tutes, then gave his first talk on Psychology, which he aptly defined from a teacher's standpoint as the science of the minds upon which the teacher is to operate. After a short introduction on the mode of research, the limitations and divisions of the subject, etc., the Dr. undertook to teach, in his own inimitable way, a lesson on the raw materials of a
psychical life. For over an hour he held the closest attention of his class

In the evening Dr. McLellan gave his lecture on "English Literature, and its Value in Education," with illustrations, to a crowded and delighted audience.
On Friday Dr. McLellan continued his lesson on Psychology.
Messrs. Irwin and McArthur presented their reports of the Provincial Association. The former complimented South Grey on having no fewer than five representatives at the meeting, and thought it proved beyond a doubt that South Grey was in the van of educational P. S. life.
Mr. Alan, principal of the Durham Model School, illustrated his method of teaching Analytic Reduction. He conceived this the true method for junior classes. In senior classes the ordinary method might be used for the sake of brevity. Dr McLellan gave the Association some valuable hints on this point, in reply to some questions put by teachers.

The committee appointed to report on the advisability of instituting reading circles among the teachers, submitted the following resolution, which was adopted: "Your committee appointed to consider the subject of reading circles, would earnestly commend the object for which they are instituted and recommend that in the meantime two districts be formed with Durham and Flesherton as centres, to organize and decide what work or author they might first read and discuss; also arrange for fur ther meetings, elect officers, etc. The provisional president at Durham to be Mr. N. W. Campbell, and at Flesherton to be Mr. W. Irwin, the first meeting to be on Saturday, Nov. IIth, at i p.m."

Dr. McLellan again addressed the convention on "Phonic Reading." He recommended that some dozen words be learned by the word method, then the phonic methoj introduced. He illustrated by examples how words could be built up from the sounds. In answer to many questions he showed how the sounds of the most different consonants could be got from the pupils themselves, and at what stage certain sounds should be introduced, spelling begun, etc.
The following officers were elected for 18889 : President, Mr. H. Glendenning; rst vice-pres., Miss Elsie Inkster; 2nd vice-pres., Mr. C. J. Sproule ; secretary, Mr. W. Irwin; managing committee, Misses Drummond, Porter and Anderson and Messrs. McDonald and McArthur.

Mr. Hagarty, principal of Mt. Forest High School, then read a valuable paper on "Memory and Judgment in the Teaching of English." The paper was well prepared and replete whth useful suggestions to teachers, but owing to the lateness of the hour it did not receive the full discussion it deserved.

For Friday Afternoon.

## THE FIREMAN.

ROBERT T. CONRAD.
The city slumbers. O'er its mighty walls
Night's dusky mantle, soft and silent, falls Sleep o'er the world slow waves its wand of lead, And ready torpors wrap each sinking head. Stilled is the air of labor and of life;
Hushed is the hum, and tranquilized the strife. Man is at rest, with all his hopes and fears ; The young forget their sports, the old their cares; The grave are careless ; those who joy or weep All rest contented on the arm of sleep.

Sweet is the pillowed rest of beauty now,
And slumber smiles upon her tranquil brow ; Her bright dreams lead her to the moonlit tide, Her heart's own partner wandering by her side 'Tis summer's eve; the soft gales scarcely rouse The low voiced ripple and the rustling boughs; And faint and far, some minstrel's melting tone Breathes to her heart a music like its own.

When, hark! O horror! what a crash is there! What shriek is that which fills the midnight air? Tis fire! 'tis fire! she wakes to dream no more The hot blast rushes through the blazing door ; The dun smoke eddies round ; and hark ! that cry "Help! help! Will no one aid? I die, I die !"

She seeks the casement ; shuddering at its height She turns again; the fierce flames mock her flight ; Along the crackling stairs they fiercely play, And roar, exulting, as they seize their prey, "Help! help! Will no one come? She can no more,
But, pale and breathless, sinks upon the floor.
Will no one save thee? Yes, there yet is one Remains to save, when hope itself is gone; When all have fled, when all but him would fly, The fireman comes, to rescue or to die,
He mounts the stair,-it wavers 'neath his tread He seeks the room, flames flashing round his head; He bursts the door, he lifts her prostate frame, And turns again to brave the raging flame. The fire-blast smites him with its stifling breath; The falling timbers menace him with death ; The sinking floors his hurried step betray; And ruin crashes round his desperate way; Hot smoke obscures, ten thousand cinders rise, Yet still he staggers forward with his prize. He leaps from burning stair. Oh ! on! Courage! One effort more, and all is won! The stair is passed,-the blazing hall is braved; Still on! yet on! once more! Thank Heaven, she's saved!

## Little by little.

Little by little the time goes by-
Short if you sing through it, long if you sigh, Little by little-an hour a day,
Gone with the years that have vanished away; Little by little the race is run,
Trouble and waiting and toil are done !
Little by little the skies grow clear;
Little by little the sun comes near;
Little by little the days smile out
Gladder and brighter on pain and doubt ;
Little by little the seed we sow
Into a beautiful yield will grow.
Little by little the world grows strong,
Fighting the battle of Right and Wrong;
Little by little the Wrong gives way-
Little by little the Right has sway.
Little by little all longing souls
Struggle up nearer the shining goals.
Little by little the good in men
Blossoms to beauty for human ken ;
Little by little the angels see
Prophecies better of good to be:
Little by little the God of all
Lifts the world nearer the pleading call.

## Hints and Helps.

## PROMISSORY NOTES AND DRAFTS.

J. W. JOHNSON'S REPLY TO S. W. SHAW.

If your correspondent, S. W. Shaw, who undertakes in your last issue to criticise my bookkeeping in connection with notes and drafts, had any practical knowledge of accounting, he would see in my work labor-saving methods, but neither error nor absurdity.
He makes the usual round-about of the theorist. Mr. Shaw's dictum is that every transaction with an individual should appear in his personal account in the ledger. According to this, every man to whom I sell for cash should first be charged with the goods, and then credited with the payment, which would not be an error, but a very foolish waste of time that only the theorist would be guilty of. Accurate record by the most direct and shortest methods is what practical accountants aim at, and this is what my entries accomplish.
When I renew a note for Jones of $\$ 300$, give it back, and receive from him a new note for $\$ 305.20$, which inoludes the interest on the renewal, I have simply to charge Bills Receivable with the amount of the new note, $\$ 305.20$ cancel the old note by crediting Bills' Receivable with $\$ 300$, and credit Interest with the $\$ 5.20$. Perhaps Mr. Shaw will see if he examines his own entries, that he accomplishes in his round-about way just the same result.

There is no more necessity to put this transaction through Jones' personal account, as Mr. Shaw does, than to put a cash sale through it.
If Mr. Shaw will read my articles again he will learn that "a note is in itself an evidence of the debt, requiring no confirmation (say from his personal entry) nor proof of the consideration given for it, nor the production of the original entry."
Mr. Shaw's methods, if carried out, would increase the number of book-keepers and the expenses of an office, without any corresponding advantage to employers.
In the partial renewal I accomplish in one simple entry all that Mr. Shaw's three entrie effect. Brown renews for me half the amount of a note for $\$ 500$. I pay him $\$ 250$ in cash, and give him a new note for half the amount of the old one and interest on renewal, $\$ 3.50$. In this transaction I have simply to charge Bills Payable with the $\$ 500$ note received back, charge Interest with the cost of renewing, $\$ 3.50$, credit Cash with the $\$ 250$ paid, and credit Bills Payable with the amount of the new note, $\$ 253.50$. I hope, for his own comfort, should he ever become a practical book-keeper, that Mr. Shaw will have penetration enough to see that in this case also his long-winded entries produce the same effect on the ledger that my direct ones do, and if he does it will occur to him that he commits the folly of calling his own production an error.
Mr. Shaw on drafts is just as foolish a guide as Mr. Shaw on notes. John Lovell \& Son draw a bill on Robinson \& Johnson in favor of R. Miller, Son \& Co. John Lovell \& Son have simply to charge R. Miller, Son \& Co. with the amount to be paid them by Robinson \& Johnson, and credit Robinson \& Johnson for what they are to pay. Again, Mr. Shaw may compare his round-about entries with mine, and find that the result in the ledger will be the same, namely, the credit to Robinson \& Johnson and the debit to R. Miller, Son \& Co. The record in the Bills Receivable account of John Lovell \& Son is quite unnecessary. It never was a bill for which John Lovell \& Son were to receive payment. If they had drawn the draft to their own order, and afterwards endorsed it over to R. Miller, Son \& Co., then all Mr. Shaw's entries would be necessary.

Mr. Shaw's remarks about "closing accounts by balance" show that he is given to eccentricities. Every book-keeper and business man speaks of "closing the books" or "balancing the books" when he refers to the annual period when the condition of the business is ascertained. To balance an account (which is usually done in red ink, to distinguish it from ordinary entries) is to exhibit its condition; if it shows an asset it is closed, temporarily, by balance, and ruled and footed to mark a period, and a condition at that period, but it is immediately re-opened by bringing down the balance. Whether the terms please Mr. Shaw or not they will continue to be used just the same.
While time is short and salaries are small, I fancy that Mr. Shaw will not be a popular authority with office men.
J. W. Johnson.

Ontario Business College,
Belleville, Nov. 19, i888.

## Correspondence.

## THE MIMICO INDUSTRIAL SCHOOL.

To the Editor of the Educational Journal.
Dear Sir,-Will you kindly permit the use of your columns to bring before the school inspectors and teachers of the Province the fact of the usefulness and availability of the Victoria Industrial School.

This school is situated at Mimico. It has been in operation some seventeen or eighteen months, and is doing a grand educational work, which needs only to be known to win for it the support and sympathy of every educator in the Province.

Every observing teacher has noticed in our schools the existence of a class of boys that, in spite of all his efforts, exercise an injurious influence on the other pupils. The number of such boys in an ordinary school is very small, but it is large enough to "leaven the whole lump" to a de-
gree sufficient to render the teacher's task difficult
and painful, and even at time almost hopeless. To get rid of such boys is generally a blessing to the school, but such riddance has hitherto been impossible because of the non-existence of an institution intended to deal with such boys. In New York, Boston and other large American cities separate schools have been instituted specially for this class of boys, and it has been found that grouped together they become quite manageable, seeing that it is then possible to deal with them systematically and scientifically. Such boys grouped together are found to improve much more rapidly than in a class where the majority of the pupils are not so bad, and where consequentlyon account of the rights of the majority-the teacher has to pay most attention to those that need it least.

There is another class of boys even more unfortunate, consisting of those that cannot attend school at all, either because of lack of clothes or some other disability. Our cities are filled with such lads, who are seen everywhere, selling papers, blacking boots, sweeping crossings, and learning gradually to pilfer and to steal at every opportunity. These boys are not invariably nor even usually bad. They are compelled by circumstances over which they have no control to resort to such a means of livelihood. True it is they soon become bad, but their growth into crime is very gradual, and so far as they are concerned, perhaps unavoidable. The existence of this class is noticeable too in our towns and even in our smaflest villages. In fact, many of the waifs of our cities flock thither from the country in the hope of finding greater opportunities to get their bread and butter.

It is for these two classes that the Industrial School has been instituted. The majority of the boys at present in the school come from the cities of the Province, though many have been sent in from other municipalities. At the annual meeting of the school held a few days ago, it was stated that applications for admission are being received from the cities at a rate that renders it wellnigh impossible to erect buildings to provide accommodation, and as the school is provincial in character, the members of the Association are desirousthat it should become better knownthroughout the country. Since the institution is in no sense criminal, or penal, but rather preventive, or educational-in no sense a jail or prison, but rather a school or home, it is thought that the inspectors and teachers of the Province generally will take an active interest in it and see that lads of either of the two classes mentioned-living in their locality-get the advantages offered by the school.
Space will not permit any particular statement of the history or the object of the sctool, and as pamphlets giving all such information concisely and strikingly will be gladly mailed to any one on application, such statement is perhaps unnecessary. It would, however, be an omission not to state that by legislation secured through the efforts of the Association, every school officer in the land has power to bring about the admission to the school of any of the unfortunate lads that the school is intended to assist ; this, too, by merely stating the case before a police magistrate or county judge.

Until recently the boast that our schools are free has not been supported by facts. Many boys, without parents, or with parents unable or unwilling to control them, have been shut out from the advantages of our school system. The Industrial School renders it possible for even these classes to share our educational privileges, and it is hoped that inspectors and teachers generally will avail themseives of the opportunities afforded not only to secure for these lads a good common school education, but also in many cases to rescue them from a life of vice, crime, and misery to which through no fault of their own they will otherwise be condemned.

Yours truly,
W. H. Huston,

Hon. Sec. Industrial School Association.
"In the Book of Poetry, there are three hundred pieces, but the design of them all may be embraced in one sentence: Have no depraved thoughts.Confucius.

CATARRH, CATARRHAL DEAFNESS, HAY FEVER.

## A NEW home treatment.

Sufferers are not generally aware that these diseases are contagious, or that they are due to the presence of living parasites in the lining membrane of the nose and eustachian tubes. Microscopic research, however, has proved this to be a fact, and the result is that a simple remedy has been formulated whereby catarrh, catarrhal deafness and hay fever are permanently cured in from one to three simple applications made at home by the patient once in two weeks. N.B.-For catarrhal discharges peculiar to females (whites) this remedy is a specific. A pamphlet explaining this new treatment is sent on receipt of ten cents by A. H. Dixon \& Son, 303 West King St., Toronto, Canada.-Scientific A merican.
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LXXXVIII. Lowell-The Robin.
III. Shakespeare-The Trial Scene in "The Merchant of Venice."
V. Herrick-To Daffodils.
XX. Gray-The Bard.
XXXI. Wordsworth-To a Highland Girl.
XLI. Shelley-The Cloud.
LXIV. Aytoun-The Island of the Scots.
LXIV. Aytoun-The Island of the Scots.
LXVII. Lonafellow-The Hanging of the Crane.
LXIX. Clough-"As Ships becalmed at Eve."
LXXV. Rosetti-The Cloud Confines
"، LXXIX. Tennyson-The Lord of Burleigh.
"، LXXX. " "Break, hreak, break."
* " CI. Swinburne-The Forsaken Garden.

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French- De Fivas' Introductory French Reader.
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English-Scott- Lay of the Last Minstrel.
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Latin- Cicero- In Catilinam I.
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Education Department,
Ontario, July, 1888.
N. B.--Subjects for Grades A and B, First Class, may be obtained by addressing the Education Dcpartment, Toronto.
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Last year a large number of our subscribers clubbed "The Cottage Hearth" and other publications with The Educational Journal. We are prepared to continue the arrangement for 1889 , and repeat last year's announcet ment :

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The well-knowa monthly illustrated magazine publication, of Boston, Mass., 34 pages, contains departments in Family Literature, Music, Book Reviews. House-keeping, Children's Reading, Fancy (for Friday afternoon in school), are alone worth the subscription It has among its contributors Edward Everett Hale Gubscription. It has among its contributors Edward Everett Hale, George Mac-
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[^0]:    *This is termed "vocalizing."
    $\dagger$ Termed clavicular or collar-bone breathing.
    $\ddagger$ Midriff or diaphragmatic breathing.

[^1]:    

[^2]:    

[^3]:    

