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Educational Journal.

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

Vol. III.

TORONTO, DECEMBER 2, 1889.

No. 14

The Educational Journal.

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

A. HOUGH. M.A. Manager Educational Dep't

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Editorial Notes.

THE Ontario Association of School Trustees passed a resolution recommending that there should be but one yearly examination for entrance to High Schools.

THE attention of teachers is respectfully called to the offers of premiums by the publishers, on page 12 of this paper. Very few will like to miss the chance of securing Dickens' complete works at less than the price of the book-binding.

A series of interesting letters have appeared in the Kingston News, over the nom de plume of "Taxpayer," advocating the formation of a natural history museum in that city. The idea is an excellent one, and we should not suppose that in that university city there could be much difficulty in carrying it into effect. If space permit we may refer to the subject more at length in a future number.

THE publishers have still a number of copies of the bound volume of School Work and Play. It is a book of 96 pages, amply illustrated, and neatly bound. That the character of its contents is such as to meet the approval of teachers and pupils is abundantly proved by the favor with which the publication was regarded on all hands. In fact, it was one of the most entertaining and instructive little papers ever put into the hands of children; and those who have not secured a copy of the book containing the first twelve issues should do so without delay, as the balance of the edition is limited. It would be a capital book to circulate amongst children at Christmas. The price is only 10 cents, of which 4 cents is expended in postage, prepaid by the publishers. Send at once.

THE readers of the JOURNAL will, we are sure, sincerely regret, as we do, the necessity which compels Mr. W. H. Huston, M.A., to resign the management of the "English Department." We have always regarded that Department as one of the most important in the paper, and esteemed ourselves fortunate in being able to secure the services of so efficient a teacher to take charge of it. We will, however, make it a special care that there shall be no falling off in the work of the Department, which will be continued in each number. Until further notice, all communications and contributions for the English Department may be addressed direct to the it less useful for purposes of general culture."

Editor of the paper. They will receive early attention. Meanwhile, lessons on the remaining portions of the Entrance Literature will be continued in each number.

Is any teacher in the three lower forms spending time and energy in conjuring up arithmetical problems for pupils? If so, he is living below his privilege; for the little work, "Practical Problems in Arithmetic," gives 700 of such questions, all properly arranged, and all of a character to interest the pupil as well as to save the labor of the teacher. The price is only 25 cents and it will last forever. Another "laborsaving" book is "One Hundred Lessons in English Composition." It is described as modern, practical, methodical and thorough; and its work is properly graded for all the forms in the Public Schools in which such work is done, and for the junior forms of the High Schools. It renders unpecessary any preparation of exercises by the over-worked teacher, and furnishes a practical and properly graded course for a full year's work. Price, only 25 cents. Send 50 cents to the Grip Printing and Publishing Co., and receive both of the above useful books postpaid by return mail.

An interesting debate was called forth at the recent annual meeting of the High and Public School Trustees, by a motion presented by Trustee Hawley, of Trenton, to the effect that a complete English course should be made compulsory in the High Schools, and that all other languages should be made optional, with a fee attached for instruction in them, if the Minister could not see his way clear to strike them out altogether. The latter part of the resolution was rather radical, but the principle laid down in the first part is, to our thinking, sound. A course in English, as complete and thorough as possible, should be made, we believe, the basis of every High School course, and a sine qua non of a High School diploma. We have little doubt that so far the reform advocated by Mr. Hawley is coming in the near future. For the present the question was shelved by the following amendment, which is itself in the right direction, but is scarcely an amendment of the original motion. Moved by Mr. Wm. Houston, seconded by Mr. Wolver-

"That the High School programme be referred to a special committee with a view to ascertaining what can be done in the way of giving it more of an industrial character without making APROPOS of the subject of evening classes we are pleased to note that Mr. William Houston, M.A., Parliamentary Librarian, is conducting a course of Monday evening "Talks" on economical and sociological topics, in the Y.M.C.A. building in this city. Not only is Mr. Houston exceptionally well-read in that class of subjects, but he is an adept in the use of the Socratic and inductive methods, and is sure to make the talks and discussions both interesting and profitable.

In the course of the yearly oration in memory of Harvey, the discoverer of the circulation of the blood, at the Royal College of Physicians in England, Dr. James E. Pollock made the interesting statement, based on statistics, that an average of two years had been added to the life of each male born in England and Wales, and nearly 31/2 years to the lifetime of every female born, by the reduction of the death-rate, and that this was largely due to increased medical knowledge and the greater recognition of the natural laws of health and disease. He further stated that 70 per cent. of the years thus added to the lives of males during 1876-80 were lived at the useful ages between 20 and 60, whilst of the remainder 22 per cent. were lived under 20 years, and 8 per cent. above 60 years.

TAKING as his starting-point some remarks made by Canon Dumoulin in a recent sermon, a Mr. Josiah L. Bemis has been sending to the Globe a series of letters attacking in vigorous terms the Public School system of the country. According to this writer, our schools are godless. our teachers irreligious hirelings, and our boasted educational system little better than a huge engine for the training up of scamps and jail-birds. The cure proposed by this would-be iconoclast is certainly "thorough." He would have the control of public education placed entirely in the hands of the clergy. There is good reason to think that Mr. Bemis intended his letters to be bitterly ironical. From that point of view they are a success. But if they are ironical, as no doubt they are, the irony is concealed with remarkable success, judging from the number of -persons who have taken them seriously and rushed into the arena to demolish his arguments and defend the Public School system.

MR. FRANK DENTON, of Toronto, who formerly belonged to the fraternity of teachers, made recently a good suggestion in the daily Globe. Recalling the fact that on the 17th September, 1892, one century will have passed since Colonel John Graves Simcoe, the first Lieutenant-Governor of Upper Canada, opened the first Parliament of Upper Canada, in a log house in the now beautiful town of Niagara-onthe-Lake, Mr. Denton asks whether it would not be a fitting thing for the people of Ontario and the Law Society of Upper Canada to join with the Parliament of Ontario in the erection of a grand monument on the very site in Nia-

gara where our first laws were enacted, and have the same unveiled on the 17th of September, 1892, one hundred years from the day when our first lawmakers first met. Such historical memorials serve a good purpose in commemorating important events, and are not without their effect in stimulating a sound and healthful patriotism. It is not easy to think of any event in the history of this Province better worth a monument than the opening of its first Parliament. We hope the idea will be taken hold of and given "the name of action."

In a discussion upon the "Importance of Neatness in the School-room," at one of the Associations reported in this issue, a teacher, it is said, advocated the scrubbing of the school-room "once a fortnight instead of once a year." The advice is suggestive as well as salutary. We dare say the teacher had not the temerity to say twice a week instead of once a fortnight. What would respectable parents think of allowing their children in their own homes to occupy, as a study or play-room, a room which was scrubbed only once a year, or even once a term? Yet why should they be less careful of the habits, neatness, comfort, and, let us add, health of their children, at school than at home? The foul, dust-laden floor of many a school-room is not only an offence to the eye, and an objectlesson with a very bad educational influence, but its cracks and crevices often furnish also an excellent nursery for poisonous effluvia and disease germs of various kinds. Why not, for the sake of cleanliness, health and educational influence, make once a week the outside limit for scrubbing?

WE have received a communication from some of our Science teachers, stating that they are desirous of forming a Science Association similar to the "Modern Language Association" already in existence. It is proposed to hold annual or semi-annual meetings in Toronto, the first to be held during the next holidays. We commend this movement to all our Science teachers. Their work has now become one of the four departments of High School work, and it is necessary for them, as for the teachers of other departments, to work in unison, and also occasionally to give their views on Science teaching to the Department. In addition to this general view of the usefulness of such an association, a more particular one arises just now, when the curriculum of our schools is being somewhat changed chiefly with a view to the encouragement of science subjects. Any suggestions that teachers of these subjects may have to offer will, it is reasonable to suppose, receive careful consideration from the Minister of Education and also from the High School Inspectors. It may be hoped, therefore, that as soon as any practicable plan of co-operation is laid before our Science masters, they will cordially support it, and avail themselves of such an opportunity of strengthening their profes-

Educational Thought.

But not in laughter and in song
Was I the noblest lesson taught:
Twas in the struggle of dark hours
My soul to highest aims was wrought.
Then Faith, Endurance, Patience, Hope,
Came near and made me strong for strife;
And thus the storm of life's dark hours
Brought me the harvest time of life.

EXTERNAL control may easily be carried to excess, not only by an exaggerated view of the disciplinarian's function, but also by that eagerness to influence and sway another's actions.—Sully.

THE teacher who is content to be a mere policeman of the school-room can secure certain mechanical results; but if his pupils learn to think, they will not owe it to him.—Professor Newcomb.

PURITY of heart and manners have much to do with the establishment of sound morals. Some things are learned by absorption, so it is well to look after the condition of the moral atmosphere, lest it be heavy with infections and contagions.—

Jennie K Hill.

THERE is a difference between learning and wisdom. Learning is intellectual wealth; wisdom is intellectual power. Learned men are not always wise; wise men are not always learned. Learning tends to give wisdom, but wisdom is by no means always the accompaniment of learning.—Lyman Abbott, D.D.

EVEN in the noblest endeavors to educate mind and heart by the continual acquisition of fresh knowledge, some degree of selfishness steals in. We often think only of learning, when we might also instruct; we forget in the high enjoyment of enriching our spiritual selves the still higher pleasure of imparting to others of our accumulated treasures. Man before books.—Heinrich Byron.

THE school that ignores the development of the moral sense of the child, and fails to inculcate the highest and purest morality, fails in its most important duty. The very atmosphere of the schoolroom should be such as to inoculate every child with the purer and nobler sentiments of our human nature. Mental training includes that of the sensibilities and of the will, as well as that of the intellect.—Educational Exchange.

LEARNING comes by studying; wisdom by thinking. Learning comes from without: wisdom from within. Learning is an acquisition; wisdom is a development. Learning may be forgotten, and so lost; wisdom is a part of the character, and so will abide forever. These two possessions are the greatest which any man can possess. These two gifts are the greatest which any man can bestow upon his children. And in our time and country they are, in some measure, within the reach of every child. The poorest parent can give to his children, the poorest child can make for himself, the choice of Solomon.—Lyman Abbott, D.D.

THE school of the future must do more than we have done hitherto in the direction of mental development-must furnish better training for the hand and for the senses; must do more for the cultivation of taste and the love of the beautiful; must kindle in children a stronger appetite for reading and personal cultivation; and at the same time bring them into a closer contact with the facts of life, and with the world of realities as well as the world of books. And the public will look to you, and to such as you, to fulfil this ideal. There are many grave problems in education which remain unsolved and all the such as your transitions. main unsolved, and which yet await speedy solution, and the answers will depend largely on the degree in which the experience and judgment of our ablest teachers are brought to bear upon them. We are yet only at the beginnings of a true science of education. Many of the deepest principles and laws of that science have yet to be discovered. It is in the laboratory of the school-room, and in a closer study of child-nature by teachers, that the most fruitful discoveries will be made. - Dr. Fitch.

TRUE training consists largely in awakening in the minds and hearts of pupils worthy motives of action. The more persuasive the teacher can make them, the better the work done.—American Teacher.

Special Papers.

THE PROPER FUNCTIONS OF A NORMAL SCHOOL.*

WM. SCOTT, B.A., OTTAWA.

MR. PRESIDENT, LADIES AND GENTLEMEN:—When asked to prepare a paper for this Session of the Ontario Teachers' Association, I bethought myself of the position the institutions with which I am immediately connected should occupy in the educational affairs of this Province. I called to mind that in the opinion of some, at least, they are not doing their proper work either as to kind or quality. A gentleman who is well qualified to speak on the subject of Normal Schools addressed you last year, but from a number of causes no discussion followed, and hence little light was shed on this complicated subject. To evoke some discussion, and if possible, to add a few thoughts, the result of a number of years of observation, to the literature of this question, is my excuse for again obtruding upon you the proper functions of a Normal School.

In the outset I make two assumptions without giving the grounds on which I make them. I assume in the first place that there is a science of education, that teaching has passed beyond the limits of mere empiricism, that it is an art, but an art guided by the principles of science, and hence much more is required from the young teacher than that he shall teach like his teacher.

I assume in the second place that those who present themselves at the Normal Schools are, from a literary standpoint, duly prepared and well qualified to enter upon the course of studies that shou d be pursued therein; and that their previous training has been of such a nature as will enable them to enter at once upon the scientific investi-

gation of the principles of teaching.

I. I would place among the duties of a Normal School the imparting of proper pedagogic principles and their application to school work. As all principles of education have their foundation in human nature, mental, moral and physical, a knowledge of this nature must precede the principles that have their roots in it and are conditioned upon it. Hence, both psychology and physiology have their places in a Normal School curriculum, and it should be the duty of the masters to direct attention as fully as the importance of the subject warrants to the workings of the human mind, to the laws of development and growth of its various faculties, to the various exercises and subjects that are more immediately concerned in the unfolding and developing of these faculties.

If the teacher is to be more than a mere artisan, who does his appointed work from day to day, indifferent alike to the laws of nature which he may be using in his work and to the material on which he works-if the teacher is to be an educative force, to me it is obvious that he can fulfil his mission only when he understands the nature of the frail tenement in which we dwell and the laws which govern its well-being, so that he may duly appreciate the child's physical nature and thus avoid the mistake frequently made of subjecting him to such physical conditions as would utterly preclude the possibility of mental effort; and further, he must make a careful study of the more precious part of man, that with which he is chiefly concerned in school-the mind. Had the teachers of bygone times known anything of the nature of the mind and the laws of its growth, there would have been fewer mistakes in the teaching world than there were. They would have known that we cannot teach what we like, but only what is in the child's apprehension, nor can we teach how we like, but only as nature will allow us. They would not have taught so much by rote and rule as they did, nor would they have trusted to a mere memorizing of words, and have called this giving and receiving an education. They would have known that to attempt to beat knowledge into the minds of their pupils is subversive of the first principles of learning, dissipating and distracting their attention from the subject in hand, and violating nature's law that the greater the number of subjects on which attention is attempted to be fixed, the less

intense will it be on any one.

Now I regard it as self-evident that no one can

minister to child need, can properly sway and influence him, can manage him so as to restrain and discipline, but not repress his human nature, can provide the necessary exercises to stimulate all the mental activities of the child, can suit his subjects and adapt his mode of teaching to all ages and all stages of mental growth, who has not an adequate comprehension of the activities of a child's mind. Hence, at the very threshold of teaching as a profession—a science, if you will—there must be instruction in the fundamental principles of pedagogic science, and such a knowledge of human nature should be exacted from all intending teachers as would show clearly that each has at least mastered the elements of psychology and physiology. It is clearly the duty of a Normal School to do this work skilfully, and in doing it to illustrate as far as possible the principles therein laid down.

2. A knowledge of the science of education should be followed by its application to the methods of teaching the subjects of the Public School curriculum.

Here the Normal Schoo master should show the rational application and bearing of the principles he has already discussed. show how best they can be applied and their ultimate bearing in the training and up-building of the child. It is here that the fundamental difference between the teachers of the old school and of the new shows itself. With the old "knowledge is power" and education is synonymous with the acquisition of knowledge. I confess that this tradition is one of the difficulties the teachers in the Normal Schools have to combat. To one who has succeeded in conning over the pages of a bo-tany so often that he can write out a description of a flower from memory, or who with every minutiæ of detail can reproduce the pages of a Roscoe and Shoerleumar, I say to try to make such an one understand that he has not yet begun to study natural science is a task the magnitude of which can not be readily understood by one who has never undertaken it. With these the inculcation of facts is the be-all and end-all of school work.

With the new school of teachers knowledge is not necessarily power. With them the developing and strengthening of the human faculties confer power. Hence with them, the mode of imparting a knowledge of a subject is of vital importance; hence, the store they set upon a due and sufficient exercise of each faculty—hence the importance they attach to teaching the right class of subjects in right ways to each class of pupils, and hence one of their maxims, "learn to know by doing and to do by knowing."

In dealing with methods of teaching another difficulty obtrudes itself, which, I fear, is sometimes lost sight of, viz., that a failure to teach well implies a failure of method. Some seem to think that a method can teach school by itself. Only a man or a woman can teach, while the best methods degenerate into mechanism when the teacher behind it is unable to assimilate and

work it into a part of himself.

It is clearly the duty of the Normal Schools to lead in the imparting of improved methods and thus give tone to the general method of teaching throughout the Province; to suggest improvements in the teaching of this or that subject, and at the same time to impress upon its students the idea that no methods, however good now, should be final, that one of the dangers of a teacher's profession is that of getting into the dry rut of routine and mechanism, a danger all the more imminent from the teacher thinking he has a fine method, when the subject will soon grow stale and cease to interest the teacher, and of a consequence will become distasteful and uninteresting to his pupils.

3. As education has engaged human attention from the earliest times, teaching is certainly one of the oldest of the arts, if not of sciences, and as the teacher is to be an educator, as such he should know what has already been done in the great field of human development. He should, as it were, stand on the shoulders of his predecessors, and while avoiding their blunders, make use of their experiments and discoveries. Hence, the intending teacher should know something of the literature of his chosen profession, and hence the vast importance of a history of pedagogics to the young teacher; consequently a history of education should find an important place in the Normal School curriculum.

The man who re-invents the steam engine, or re-discovers Newton's Laws of Motlon shows that he has a master-mind, but the human family at large is not benefited. There is no step forward for the human race. So the teacher who re-discovers the principles of Comenius, Pestalozzi, or Froebel, shows he is the peer of these great educators, but the progress of truth and education is not benefited.

Again, the man who starts from first principles and refuses to be guided by those who have preceded him in the physical world, may waste his time and money in re-discovering laws long since known. He alone suffers. Not so in the educational world. The empiric experiments on precious souls. His mistakes may live and grow into misery and crime. Hence, the necessity of this subject, so that our future teachers may be prevented from falling into the pit-holes that have marked human progress, and by following a course that has stood the tests of time and trial, and must consequently be truly scientific and practical, may thus shun the exploded fallacies of by-gone days, and may thus be prepared to conserve the good and ready to reform what is amiss in our educational work.

4. The principles discussed and the methods recommended should be illustrated in as perfect a form as possible in the training school connected with the Normal School. This should be two-fold in its nature. In the first place, lessons should be taught by skilled teachers in the presence of student teachers, who should be required to note the salient points of each lesson; and in the second place, the student should be required to apply and illustrate the principles and methods already discussed by teaching classes under criticism.

The student is thus enabled to note by actual observation the results of the principles taught to him, and the methods based on these principles which have been recommended to him, and thus when he comes to apply them himself they become

to him real elements of power.

Then this school should be to the student all that it is implied in the name—a model school—a model as to organization and discipline; a model as to grounds, buildings, apparatus, classification and instruction. Thus this school should be to the intending teacher, each time he visits it, an object lesson on his pedagogic principles.

Again, this school should be used for testing new ideas, and for trying the efficacy of this or that new method, and thus the student will be enabled to observe the results of these experiments. It should also illustrate what can be accomplished by a class in a given kind of work, and thus the student should carry away with him correct ideas of the work to be accomplished both as to kind and quality in the various classes of our public schools.

5. Another duty of a Normal School is to give the students instruction and practice in organizing schools of various kinds, whether graded or ungraded, to apply the principles deduced from the science of education to the management of pupils, and to illustrate as fully as possible the workings of such schools as intending teachers will be required to manage. Hence, at a Normal School the students should observe the actual working and management of such a school as they themselves would subsequently be required to teach, and have as much practice in conducting such a school as the limited time will permit.

I may here remark that while such an extended

course of observation and practice must, from the very nature of things, prove of great benefit to the would-be teacher, I believe no school can be so organized and managed as to illustrate all the difficulties that beset the public school teacher, and the best mode of overcoming them. I believe the art of school management, perhaps the most difficult part of a teacher's duty, has to be largely learned by actual work in the school of experience. case of the physician no amount of clinical instruction and hospital diagnosis will enable the young physician to deal successfully with all cases, these having to be learned by actual experience, so no school, however managed, will enable the young teacher to grapple successfully with all cases of discipline. But as mistakes are likely to be much fewer in the case of a physician who has enjoyed the benefit of careful instruction and much actual practice under an experienced guide, than when the contrary is the case, so with the teacher

(Continued on page 222.)

^{*}A paper read before the Ontario Teachers' Association at Niagara, August, 1889,

Primary Department.

SCHOOL-ROOM DRILL.

ARNOLD ALCOTT.

"O'ER wayward children wouldst thou hold firm rule.

And sun thee in the light of happy faces? Love, Hope, and Patience, these must be thy graces,

And in thine own heart let them first keep school." Coleridge had the golden keys which will open to us the hearts of our little people. If we do not love our boys and our girls, if we do not put ourselves into our work, how can we expect to exert that magnetic force which so wonderfully controls, and yet at the same attracts, and makes teacher and pupils the best of friends

Several weeks have elapsed since we referred to calisthenic exercises and how to teach them. Having given time for the suggestions then given, to throw "light" on this path, we again offer a few simple ideas.

A friend, whom we may aptly call Mr. Sunbeam, said to a class, "Good morning, friends"; and of course you may be sure that they responded in a bright, cheery manner to such a greeting said in the winsome tone which comes from a heart full of love and respect for "our girls and our boys," and in full sympathy with them. Some folks, when they wish you "Good morning," almost make you feel

"Chill November's surly blast."

Really, a teacher who cannot make the "thermometers" in her room rise, by her morning greeting, ought to look seriously at herself to find out just what her temper-a-ture is. Surely, if profession, she will find "latent heat." Surely, if she likes the

Some are blessed with natures like sunshine. There are never clouds in their sky, or, if ever, they are few and are transitory. Did you ever think of the magical effect of that word "friends"? let me advise you to let your class know just as soon as you can that you believe them to be your "little friends." Of course, this should be done incidentally, because then it will be so much the more effective.

SALUTING.

Just a few words about "Saluting." Our classes should be trained to one definite method, and should always salute with the hand farthest from the

It is better to have our pupils so accustomed to saluting that they do not need to wait for a signal from you before they rise to return greetings. Certainly, classes should not greet a trustee or a visitor

unless previously addressed by them.

We cannot get our pupils to do this work well the first time, nor the second time, nor etc.; but then we know that it is worth striving to do well. teacher may leave the room and pretend that she is the inspector, or a trustee, or a visitor, and let the class say "Good afternoon" to her. What we need for success in this is special "gymnastics" in standing up and in sitting down.

ANSWERING QUESTIONS.

A short talk on erectness of figure and promptness in answering questions may be helpful.

At the beginning of the session, we especially need to get definiteness in these matters, not only because we are then paving the road which extends from September to Christmas, or from January to July, but also because if our class try hard to do one thing well without the influence of "trying hard," will be exceedingly beneficial on all their other actions.

Our aim is to get polite, decisive, prompt answering, and therefore it follows that when we are giving "special drill" for this, we should make our questions so easy, that it will be impossible for any member of the class to mistake the answer. For instance, the teacher says, "With what do we write on slates?" Then she says, "First row." At which the pupils in the row designated rise quietly, and remain in the position of "attention" until one of themselves is named. The teacher did not say "Stand up," because this command is not given when we ask questions of individual pupils. Therefore our special drill must contain only that which will tend to produce the desired results already specified. And so on, the teacher gives such questions as:—On what do apples grow? What gives surround our school, appearances with which, pertaining not words.

light to the earth? Whence does the moon get its light? naming different rows, and afterwards calls on John Smith, or on Mary Brown, and they promptly answer always in a sentence. If this drill be continued for a few weeks at the beginning of the term, our reward will be apparent in the order, politeness and acuteness perceptible in the class.

Whatever one action your class do not do well, to that give special attention; for the children are but specimens of "human nature, not ruined but incomplete," and need to be "doing," and to be "doing and also to be forgiven even to "seventy times seven."

EXERCISE 5.

In teaching the fifth exercise in the "Drill and Calisthenics," previously mentioned in the JOURNAL, we may arouse interest, and vivify the impression of the vertical position of the arm in the second position by saying, "Scholars, to-day my arm is a telegraph pole," or "Mine is a church steeple, and I want to see right up to the top of it." "Johnnie, what is yours to be?" Now Johnnie is delighted and says, "My arm is a poplar tree, and I am going to watch that little bird at the top." Also, when completing the exercise bring down the arm without bending the elbow. We often say, "Let us remember the crossbar at the railway crossing," which is sufficient to keep us from realizing that we have elbows

In the sixth, seventh and eighth exercises the head should be kept steady.

Ask your class if they would like to be soldiers; also suggest that you think it would be nice for the girls to belong to the "Grenadiers," and the boys to the "Queen's Own."

When marching you might let your best soldier, the "captain," carry the "Union Jack"; also, you might say, "Boys and girls, I am going to fall in with the straightest and steadiest marchers.

SINGING AND CALISTHENICS.

Before closing this paper let like marks on singing and calisthenics. In a work recently published, called the "Teacher's Handbook," by A. T. Cringan, Superintendent of Music in the Toronto Public Schools, the following sensitive reference to this subject is made: "When Before closing this paper let me make a few reble reference to this subject is made: "When calisthenics are being practiced as such, I am of the opinion, that the music necessary to the definition of a rhythmical accompaniment should not be supplied by the performers themselves." pleased to find that the author of the above coincides with the views which we expressed in a former number of the JOURNAL.

Before concluding let us remind ourselves that whatsoever a man soweth that shall he also reap.' If we sow definiteness we shall reap definiteness if we exercise self-control we shall be able to control: if we treat our scholars as friends we shall be treated with friendliness; and, alas! for the pupils, ihe opposite is also true. If we let our "quicksilver tempers get the better of us, if we frown, and verily, if we scold, we shall reap ad infinitum, the following—however we do not wish to enumerate, but will leave you to look at the picture, which may be seen by looking into the faces of your pupils, which are mirrors reflecting the image of _____. Whom?

We think it is Artemus Ward, who, when quoting the text, "Train up a child in the way he should go * * ," says, "But be sure you go that way yourself, first."

GEOGRAPHY.

IMAGINATION is said to be the arrangement and combination of that which comes primarily into the mind by means of the sense. We may talk about continents and countries to our pupils for hours, but if they have not the material in their minds to form a conception of a continent our words will be in vain. We cannot build the tower without the stone. We must therefore, before beginning the study of continents or maps, by means of the perceptive faculties, obtain sense products that will en-We cannot build the tower without the able us to form these concepts. The question naturally arises, How are we to do this?

To picture in our minds the continent as a whole, we must have some knowledge of the parts, and at the point we begin the real study of structural geo-

haps, the children have been familiar all their lives. Geography is a powerful trainer of the observing faculties, and if it accomplished nothing more, for this reason alone it would be an important study in our schools. How little some children use their ple go through this world in comparative blindness, for the simple reason that they have never made any conscious effort to see. The real secret of expression lies in the power to see, and therefore we take as our primary gymnastic for composition the description, orally and in writing, of common objects.

Home questions in Botany, Mineralogy and Natural History will do much towards training the observation. The work, apparently very simple, may be of this nature: Make a list of all the metals in use at home. Note all the iron, steel or silver objects seen on the way to school. Bring two net-veined. parallel-veined leaves and two Discover the difference between the foot of a chicken and a duck. Notice the different kinds of trees you pass on the way home and learn their names.

A great many questions will crop up in geography, which, instead of being discussed in school, may profitably be given as home work.

In teaching physical features we must have one

end and aim in view, namely, to give the most realistic picture possible of the structure studied. It must not be an idea of lines and colors in a map, but a fixed permanent conception of the actual construction.

A boy, when asked how wide the Red Sea was, stated that he thought it was about two inches. Again, he described a chain of mountains as a black line running down a map. The cause of such errors as these lie plainly before us in the fact that the development of the imaginative faculties of that boy was extremely slight. We may assume that his mind had never soared to the heights of Mount Blanc, but rather had dwelt in the "mud pies" of the sand-box.

While we state that at present we know of no better method of teaching structures than by moulding in sand, we must add that the image must not be confined to the dimensions of the moulding-board.

Oh, that we all had moulding-boards. In some cases the excuse is lack of accommodation, in others want of time. The ideal would be reached, however, if we had a room in each The ideal would be school, in the basement, or elsewhere, in which all the moulding could be done, each class having its stated time for work in this department.

We may with good effect make use of paper and pictures in teaching these forms. Frequent drawings will also fix the image, and this may be rendered still more vivid by the use of colored crayons, which are now deemed almost indispensable in the school-room.

We may suppose it is a mountain we wish to ach. We are provided with material to form a model, our method being illustration, not descrip-

We may lead up to the idea of a hill by asking a child to walk across the room. Then question as to whether they found any more difficulty going up to Mr. Smith's (this gentleman living on a hill-top), and in what part of the road the horses had most trouble drawing a load.

From hills we climb to mountains, and when the children have a clear idea of the structure of a mountain and are able to apply the thought, they will readily define it. There need be no haste to give the ordinary verbal description the geography dictates, as when the idea has been grasped the expression will follow readily enough. Draw the definition from the children, then, if necessary, make any alteration in wording and repeat. We might also in connection with this lesson give account of the connection with the connec in connection with this lesson give some of the names of the parts of the mountain, its base, sides, and summit, marking these on our model by letters printed on tiny bits of pasteboard or in the form of little flags,

Now we may go on tours of investigation up some of the great mountains of the world, noting the different parts, and discovering new points of interest, the snow, rocks, animals and clouds.

Geeography taught in this way, children undergraphy.

We should begin with the simple structures that stand, because it is something in which they are deeply interested, the material of instruction being

OBJECT LESSONS, SHORT AND SIMPLE RHODA LEE

THE subject for another object lesson talk was suggested by a teacher who, speaking of these lessons, remarked that she found it very difficult to keep up the interest of the class to the end, and in consequence there was always a restlessness and disorder which she wished in some way to overcome. But how? That was the troublesome question, and before venturing any advice I asked

how long the lessons lasted.

"Generally about forty minutes," was the answer, which revealed to me at once the cause of the difficulty. If I had any doubt before as to the nature of the restlessness it was now removed, as it would be an astonishingly interesting object and a miraculously bright teacher that could sustain the interest and prevent disorderly restlessness during

a lesson of that duration,

Silence is not always indicative of order. The best order is that in which the best work is done, and a hum of busy work is far preferable to a graveyard stillness. There is careless, indefinite restlessness, such as would be produced by lack of interest and attention, and there is a well-directed definite restlessness that is the result of bright, ardent minds and active, eager hands. Don't attempt to make an object lesson as definite and precise as an arithmetic lesson. We must have a little freedom for investigation, and as long as there is sufficient work of discovery and expression to be done, the order will take care of itself.

But to preserve the interest, the lesson must not be too long, and this is an error into which one is very apt to fall. We are inclined to make the lesson too intricate, spending precious time developing points of little or no consequence. Of course, the bright children will lead on the class, and perhaps deceive us in regard to the genuine progress.

Is it not much better to note a few qualities that the entire class can perceive, than to struggle after minute characteristics and differences that only the quickest of the children will comprehend, and these perhaps with difficulty?

Begin very simply. A lesson prepared for a third book class will not be grasped by scholars in the first grade. By and by they will delve deeper and grasp greater treasures, but only by the gradual development of all the faculties.

In my experience, twenty minutes is the limit for a good object lesson in the lowest classes, but this means twenty minutes of active interest and cooperation, in which I endeavor to talk with my

children rather than to them.

When it was suggested by the Inspector of our district that every teacher in the primary grade should have at least two object lessons a week, some few hands were raised in horror, and complaints were actually heard as to time and trouble, but these earnest teachers have all since delighted in the simple little lessons they substituted for the complex, elaborate plans to which they had been accustomed.

Passing a store window lately in which were displayed some richly colored cranberries, the thought arose, What a magnificent object lesson they would make for the very little folks! as there was simplicity of both form and color.

The shells collected for the school museum will

also constitute a good lesson.

Lastly, I would mention haws as a very desirable object, if attainable. The sweet red berries are the best formed and easiest to examine, but lessons on any fruit such as cranberries, barberries or rowans, may be taught according to the following plan, which, of course, is only given as an aid to the teacher in directing the investigations of the class. Haws or hawthorn berries:

I. Sight.

- 1. Color.
- 2. Shape.
- Stem and crown.
- 4. Similarity to other objects as regards form and color.

II. Touch.

- 1. Texture of skin.
- Weight and solidity.
- Investigation of flesh and seeds of the berry.

III. Taste.

1. Of skin.

2. Of flesh of fruit.

3. Compared and contrasted with other ob jects.

IV Smell.

Note.—If the class is sufficiently advanced, have drawings made of the whole and parts of the

Also have a few simple questions with the class regarding the nature of the tree, blossoms, etc., to be answered next day.

Examination Papers.

EDUCATION DEPARTMENT, ONTARIO. MIDSUMMER EXAMINATIONS, 1889.

THIRD CLASS TEACHERS.

INDEXING AND PRECIS WRITING.

Examiners CORNELIUS DONOVAN, M.A. J. J. TILLEY.

NOTE.—Candidates will take the first two ques tions, and either of the other two.

Write in full the correspondence of which the following is the index:

r	1889 Feby 12	Brown to Jones	Requesting particulars as to house and lot for sale.
2	Feby 15	Jones to Brown	Stating: price \$7,500; one-third down, bal- ance in annual in- stalments of \$1,000 each with interest at 6 per cent.
3	Feby 21	Brown to Jones	Accepting his terms.

2. Write a Précis of the following:

RUSHINGTON, May 23rd, 1889.

To the Mayor and City Council, Rushington:

GENTLEMEN, - I am authorized to inform you that the ratepayers of that part of the city lying south of Plum street held a public meeting on the 21st instant, for the purpose of considering the proposed running of a branch of the X. Y. Z. Railway through that locality. At that meeting it was unani-mously agreed to petition your honorable body either to make different arrangements with the aforesaid Railway Company, or else to provide compensation for those ratepayers whose property will be injured by the running of the said branch. Your obedient servant,

J. STEELE PENN, Secretary.

CITY HALL, RUSHINGTON, May 31st, 1889.

SIR,—I beg leave to inform you that your petition was laid before the City Council at a recent meeting, when it was decided to obtain the opinion of the city solicitors on the question. this opinion was received, and is as follows:

Re X. Y. Z. Railway, To the Rushington City Council:

In accordance with your request we have considered the petition of certain ratepayers regarding the proposed local branch of the X. Y. Z. Railway. In our opinion the contract with said Railway Company cannot be altered, nor would it be advisable for you to vote compensation on your own authority, but it is competent for you to submit a by-law to the people with the view of obtaining public opinion on the question of compensation.

FAIR, SQUAIR & Co., City Solicitors.

This communication was at once brought before the Council, when it was decided to have a by-law prepared in accordance with the opinion of the city Yours truly, T. N. GAGING, City Clerk.

J. Steele Penn, Esq.

3. (a) What is the object of indexing letters?

(b) Distinguish between a tabular index and an ordinary index. Show how to fyle away letters received.

4. Re-write, using as few words as possible :

The aim of education should be to teach us rather how to think than what to think; rather to improve our minds so as to enable us to think for ourselves than to load the memory with the thoughts of other men.

It will be very illiberal and ungenerous on your part if, through your permission, I am allowed to be suspected and regarded as having all along foreseen the disastrous issue which has been the result of your unfortunate speculation.

Imagination should not be indulged too freely; it requires to be restrained by the exercise of a

sound judgment.

THIRD CLASS TEACHERS. PHYSICS.

Examiners: {W. H. BALLARD, M.A. JOHN SEATH, B.A.

Note.—Only seven questions are to be attempted. Candidates will omit one question in each of the groups A, B, C, D.

- 1. A piece of ice is forcibly kept at the bottom of a beaker, and the latter is then filled with water at
- (a) Describe accurately the changes which the water undergoes with respect to temperature; and
- (b) State clearly what difference (if any) it will make if the ice is in the middle, instead of at the bottom of the water.
- 2. A person who has two fires to light in the morning finds that on lighting the second fire the stove invariably smokes, although the two chimneys are known to draw equally well, and no difficulty was experienced on lighting the first fire.
 - (a) Explain the cause of this.
- (b) If a window is now opened, the smoking instantly ceases. Account for this.
- (c) If the window had been opened before the fire was lighted, would the stove have smoked? Give reasons for your answer.
- (d) If the window is closed after the fire has been well started, why does the stove not smoke?
- 3 (a) A fall of rain in cold weather frequently causes the temperature to rise considerably. Explain the reason of this, and describe a simple experiment to illustrate the same principle.
- (b) If some oil of turpentine is dropped upon a flagstone and ignited the flame will soon be extinguished, the rest of the oil remaining unburnt; but if it is poured upon a block of wood, the whole of the oil burns away. Explain the cause of this.

 \mathbf{R}

4. Describe experiments to show that solids, liquids and gases transmit sound vibrations.

What properties of matter affect the velocity of sound? Give illustrations.

5. On hearing with unusual distinctness steam whistles, bells, and other sounds, which are ordinarily either faint or inaudible, the listener con-cludes that it will rain soon. Explain the scientific grounds for his conclusion.

- 6. If an electrical current be caused to heat a long thin platinum wire to dull redness, and a portion of the wire be cooled by applying a piece of ice to it, the remainder of the wire will glow much more brightly than before; whereas if a portion be heated by a spirit lamp the reverse effect takes place. Explain fully.
- 7. Explain the construction of the electric lamp and the production of the electric light.

8. Describe experiments to show

(1) That there are two kinds of electricity; (2) That electrification is confined to the exter-

nal surface.

D.

- 9. Explain the undulatory theory of light. Apply it to explain the cause of refraction.
- 10. Describe an experiment to show that the angle of reflection is equal to the angle of incidence.
- 11. An object is placed beyond the centre of curvature of a concave mirror; show, by a carefully constructed diagram, the position of the image.

UNIVERSITY OF TORONTO. — ANNUAL EXAMINATIONS, 1889.

JUNIOR MATRICULATION.—FACULTY OF ARTS. HISTORY AND GEOGRAPHY.

PASS

Examiner-T. ARNOLD HAULTAIN, M.A.

NOTE.—Candidates for University Scholarships will take only those questions marked with an asterisk. All other candidates (whether for Pass or Honors, Second Class or First Class Certificates) must take the first seven questions and any three of the remainder.

- *1. Sketch the career of Themistocles.
- *2. Remark on the political measures proposed by C. Sempronius Gracchus.
- *3. What and where were Phocis, Cythera, Colophon; Lucania, Lilybæum, Cumæ?
- *4. Describe a method for ascertaining the circumference of the earth.
- *5. State the area, boundaries and chief productions of Montana, Washington, and North and South Dakota.
- *6. Give generally the course of each of the chief canals of Canada.
- *7. Describe briefly the international political relationships subsisting between the great European powers immediately prior to the conclusion of the peace of Amiens, 1802.
- *8. Write a short note on the British North America Act.
- *9. "It is indeed from the fatal years which lie between the peace of Amiens and Waterloo that we must date that war of classes, that social severance between rich and poor, between employers and em-ployed, which still forms the great difficulty of English politics."—GREEN.

Explain tersely what the historian means by this assertion.

- *10. Write short notes on each of the following: "Declaration of Rights" (1689); Stamp Act; Poynnig's Act; Fox's India Bill; Act of Union with Ireland; Abolition of the Slave Trade (1807).
- 11. Follow (very briefly) Clive through his Indian
- 12. Write short notes on each of the following: The Letters of "Junius"; the first public reports of Parliamentary debates; Burke's attitude towards the French revolution; the prosecution of the North Briton.

ENGLISH GRAMMAR.

PASS.

Examiner--DAVID REID KEYS, M.A.

NOTE. - Candidates for University Scholarships will take only those questions marked with an asterisk. All other candidates (whether for Pass or Honors, Second Class or First Class Certificates) must take the first five questions and any two of the remainder.

*1. "Presently he reached the edge of the ridge whence the rough track he was following sank sharply to the lower levels. Here was a marvel-lous point of view, and the Rector stood a moment beside a bare weather-blasted fir, a ghostly shadow thrown behind him. All around the gorse and heather seemed still radiating light, as though the air had been so drenched in sunshine that even long after the sun had vanished the invading darkness found itself still unable to win firm possession of earth and sky. Every little stone in the sandy road was still weirdly visible; the color of the heather, now in lavish bloom, could be felt though hardly seen

(a) Make a list of the words of Latin origin in the above passage, giving the Latin root in each

(b) Analyse the second sentence: "Here... behind him."

(c) Parse all adverbs in the third sentence:

"All around and sky."

(d) Explain the difference in the grammatical function of following, radiating, invading; and of sharply and ghostly. Give examples of other pow-

ers of the termination ing.

(e) Drenched. What is the grammatical relation between this word and drink? Give two pairs of words similarly related.

(f) Weather-blasted, sunshine. How do these words illustrate the subject of word-composition?

(e) What is the force and origin of the suffix sharp y, marvellous, Rector, sandy, visible?
(h) Why has Rector a capital?
(i) Explain the punctuation of the last sen-

tence.

*2. Indicate the pronunciation (marking the accent where necessary) of creek, implacable, often, peremptory, pursuit, student, were.

3. Distinguish carefully between the two conjugations of English verbs.

*4. What is the difference in meaning or in use between—"I shall do it to-morrow," and "I will do it to-morrow"; "If it is true," and "If it be true"; "They love each other," and "They love one another"; "He dares not do it," and "He dare not do it"; "O" and "Oh"?

*5. What has been the effect of the Norman Conquest upon English Accidence?

*6. Illustrate by examples the various syntactical relations in which a noun may be used in an English sentence.

*7. What are the special characteristics of the Relative Pronoun?

*8. Explain the meaning of the term Case, and criticise the use made of it in English grammar.

9. A short article upon Comparison of Adjectives-

*10. Give arguments for and against the use of the expressions, "It is me"; "To-morrow is Friday.'

Mathematics.

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

No. 67. By Mr. J. McN. Malcolm, Norval.-The length of the second ladder can be easily deduced from the other conditions. For BC = 30 $\sin 60^\circ = 15 \sqrt{3}$, $\therefore EB = 48 - 15 \sqrt{3} = BD$, and BF = BDsin 60° = $(48 - 15 \sqrt{3}) \frac{\sqrt{3}}{2}$, :EF = EB + BF =

$$(48 - 15\sqrt{3}) \frac{2 + \sqrt{3}}{2} = DE \sin 75^{\circ} : DE = (48 - 15)$$

$$\sqrt{3}$$
 $\frac{2+\sqrt{3}}{2}$. $\frac{2}{\sqrt{3+1}} = \frac{1}{2}(48-15\sqrt{3})(\sqrt{6}+\sqrt{2})$
= 42½ feet nearly. Thus the problem as it stands

involvesan absurdity.

But it may be asked, why does not the absurdity become apparent in the operation, and what meaning is to be attached to the value of x found in the solution published?

B B' e'

pondent W. M.

Since AB=30, and EC =48, it has been shown that DE = 42½ nearly. Make EM = 30, and draw MD' parallel to AC, D'E' parallel to DE, and complete the figure. Then a plete the figure. Then a ladder 30 ft. long making with AB an angle of 15° will reach E', an altitude of 48 ft., only when placed in the position D'E'. Since D'E' is parallel to DE, and E'C' to EC, it is obvious that the equation given in the solution applies to the angles at applies to the angles at D', and the points E', B', FC', and that BD'=8 ft. nearly. Therefore a hole must be knocked in the wall at the point N, and a wall built behind that on

which the first ladder rests, at a distance easily found. The fallacy was also pointed out by our corres-

No 69. By W. M.—In order to get Hamblin Smith's answer we have to assume that if money is worth 5% per annum when the interest is paid yearly, it should be worth $2\frac{1}{2}\%$ for 6 months the < at m is the greates or $1\frac{1}{4}\%$ for 3 months, the interest being payable before the end of the year. This is an erroneous perpendicular to radius.

assumption, and as the principal is not given, the error might be very considerable. Solved also by D. STINGLE.

No. 70.—No solution received to this beautiful problem. We leave it for the consideration of our readers.

No. 71. By W. M.

[N.B.—The reader can easily draw the figure.— Eñ.]

Let ab be the hypothenuse of a right angled \triangle , and bc (drawn perpendicular to ab) the radius of inscribed circle.

On ab describe (33.III) a segment akb containing $<=45^{\circ}$. Through c draw cd parallel to ab and cutting the circumference in d. Join da, db. At a and b make the <'s dae, dbe equal respectively to dah and dbh, abe is the \triangle required.

From d draw df, dg, dh perpendiculars on the sides of \triangle abe. Since the <'s at a and b are bisected, (construction) these perpendiculars are equal, (4.1) and since dh = bc, (34.1) df and dg are each equal to bc, and therefore the radius of circle inscribed in \triangle abc is equal to bc.

By (22 III) the $<adb+< k=180^{\circ}$, but the <adb together with the <'s dab, dba, are equal to two right double of bad and abe double of abd (const.) But abe is double of bad and abe double of abd (const.) abe is a right angled ab. Q.E.F.

J. B. REYNOLDS, Enfield, also sent a neat solution. No. 72. By J. B. REYNOLDS.

Prove $\sin^{-1}\frac{3}{5} + \tan^{-1}\frac{5}{12} = \cos^{-1}\frac{65}{65}$. Let $\delta = \sin^{-1}\frac{3}{5}$. $\phi = \tan^{-1}\frac{5}{12}$. $\begin{array}{lll}
\vdots & \sin \delta = \frac{3}{5}. & \tan \phi = \frac{5}{12} \\
1 - \sin \delta = \frac{16}{25} & \tan^2 \phi = \frac{25}{144} \\
i.e. \cos^2 \delta = \frac{16}{25} & 1 + \tan^2 \phi = \frac{169}{144} \\
\vdots \cos \delta = \pm \frac{4}{5}. & \frac{\cos^2 \phi + \phi \sin^2}{\cos^2 \phi} = \frac{169}{144} \\
& \frac{1}{\cos^2 \phi} = \frac{169}{144}.
\end{array}$ $1-\cos^2\phi=\frac{25}{169}$ $\sin \phi = \pm \frac{5}{13}$ $\cos (\delta + \phi) = \cos \delta \cos \phi - \sin \delta \sin \phi$ $= \pm \frac{4}{5} \times \pm \frac{12}{13} - \frac{3}{5} \times \pm \frac{5}{13}$ $= \pm \frac{48}{65} \pm \frac{15}{65} = \pm \frac{63}{65} \text{ or } \pm \frac{33}{65}.$ $\therefore \cos (\delta + \phi) = \pm \frac{63}{65} \text{ or } \pm \frac{33}{65}$ $\therefore \delta + \phi = \cos^{-1} \pm \frac{63}{65} \text{ or } \pm \frac{33}{65}$ $i.e., \sin^{-1} \frac{3}{5} + \tan^{-1} \frac{5}{12} = \cos^{-1} \pm \frac{63}{65} \text{ or } \pm \frac{33}{65}.$ No. 73. By W. M.

No. 73. By W. M.

[The figure is easily drawn.—ED.]

Let ca be a part of radius bc. Draw ad perpendicular to bc. About the $\triangle acd$ describe a circle. In the circumference of large circle take any point g. Join ag, cg and let cg or cg produced cut the small circle in k. Join ck.

cd, being diameter of circle acd, is greater than ck,

(15 III) .. point k is between c and k. The $\langle adc = \langle akc, (21 III) \rangle$. But $\langle akc \rangle$ is greater than ago (16.1) ... adc is greater than agc. In the same way it way be proved that the < subtended by ac at any other point, as f, is less than the < it subtends at d. It can also be proved that in the other semi-circle, the < at m is the greatest. Therefore the required points are the extremities of a chord through a,

Solved also by J. B REYNOLDS, and by W. S. Howell, Sombra.

No. 74. By W. S. HOWELL.

Let 1.00 represent the price at which the watch was bought. 25% duty added makes 1'25=cost. 5% loss on that leaves 1'1875=selling price. A gain of 1% on the cost would make 1'2625. 1'2625-1'1875='075, ...7'5% of the first cost of the watch=£3.

 $£3 \times 100 = £40$. The watch was bought at £40.

By Algebra. MR. REYNOLDS.

Let x = cost.

 $(x + \frac{1}{4}x) \times \frac{9.5}{100} + £3 = (x + \frac{1}{4}x) \times \frac{101}{100}, \frac{5}{4}x \times \frac{9.5}{100} = \frac{5}{80}, \frac{5}{4}x \times \frac{1}{100}$ $\frac{101}{66} = \frac{101}{80}x$, $\frac{95}{80}x + 3 = \frac{101}{80}x$, $\frac{6}{80}x = 3$, $x = 3 \times \frac{80}{6} = £40 =$

Solved also by D. STINGLE, Nassagaweya. Solution offered by F. A. B., Tweed, is inaccurate. No. 75. By Mr. Howell.

 $1^{\frac{1}{2}} + 1^{\frac{1}{5}}$ inch = $2^{\frac{3}{5}}$ inch worn off the yardstick, as I take the problem to mean, for as printed it is hard to make any meaning of it. $36 - \frac{3}{27} = 35\frac{17}{27}$ inches = length of yardstick. 6 ft. or 2 yds. measured by the Yardstick = $71\frac{7}{27}$ in. The remaining ten inches, if measured by the first mentioned end of the yardstick = $10 - \frac{1}{18} = 9\frac{11}{18}$ inches. But if measured by the end last mentioned = $10 - \frac{1}{18} = 9\frac{14}{18}$ inches, and if measured by any other part of the yardstick=10

The rod $=81\frac{37}{60}$ or $81\frac{19}{30}$ or $81\frac{7}{20}$ inches, according as it may have been measured.

Mr. STINGLE makes it $81\frac{17}{20}$ inches. F. A. B. makes it 81_{120}^{79} inches. The problem is very loosely Stated.-ED.

No. 76. MR. HOWELL.

By the peculiar wording of this problem each man pays twice for himself, and each woman pays twice for herself.

 $4m^2+4m+3w^2+3w=24$ pence.

By the substitution of integral numbers for m, m=2, gives 24 pence paid by 2 men at 12 pence apiece, leaving 216 pence to be paid by 8 women at ²7 pence apiece.

No. 76. The following is Mr. REYNOLDS' solution, by Algebra:

Let x = number of men, y, of women. Then, 4 x+1, would be the amount paid by each man. y. 4. x. x + 1, = amount paid by the men. Also 3, y. y + 1 = amount paid by women.

4. x. x+1+3. y. y+1=240.

Divide by 12.

Then,
$$\frac{x. \ x+1}{3} + \frac{y. \ y+1}{4} = 20.$$

Then, $\frac{x. x+1}{3} + \frac{y. y+1}{4} = 20$. Now each of the quantities $\frac{x. x+1}{3} + \frac{y. y+1}{4} = \frac{y. y+1}{3}$

must be an integer, for their sum is an integer. . x must be of the form, 3 n or 3 n-1. By giving to x the values 2, 3, 5, 6, etc., we get corres-

Ponding values of $\frac{x \cdot x + 1}{2} = 2$, 4, 10, 14, etc.

Similarly, since $\frac{y \cdot y + 1}{4}$ is an integer, y must be

of the form, 4 m, or 4 m - 1.

By giving to y the values, 3, 4, 7, 8, etc., we get corresponding values of $\frac{y. y+1}{}$ = 3, 5, 14, 18, etc.

We must seek for values of x and y, which will make

$$\frac{x. \ x+1}{3} + \frac{y. \ y+1}{4} = 20;$$

 $\frac{x. \ x+1}{3} + \frac{y. \ y+1}{4} = 20;$ and we find that $\frac{x. \ x+1}{3} = 2$, $\frac{y. \ y=1}{4} = 18$, satisfied.

^{isf}y the equation.

Therefore, x=2, y=8.

No. 77. By F. A. B., Tweed, Ont.

At end of year the property held by each is valued

Land owned by $X = \frac{13}{15}$ of \$1500 = \$1800 Building " $Y = \frac{1}{15}$ of 2400 = 2160 Machinery " $Z = \frac{3}{4}$ of 3000 = 2250

Total value..... \$6210

Equal share for each = $\frac{1}{3}$ of \$6210 = \$2070. \therefore X must pay \$90 to Y, and \$180 to Z. Solved by nearly all our correspondents.

No solutions received to Nos. 78, 79, 80, 82.

No. 81. Solution by the Editor.

Let
$$\frac{1}{6}$$
 S = $\frac{1}{6}$ { $\frac{1}{1.3} - \frac{1}{2.4} + \frac{1}{3.5} - &c.$ }
Put S₁ = $x + \frac{x^2}{2} + \frac{x^3}{2} + &c. + \frac{x^n}{n} + \frac{x^{n+1}}{n^{+1}} + \frac{x^{n+2}}{n^{+2}}.$
 $\therefore \frac{S_1}{x^2} = \frac{x}{3} + \frac{x^2}{4} + \frac{x^3}{5} + &c. + \frac{x^n}{n^{+2}} + \frac{1}{x} + \frac{1}{2}$
 $\therefore S_1 \left(1 - \frac{1}{x^n}\right) = \frac{2x}{1'3} + \frac{2x^2}{2'4} + \frac{2x^3}{3'5} + &c.$
 $+ \frac{2x^n}{n(+2)} + \frac{x^{n+1}}{n+1} + \frac{x^{n+2}}{n+2} - \frac{1}{x} - \frac{1}{2}.$ Put $x = -1$
 $0 = -\frac{2}{1.3} + \frac{2}{2.4} - \frac{2}{3.5} + &c. \pm \frac{2}{n(n+2)} + \frac{(-1)^{n+1}}{n+2} + \frac{(-1)^{n+2}}{n+2} + 1 - \frac{1}{2}$
 $\therefore 2 S = \frac{1}{2} - (-1)^n \left\{ \frac{1}{n+1} - \frac{1}{n+2} \right\} = \frac{1}{2} - \frac{(-1)^n}{(n+1)(n+2)}$

CORRESPONDENCE.

PLEASE answer the following in your next issue: (a) A shipped to B, for sale on joint account, 1,000 barrels of flour at \$2.50 per bbl., paying shipping expenses \$175 in cash.

(b) B, on receipt of flour, paid \$15 drayage by check on the Dominion Bank.

(c) B sold the flour to King at \$3.65 per bbl., receiving in payment King's sight draft on Jones for \$1,500; McHugh's acceptance due in 10 days for \$1,000; an order on C for \$500; balance to remain on account.

(d) B charged 21/2 cents per bbl. storage, 1/4 per cent on invoice for insurance, and 2 per cent. commission for selling. He then rendered A an account sales, remitting draft on Dominion Bank due at sight.

(e) A received the account sales and draft.

(1) Give the partner's journal entries.

(2) Make out the account sales.

The above is one of the questions set on the late examination for Third Class. Would like to see the whole answered in the JOURNAL, but fear it would be asking too much. My reason for asking for an answer to the above is that I think that not enough data are given.

Hoping to see it in your next issue, I remain.

R. G. L., Burford.

SIR,—Will you kindly give the solution of Prob-lem 47, page 73, in the Public School Arithmetic, also Problem 57, page 67, in an early issue of the JOURNAL, and oblige.—A SUBSCRIBER.

SIR,—Please publish solution of following: What must be the least number of soldiers in a regiment to admit of its being drawn up 2, 3, 4, 5 or 6 deep, and also in the form of a solid square? (Ans. 900.)

—Yours, H. S. MAGER.

REMARKS.—This brings us to another landingplace. During the year this column has published nearly 200 problems and solutions, and has been well sustained by its readers. The present issue is only a fair sample of what goes through our hands every month, though we have not always given it such a full representation. We have preferred to economise our space by sending about 50 private solutions to our enquiring friends, which we hope have proved acceptable to working teachers. The Editor continues to conduct tuition by letter after the plan of the London Correspondence University, which has proved a great been to English teachers. the plan of the London Correspondence University, which has proved a great boon to English teachers. He has competent co-adjutors to assist him in Classics, Mathematics, English, and Moderns, and the results are mutually satisfactory. To all our indulgent readers and kind friends a merry Christ-

NOTHING is so easy as to deceive one's self.-Demosthenes.

Book Reviews, Notices, Etc.

The Irregular Verbs of Attic Prose: Their forms, Prominent Meanings, and Important Compounds, together with Lists of Related Words and English Derivatives. By Addison Hogue, Professor of Greek in the University of Mis-sissippi. Ginn & Company, Publishers, Boston,

The material treated in this book is here much fuller than in the lists of irregular verbs in the grammars, and much more accessible than in the lexicons. This book contains after the regular verbs —pure, mute, and liquid—the irregular verbs of Attic prose in alphabetical order. Prominent meanings and special uses of frequent occurrence are given, often illustrated by translated examples. The most important compounds are added, and also many related words—forming a very practical sort of introduction to word-formation. The English derivatives, of which there are over 450, will prove the author hopes, an attractive feature to teachers and students alike. Teachers' and introduction price, \$1.50.

Euripides: Iphigenia among the Taurians. Edited by Isaac Flagg. Ginn & Company, Boston, U.S.A., and London, 1889.

This is another addition to the "College Series of Greek authors," which is being edited under the supervision of John Williams White, and Thomas D. Seymour, and published by Ginn & Company, and exhibits all the excellencies in mechanical execu-tion and careful editing which have marked the preceding books of the series. It has copious foot notes and is prefaced with over fifty pages of introductory matter treating of the legend, plot, metre and technique of the play.

Trois Mosquetaires. Par Alexandre Dumas. Edited and annotated, for use in Colleges and Schools, by F. C. Sumichrast, Assistant Professor of French in Harvard University, Boston, Ginn & Company, 1889.

A neat and serviceable edition, with ample geographical and biographical notes.

The Child and Child-Nature. By the Baroness Marenholtz-Buelow, author of "Hand-work and Head-work," etc. First American, from the second London edition, with addition of an Index. C. W. Bardeen, Publisher, Syracuse, N.Y., 1889.

The object of the book, of which this is an English translation, is to promote a more thorough and universal understanding of the theories and philosophy on which Fræbel's educational system is based. It is a full and detailed exposition, by a talented educational authoress, of Fræbel's new method of education. In these days, when kinder-method of education in course size and punious and pu gartens are multiplying in every city and town there is great danger that many of them may fall into the hands of teachers who have but a superficial knowledge of the real principles and philosophy of the system, and that these schools may consequently degenerate into nurseries of mechanical routine. No teacher, and especially none who aspires to the use of the kindergarten niethods, should fail to study through the medium of this and similar works the real meaning of the system at its residence. works, the real meaning of the system, at its sources.

SCHOOL discipline is not for the teacher's sake, but for the pupils'. Every teacher should make his school feel this. Have the pupils feel that the rules are not the teacher's rules. He only discovered that they were necessary and announced them to the school. When pupils believe they are necessary, a great point in discipline is gained.—Indiana School Journal.

WHEN the object is to have thoughts, facts, reasonings reproduced, seek to have them reproduced in the pupil's own words. Do not set the faculty of mere verbal memory to work. But when the words themselves, in which a fact is embodied, have some special fitness or beauty of their own, when they represent some scientific datum or central truth, then see that the form as well as the substance of the expression is learned by heart.—

BUSINESS NOTICES.

WE direct attention to the announcement of the merits 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. This gives the party the JOURNAL for \$1.00.

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 decided to grant them the special active work, we have decided to grant them the special rate of \$1.00 a year, provided they subscribe while they are in such institutions. Model School students, therefore, who would like the JOURNAL for 1890 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 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.

TEACHERS' CONVENTIONS—DECEMBER. West Victoria, at Woodville, December 13th.

Will Secretaries of Associations, or Public School Inspectors, have the kindness to forward us programmes of their meetings, for announcement as above. Also, will Secretaries please send an epitome of the more important business transacted, for publication in the

Editorial.

TORONTO, DECEMBER 2, 1889.

A STARTLING INDICTMENT.

It was stated in the course of a discussion at the Oxford Teachers' Association, that nearly three-fourths of the Public School teachers in Ontario to-day are teaching on third-class certificates, and are under twenty-one years of age. Can this be true? It seems almost incredible. Iuvenility is not a crime, but it is a serious disqualification for a position requiring in an eminent degree maturity of mind, ripeness of judgment, and the wisdom that comes from experience.

But the most serious feature of the case. assuming the fact to be as stated, is the evidence indirectly afforded of the lack of permanence in the profession, if such it may be called.

Were this youthfulness of teachers and low grade of certificates merely accidents of to-day, the defects would soon be removed by lapse of time. The teachers would soon grow older and gain higher certificates. But there is no reason to believe that the state of things this year differs materially from what it was last year, or will be next year. The unavoidable inference is that three-fourths, or some other very large proportion of those who engage in the work, do not remain in it long enough to learn how to teach and conduct a school. It must be that they are constantly quitting the school-room for other spheres of labor, and that their places are as constantly being taken by raw recruits. And yet we never tire of vaunting the excellence of our school system!

We sincerely hope the case is not so bad as represented. The teacher or inspector by whom

well to give the public some of the facts on which his conclusion is based. If that conclusion is warranted, or if it can even be shown beyond question that one half the teachers of Ontario are under twenty-one years of age, and have only third-class certificates, we have no hesitation in saying that here is an evil beside which the alleged defects in a few schools in the French districts are dwarfed and insignificant. Why should not a Government Commission be appointed to inquire into this matter, to point out the causes and suggest the remedies? Probably, however, no such expensive inquiry is necessary. The facts are easily ascertainable, and the remedy is of easy application. Its leading features were suggested by the President of the Perth Teachers' Association the other day. They are simply to raise the standard of non-professional scholarship, and to increase the length and efficiency of the term of professional training.

OUR ELOCUTIONARY DEPARTMENT.

COMPLAINT is often made by those whose opinions are worthy of attention, of the bad reading of the average boy and girl in the Public and High Schools. A similar criticism is urged with great force against the character of much of the reading and speaking on the public platform and in the pulpit. The fact is that though the reading and speaking which are the most natural are unquestionably the best, in this as in other matters, true naturalness is a difficult and rare attainment. We live in a highly artificial age. With us the hardest task, as it is the highest achievement of art, is to conceal art and bring us back to nature. To accomplish this in one important sphere is the work of the teacher of elocution. It is undoubtedly of very great importance that the teachers in our Public Schools should strive to perfect themselves in the work of teaching their pupils to read and speak well and effectively. We are glad to announce that an arrangement has now been made by which the EDUCATIONAL JOURNAL will be able to give its readers the benefit of the knowledge and skill of one of the foremost teachers of elocution in the city and province, Mr. Richard Lewis, of Toronto. Mr. Lewis is well known to most of our readers as the author of several valuable books on the theory and practice of elocution, and will, consequently, need no special introduction. Commencing with the issue for December 15th, Mr. Lewis will furnish us with an article for each number of the JOURNAL. These articles will be written specially for teachers. They will be simple, direct and practical, the design being to make them as useful as possible to those actually engaged in the work of teaching.

In addition to the series of articles, Mr. Lewis will also furnish for each number notes on the selections made for the Friday afternoon recitations. These notes will be of the same direct and practical character as the articles, the aim being to aid the teachers in applying general principles, and to show just how the extracts in question should be rendered in order to secure the greatest degree of naturalness and effectiveness in expression.

We venture to predict that the Elocutionary

interest and usefulness of the EDUCATIONAL JOURNAL, and will mark an important advance towards the goal we keep constantly in our eye, viz., to make our paper inferior to none published in its ability to anticipate the wants of its patrons, and supply them with just the help they need.

THE LEAVING EXAMINATIONS.

THE Minister of Education has submitted to the Senate of the University of Toronto a memorial, recommending the acceptance by that body of the proposed Junior and Senior "Leaving" Examinations, in connection with the High Schools and Collegiate Institutes, in lieu of the Junior and Senior Matriculation Examinations now conducted by the University. It is said that the proposal is meeting with a good deal of opposition in the Senate. That is, we suppose, but natural. Incorporated bodies are naturally indisposed to surrender any of their prerogatives, even temporarily, which is, we understand, all that is asked in the present instance. More especially are learned bodies charged with the interests of higher education as involved in the conduct of an University, likely to look with disfavor on any innovation, the tendency of which may, at first sight, appear to be in the direction of a possible lowering of standards and loss of efficiency.

The result of the Senate's deliberations will be looked for with interest. We have, on previous occasions, pointed out some of the benefits which may be secured from the proposed change, provided the change be of the right character. The mere substitution of one set of examiners for another, will not necessarily be an improvement. We know no good reason for supposing the Education Department any more likely to make the best selection of examiners, sub examiners, subjects and methods, than the University Senate. The thing most to be desired is, as we have always contended, the adoption of a system such as will operate, in some measure at least, so as to give greater freedom of action to High School masters by making their work less a process of cramming for examinations by outside examiners than it has hitherto been. To what extent this end is likely to be secured by the proposed change we are unable to judge until the new scheme is before us in detail.

English Department.

All communications intended for this column should be sent to the Editor of the EDUCATIONAL JOURNAL, Front St. West, Toronto.

VALEDICTORY.

In the interests of his readers and in the interests of his own work, the Editor of this column has been compelled to retire from its management. When, six months ago, he accepted the Principalship of Woodstock College, arrangements were at once made for the severance of his connection with the various causes, charitable and educational, with which a teacher in a large city is certain, if he lives up to his privileges, to become identified. relations with the EDUCATIONAL JOURNAL, however, had been so pleasant, and the intercourse with its Editor and its Publishers so cordial, that it was hoped that the new work at Woodstock would not render necessary a withdrawal from its the statement was made at Ingersoll, might do Department will prove a valuable addition to the circle of regular contributors. The management of a large school, the formation, consideration and adoption of plans rendered necessary by a continuous increase in the number of pupils and by an unexpected development in every department of the College work, have been found a burden so heavy that no choice has been left, and the "English Department" must pass into other hands.

Though the work has been comparatively unimportant, the editor feels it in his heart to thank the noble army of teachers for their sympathy and encouragement vouchsafed to him in its performance, and to bespeak for the JOURNAL the confidence and support of all those that deem the study of English the most important part of a Canadian W. H. HUSTON. teacher's work.

WOODSTOCK COLLEGE, Nov. 21, 1889.

QUESTIONS AND ANSWERS.

I. WOULD you kindly answer the following ques tions in the next issue of the JOURNAL, and oblige In the sentence "He sighs to find them no more," parse no and more -M.L.

II. (1) In parsing a noun, according to the P.S. Grammar, the person is not given—a noun is said not to have person—and yet a verb is said to agree with its subject in person and number. How is

(2) Why is "Canadian" said to be a "Predicate" noun in the sentence "I am a Canadian," while "myself" is said to be the object of "hurt" in the sentence "I hurt myself"?

(3) How would you analyze the following sentence: "It is a very poor principle to work so"? Would it be right to take "it" as the subject, and "to work so" as modifiers, or take "to work so" as subject and leave "it" out?

(4) Is a subordinate conjunction left out of the

analysis, or put in in the extension of the clause? III. Explain the following line from Fourth

Reader, page 78:-'As an imperishable memorial of one loved and mourned by our Gracious Queen and deplored by every Englishman, I called this great lake the "Albert Nyanza."—D. G.

ANSWERS.

I. More may be regarded as an adverb modifying find, and no as an adverb modifying more.

The expression is no doubt an abbreviation by the omission of some such word as times. More was therefore originally an adjective modifying times, which was in the adverbial objective.

II. (1) A noun has no inflection to denote person, a verb has. The verb changes its form to indicate the person of the subject, even though that subject has no inflection to denote person. The verb therefore agrees in person with a noun-subject logically and not grammatically. This anomaly is the result of the fact that in nouns there are noinflections for person, while they exist in verbs.

(2) Because Canadian is a part of the predicate, and helps to make the statement about the thing indicated by the subject, while "myself" indicates the thing on which the action denoted by the verb is exerted. Nothing is done to "a Canadian," while something is done to "myself." Inotherwords, the person denoted by myself is the object of an action, while the person denoted by "Caradian," action, while the person denoted by Canadian is not.

(3) Seeing that it is part of the sentence, the analysis must indicate the function of the word; therefore the subject of the sentence is "it."

(4) If the subordinating conjunction has an adverbial force it is put in the extension of the subordinate clause; if it has no adverbial force it is omitted from the analysis, as it is merely a lent word.

III. The lake was called by the name of the husband of Queen Victoria, Prince Albert. Nyanza is the African name. Its sister lake is called the Victoria Nyanza.

NOTES FOR ENTRANCE LITERATURE.

SHE WAS A PHANTOM OF DELIGHT.

R. D. COUTTS; NEWC STLE.

THIS poem was written by Wordsworth in 1805, three years after his marriage, and presents a three-fold picture of his wife as she appeared to him in three progressive stages of their acquaintance. The first stanza gives a view of her as she stamped with vice. On the saint's face there is a real lasting happiness and satisfa appeared to him the first time he saw her, the sort of heavenly radiance which shows purity of in the highest sense of the word.

second as she appeared after a short acquaintance, the third as she appeared when the poem was written.

"She." Wordsworth's wife, Mary Hutchison.
"Was." Appeared to be at that time.
"Phontom" (grouper to appear and groundships)

 $(\varphi\alpha\iota\nu\omega$ to appear, and $\varphi\alpha\circ$ light) " Phantom. a bright shining vision which is seen, but is not "Of delight." The sight of her gave delight to

Of delight."

the beholder.
"Gleamed." Rays of light seemed to go out from her. The idea of brightness in "phantom" is borne out in the use of this word.

"Apparition." An appearance, a vision.

"Moment's ornament." She is spoken of as an ornament because her presence beautified her surroundings in the same way as a picture the bare walls of a room. Compare with this these lines from Lochinvar:

"So stately his form, and so lovely her face, That never a hall such a galliard did grace

She was a moment's ornament, because she did not continue to adorn the spot where Wordsworth was long. Perhaps he was not at this time even introduced to her, but merely saw her for a moment from a distance.

"Her eves." The order and sense of this and the succeeding line is: Her eyes (were) fair as stars of twilight; her dusky hair, too, (was) like twilight's is. The 's after twilight stands for is. We must regard "like" here as a conjunction, and take "'s" as the predicate whose subject is "twilight," not "hair." The punctuation of the line favors this construction, and as the verbs to be supplied in this stanza should evidently be in the past tense, "was," and not "is," must be used with hair.

"But all things, etc." May is the month of warm sunshine, of flowers, blossoms and green meadows. Then Nature appears in her most attractive form. The dawn dispels the darkness of the night, and brings brightness and cheerfulness where before everything was dim and gloomy. While the lady's eyes were like the stars in their clearness, and her hair of the dark brown color of twilight, her general appearance was bright, inspiring, cheering and joyous, like May-time and the dawn. Notice here that poets delight in fanciful thoughts and see resemblances between objects which would not be noticed by ordinary people. Thus she gleams like the sun, her eyes are like the stars, her general appearance like May or the

"A dancing shape." Shape here means about the same as apparition—a sort of flitting, aerial

"Image." The picture of a being, formed by the mind. About the same meaning as phantom.
"To haunt." To remain in his thoughts and

drive out everything else (as ghosts in haunted houses are said to do.)

"To startle." To cause to start.
"To waylay." To come upon one suddenly.

Have the pupils pick out the words used in this stanza to impress us with the lady's *spirit-like* appearance. We have: Phantom, gleam, apparition, shape, image, haunt.

Call attention to the fact that the rhyme of "drawn" and "dawn" is not altogether perfect, owing to the consonantal sounds ("dr" and "d") which precede the final vowels being similar. Have the pupils pick out other defective rhymes and tell in what respect they are in the poem, and tell in what respect they are faulty.

STANZA II.

"Upon nearer view." After some acquaintance with her.

"A spirit." The spiritual appearance still remains to a certain extent in the tangible form of a true woman.

"Household motions." Her movements about household duties. "Motions," "steps," "countenance," and "creature," are all in the objective case after the verb saw.

"Steps of virgin liberty." The free, untrammelled and unaffected movements of a maiden.

A countenance," etc. Our manner of thinking and living leaves its impress in the appearance of our faces. On the criminal's face every feature is stamped with vice. On the saint's face there is a

heart. Here is an opportunity to teach morality incidentally. By a study of this lady's countenance one could see sweet records, i.e., proofs that she had led a sweet, pure, lovely life. And not only that, but the probable character of her future life could be judged from the appearance of her face. Those marks which bore witness to her past life stood side by side with others which gave promise that her life would continue to be as sweet and lovely as it had been heretofore.

For similar thoughts see Longfellow's "Resigna-

tion,

"Beautiful with all the soul's expansion Shall we behold her face."

"A creature." The last four lines of this stanza prove that she is not a celestial being, but a real, substantial woman, resembling others of her sex in many of their chief peculiarities.

"Human nature's daily food." . The food which human beings require to take every day to sustain

A spirit would not require food.

Transient sorrows." She had sorrows as well life. A spirit would not require rood.

"Transient sorrows." She had sorrows as well as other people, but they passed quickly away, for the people one to brood over them. her disposition was not one to brood over them. Give the grammatical relation of "for" in this line.

"Simple wiles." Tricks or artifices; perhaps to

win Wordsworth's affections.

"Praise, etc." She was not so much of a spirit as not sometimes to be worthy of praise or blame; nor was she so good as to be incapable of falling in love. She was enough of a woman to give and receive kisses, shed tears over anything sorrowful, and smile at anything amusing. In fact, she was influenced by all the emotions usual to woman-

STANZA III.

"Now." Three years after his marriage.
"Serene." Satisfied, complacent.
"Pulse of the machine." In the second stanza Wordsworth is well acquainted with her external appearance, and her beautiful and virtuous life, but now the acquaintanceship becomes perfected and he understands her disposition and the very workings of her heart. In this line she is compared to a machine. We watch a machine, and can easily admire the complexity and regularity of its actions, but it is more difficult to understand the pulse or prime motor at work, and how it accomplishes its object. Wordsworth had looked at this lady as one might look at a watch, and been struck with admiration at the beautiful life she led, but it was only after a closer examination that he understood her heart, the mainspring that moved and regulated

all her actions.
"A being." It is not the breath that is thoughtful, but the being. Poets often transfer an epithet from its proper application to some other word. Compare "leaping bar," in "The Song of the River." She is so serious that she seems to take in

thought with every breath she draws.
"A traveller." Life is often compared to a journey beginning with birth (or life) and ending with death. The idea of the line is merely that she is

not a spirit, but a mortal. The reason firm "

"The reason firm" A sound mind.
"The temperate will." She was not self-willed. She could sometimes submit her own will to that of

others.
"Endurance" Patience and forbearance under irritating circumstances.
"Foresight." The quality of looking beforehand

and being provided for emergencies.

"Strength." Not necessarily bodily strength, but the moral strength which a person of sound

sense and virtuous character always wields.
"Skill." Tact. Wisdom to do the right thing in

the right way at the right time.
"A perfect woman." Not so "A perfect woman." Not so perfect as an angel, but arrived at a point of perfection as high as it is possible to attain in this world.

"Planned." By the Divine architect.
"To warn, etc." Ability to do successfully the three things mentioned in this line fits a woman

"And yet." Something of the appearance of a spirit still exists about her, and if not now "a phantom of delight," she is something far more noble and useful, something that can give far more real lasting happiness and satisfaction-a woman

Special Papers.

THE PROPER FUNCTIONS OF A NORMAL SCHOOL.

(Continued from page 215.)

who graduates from a Normal School; he should be well grounded in the general principles of school management, and have observed how teachers of experience act in certain cases. While provision cannot be made for all cases of school organization and management, yet, with a properly equipped school of observation, mistakes will likely be much fewer, and assured success much more certain, and the evils consequent upon putting an inexperienced head over a school reduced to a minimum.

6. Normal Schools should supply as far as may be, motives sufficient to make the students inclined towards teaching as a permanent calling i.e., they should impart professional enthusiasm.

However, men of genius may differ, whether they be the physician seeking to heal the body, the lawyer whom we employ to protect our temporal interests, the minister of the Gospel anxious about our spiritual welfare, or the teacher seeking to train the child—they all agree in one respect, they are always earnest and enthusiastic. Enthusiasm is the very life blood of genius, and in our calling is as essential to success as is the air to animal life. No man, no teacher can be a satisfied without it. The enthusiastic teacher is ever active, work to accomplish, and is ever on the look out for fresh methods, new hints, other illustrations. Every fresh difficulty to be removed inspires him to nobler endeavor. This are the transfer of est enthusiasm of purpose will enable one to over come most difficulties, and I may say that in all my years of experience. I never yet knew a really enthusiastic teacher who took a genuine interest in his work, who did not "find a way or make it" to

Interest, enthusiasm, is to us the divine afflatus. A teacher without this quality has no power, whatever may be his natural abilities. He is like the locomotive without fire and steam to give propelling power—like a sleeping Hercules—like a Samson shorn of his strength. To the teacher who recognizes in his daily work nothing more than the rendering his pupils accurate in arithmetic, correct To the teacher who in orthography, fluent and graceful of speech, how-ever important these are, and they are of great importance, teaching can scarcely fail to be anything else than a wearisome task-work, in which case success in any high sense is out of the question.

But the teacher who, however laborious his work may be, feels it to be a pleasant duty, a noble avocation, has no doubt realized the unquestionable truth that the moulding and training of young minds, not only in intellectual culture, but also in moral worth, in purity of thought, in truthfulness, in moral sincerity is all that makes the good sixty. in manly sincerity, in all that makes the good citizen, is as real a duty as any he has to perform, and to such earnestness, vigor, enthusiasm, freshness will be as natural as dullness, monotony and mechanism to the other.

The imparting of this professional spirit and the inspiring of teachers with an adequate appreciation of the importance and honor of their calling, is in my opinion the peculiar province of a Normal school, for if this spirit be present amongst its graduates other requisites to success will not be long wanting, and without this professional enthusiasm any other qualities will simply tend to make the teacher feel more and more that "teaching is one of the sorriest of trades."

Under these six duties I have assigned, may be included, in my opinion, all that justly appertains to the proper work of a Normal School. I have I have heard another duty ascribed to it, viz., that of providing successful teachers.

This means that there must be a thorough weeding out of every suspected weak student. But even if the most drastic measures are used, who can guarantee that the ones licensed will be suc-In no other profession does the diploma to guarantee success. The license given attempt to guarantee success. by the Law Society is no guarantee that the fortunate possessor is going to make a successful lawyer; neither is the diploma of the College of subject for an "object lesson," and took up all its advantage of his school.

Physicians and Surgeons of Ontario a guarantee that the practitioner is on the highway to fame and fortune. These simply guarantee that certain work has been done in a certain way. Success or failure lies still in the future.

In the case of the teacher there are even more difficulties in guaranteeing success. Who does not know of distinguished success in one locality being followed by indifferent success, or even by failure in another? Then who is to undertake to say with absolute certainty that A. is a failure and B. a success, when subsequent events in my experience yearly prove the contrary?

In conclusion, let me say that in approaching this subject I feel oppressed with a deep sense of responsibility towards you and towards my subject. An assemblage of teachers such as I am in the habit of addressing from day to day, moulders of the men and women of a few years hence, as is largely the case, always impresses me with a feeling of great responsibility, and at the same time shows me what a grand opportunity is placed before a Normal School master. Claiming to be a teacher myself, and feeling an intense sympathy for every one who calls himself by that name, I can on y throw myself upon your sympathies, and trust that I may have said something that will be of benefit, and that in the discussion that I hope will follow, I may hear something that will be a source of profit to myse f.

Hints and Helps.

A CAUTION TO TEACHERS.

LET us warn teachers, especially young ones, against attempting to reply to any question by a scholar when they do not really know what answer to give. No one can be prepared for every question which can be asked. The veriest fool can ask more in five minutes than the greatest philosopher can answer in a life-time. I know the temptation is great to give a reply of some sort, which may be right or may be wrong, "for fear the scholars should think us ignorant;" but that temptation must be battled with. The real reason why an answer is attempted, ninety-nine times out of a hundred, is pride, and it is pride which will certainly have a fall, for if the scholar does not know at once that the reply was a guess, he will remember it, and confront the teacher with it at some most inopportune time-perhaps quote his own words against Then, indeed, will the scholars look down upon that teacher, and probably give him a far lower place in their regard than he really deserved If, however, their teacher is well informed, and well ahead of them, he will not sink at all in their estimation if he honestly confesses that he cannot answer some particular question—it is generally one of fact—on the spur of the moment. should carefully treasure the question, and see that he obtains the correct answer of it for the very next time he meets his class, and should give them the reply, with any other information about the subject he may think fit.—Central School Journal.

STUDYING ALOUD AND WHISPERING. BY SADIE CAMERON, NEWMARKET.

PICA's trouble in regard to pupils studying in a half-audible tone, had also been one of my difficulties, but I have no trouble that way now. I moved quietly around, looking at work, etc., until I found out who the culprit was. I kindly asked him not to study in that way, and showed him how to overcome it, but the habit had been formed, and he would forget very often. So I would ask a certain class to read their lessons over once or twice without opening their lips, and ask them who could do so. Then at other times I would catch his eye, and place my finger on my lips for a sign. He would smile, and determine to overcome the habit. also had his seat-mate, or one near him, nudge him. In this quiet way he soon began to notice himself, and would immediately stop, and, by way of encouragement I would say, "Why, Johnnie, how quietly you study your lessons now!" The bright little face showed his pleasure at being able

advantages and disadvantages (getting them from the pupils), and wrote them on the board, and in this way showed them the evil of it. I then asked them who would try to do without talking for one They willingly consented, and at the end of the day I asked them about it, and those who had refrained I praised for their will-power, etc. tried this by the week, and would make a list of the names of those who had whispered on the board, or in a book for the purpose, at the same time using all the moral suasion I could bring to bear, until they soon began to look upon whispering as something quite beneath them. And now my pupils do not think of whispering without permission to do so, and as a recompense I allow that indulgence on Friday afternoons.

THE SUPPRESSION OF "MUMBLING." THOMAS HAMMOND, AYLMER

In response to Pica's request for advice in suppressing "mumbling," or pupils studying in an undertone, I would say that Pica's difficulty is a very common one—one which twice, during my experience as a teacher, I have had to suppress, the pupils in each case having been permitted to indulge in

the habit by my predecessors.

The evil is not only a common one, but it is one of the most difficult to overcome. It can scarcely be suppressed by punishment, from the fact that a pupil who has become habituated to it very com-monly indulges in his "mumblings" quite unconsciously, and no true teacher could inflict punishment on a pupil who has committed no intended

wrong.

I will suggest a plan adopted by myself which proved completely successful, although it took some time to prepare the way. This I did by governing my school largely by the "majority rule," if I be allowed the expression, and by putting a premium on truthfulness.

majority rule." I mean that I led my By the " pupils to distinguish between what is palpably wrong and what is clearly right, and had no difficulty in getting a unanimous vote in favor of upholding the right and suppressing the wrong. the same time I did all in my power to encourage truthfulness, taking up extracts or portions of literature that refer to truth or falsehood, and fairly imbuing their minds with the beauty and nobleness of the one, and the cowardly, contemptible meanness of the other.

Whenever I could bring a pupil to show his manliness by truthfully acknowledging a misdeed, I highly commended him, and, to a large extent, overlooked the fault.

Now, when Pica has brought his pupils to a condition something similar to what I have described, let him and his pupils discuss the question of abolishing "mumbling," and if his pupils can be led to see that it is a real injury to the school, I will venture the statement that Pica's school (as was the case in mine), will give him a unanimous vote to suppress "mumbling," and will agree to do their work minus the "mumbling"—of course, barring cases of forgetfulness.

Now, Pica must not imagine that the difficulty has yet been overcome, for well-established habits are not so easily eradicated, even by are willing to shake them off. Each and every time he hears the least sound of "mumbling" he and ask for the guilty pupil. Here will come in the advantage of having pupils ready and willing to acknowledge a fault. The pupil The pupil confesses, and the teacher commends him for his truthfulness. In each case, unless the teacher is fully persuaded to the contrary, he should attribute the violation to forgetfulness, and avoid punishing or scolding for the offence.

The teacher's success will largely depend upon his own vigilance and tact, and should he be ever so busily engaged, he must cease work on the first so dustry engaged, he must cease work on the mist sound of the mumbling. One may say, "This will take up too much time." In reply, I hold that time will be gained in the end. But, allowing that there may be a loss of time, it is just possible that even the loss of the teacher's valuable time may be more than compensated by the moral strength the pupils will gain by becoming more

The principles I have pointed out may, by a thoughtful teacher, be utilized in many ways to the

Educational Meetings.

NORTH ESSEX.

THE meeting of the North Essex Teachers' Association, held in the Central school, Windsor, Thursday and Friday, 24th and 25th October, was interesting and well attended.

At the French session on Thursday morning, the President, Mr. Girardot, in his opening address, urged those teachers in whose schools both languages were taught, to pay particular attention to the teaching of English to the French pupils. After Mr. Girardot's address a lesson in grammar in both languages was taught to a class and an object lesson was given to the same class. Various suggestions were made by the teachers as to the best method of teaching English through a knowledge of the French.

In the afternoon the President addressed the convention, expressing his pleasure at once more meeting so many of the teachers. He impressed upon them the necessity of punctuality, the cultivation of studious habits, neatness in the teacher, the school-room, the yard, and in the keeping of the

Mr. Walter Clark then taught a lesson in our system of government. Beginning with the Do-minion, by the aid of the blackboard he showed the relation between the Governor, Ministry, Senate, and House of Commons, explaining how some were appointed and others elected to the office. The Provincial Government was treated in a similar manner. Mr. Allan McLean taught a lesson on Hygiene, showing by a simple chemical experiment that much of the poisonous matter generated in the body is thrown off by the lungs. Mr. McLean dwelt specially upon the necessity of keeping the pores of the body open by bathing to insure health. Mr. Louis Dorais gave a lesson in calisthenics, showing how, by the combination of a few simple movements, a number of exercises could be made.

The Friday morning session was opened by a paper from Miss Mary Butterworth, upon "The Importance of Neatness in the School-Room." The paper was written in a pleasant vein, and was warmly received. Miss Butterworth recommended a free use of the duster, pictures on the walls, flowers on the teacher's desk, plants in the windows, and a wash basin, with soap, towel, lookingglass, comb and brush. In the discussion that followed Mr. McNeill advocated the scrubbing of the school-room once a fortnight instead of once a

year.

Mr. C. H. Ashdown then gave a paper upon "Teacher and Text-Book," showing that text-books were necessary, and that they should be the assistants of the teacher. After giving his views upon what a text-book should be, he expressed his opinion freely upon the text-books now in use. He said the grammar was the best we had ever had. The arithmetic was a good book badly put together, the grading of the problems in the first part of the book was "disgraceful," and the answers were a "delusion and a snare." The opening sentence in the geography was enough to kill a better book. As for the history, its only redeeming feature was that the authors had the courage to place their names upon the title-page. Mr. Ashdown concluded his paper by advocating the formation of a teachers' syndicate to write a school history, claiming that there was material lying in the desks of the teachers present out of which could be compiled a better school history than had yet been placed in our hands.

A short address upon the "Teachers' Preparation for the Class-room," by Mr. McNeil, pointed out that preparation of the teacher for the classroom implied much more than the looking over the lessons for the next day. The teacher must also prepare himself mentally and physically for the work of the coming day, and, as he endeavors to leave behind him the worry of the school-room when he closes the door in the evening, so he should try to shut out the worry of the world when he opens the door in the morning.

Dr. Field then gave a most interesting address upon the physiology of the voice in relation to the teachers' work and health.

more common errors we may commit in conversa-tion and composition. Miss Dalton gave an in-structive paper upon "Economy of Time in the

After votes of thanks to the President and Dr. Field, the convention closed with the National Anthem.—C. H. ASHDOWN, Sec.

WEST LEEDS TEACHERS' ASSOCIATION.

THE teachers of West Leeds met in the Gananoque High School on Thursday and Friday, Octo-ber 11th and 12th. Mr. W. Johnston, I.P.S., President of the Association, opened the meeting by making a few appropriate remarks, in which he introduced Dr. McClellan, Director of Institutes.

After the minutes of the previous meeting were read and adopted, the President, Mr. W. Johnston, read his opening address, in which he briefly des-cribed the condition of the schools in his district, and gave explanations with reference to the claims of teachers holding District Certificates.

A committee to draft resolutions and to submit

other measures of importance to the Association

was then appointed.

The afternoon session was opened by Mr. W. K. T. Smellie, B.A., teaching a lesson in Entrance Literature with a class. This occupied about an hour, and was very interesting, being full of suggestions as to the best methods of teaching this sub-

Quite a lengthy discussion followed the teaching of this lesson, a number of the teachers taking

Dr. McClellan then delivered an address on the subject of "Raw Materials of Intellect." the Rev. gentlemen present, in making some remarks after Dr. McClellan had finished his address, said that in looking over the outline of the Doctor's lecture on the board, he had decided that it would be very dry, but after listening to it he had changed his mind, as he was not only interested, but well paid for the time spent, and the address proved not only eloquent, but highly instructive to

In the evening the teachers and quite a large number of the prominent citizens met in the lecture room of the Presbyterian church, to listen to Dr. McClellan's lecture on "This Canada of Ours."

The Association met at nine o'clock on Friday morning, and the first business done was the appointment of the following officers for the ensuing year: Mr. W. Johnston, I.P.S., President; Miss M. Bews, Vice-President; S. G. Cook, Secretary-Treasurer.

The following were also appointed as an Executive Committee: Messrs. W. K. T. Smellie, B.A., J. C. Linklater, Ulysses Brown, Sexton, Acheson, and Misses Hiscocks and Clendening.

Mr. J. C. Linklater then delivered an address on the "Teachers' Aim," which was listened to with marked attention, and furnished material for an interesting discussion.

The subject of Phonic Reading was then discussed by Dr. McClellan, and was replete with profitable instruction, especially to those who were teachers of primary classes.

The following resolutions were submitted to the Association when it met on Friday at 2 p.m.:

1st. Whereas, the interests of education demand a knowledge, on the part of teachers, of the laws of mind development, as well as the practical training at present afforded by Training Institutes, Normal Schools and Model Schools, and whereas, we believe that the most effective method of imparting this knowledge to the profession generally is by giving it first to the teachers of secondary schools,

Be it resolved, that this Association deems it of the utmost importance that a Chair of Education or of Educational Psychology be established and endowed in the Provincial University at the earliest possible date, and that the Secretary be instructed to forward a copy of this resolution to the Honorable the Minister of Education.

2nd. Whereas, it is very important that this Association employ some means to enable teachers to secure a profitable and instructive class of reading matter.

Be it resolved, that this Association make such appropriation from its funds as will provide each In the afternoon Mr. Cheney, in a short address upon "Practical Logic," pointed out some of the JOURNAL at the rate of fifty cents a year, and that had not. He would not discard the use of the text

the same be sent to them as soon as they send their address, accompanied with fifty cents, to some person appointed to receive the same.

3rd. Whereas, Gananoque has been chosen consecutively as the place of our annual Association, and whereas, the members of this Association who teach in the rear of this inspectorate are put to great inconvenience to attend,

Be it resolved, that we hold a special meeting at the village of Newboro' on the Wednesday and Thursday before the Easter holidays.

The above resolutions were voted upon separately, and were unanimously adopted by the Association.

Mr. Burwash, first assistant in the Gananoque High School, then delivered a short address on the method of teaching history, and S. G. Cook described briefly one method of teaching pupils how to distinguish the different kinds of sente nces .- S. G Cook, Sec.-Treasurer.

PERTH TEACHERS' ASSOCIATION.

THE annual meeting of the Perth Teachers' Association commenced on Thursday, Oct. 24th, in the City Hall, the President, Mr. J. M. Moran, in the chair.

The first subject taken up was "Teaching a Profession," by Mr. Geo. A. McCubbin. He said there was no work more important and yet it was scarcely regarded as a profession. Teachers were to blame regarded as a profession. Acceptance for this themselves, and when asked what they were doing would reply, "I am teaching school at present." There would be 150 teachers here to-day.
Were fifteen of them here ten years ago? Would there be fifteen of them here ten years hence? The 135 would be found in different other professions. As well ask why the Israelites fled from Egypt as why teachers left that profession. They are too much restricted by the directions of trustees and regulations of the Educational Department. Another reason is that teaching is not profitable enough. The remedy is to raise the qualification of teachers. The Educational Department requires, instead of a thorough knowledge of each subject in the non-professional course, only 33½ per cent., and the pro-fessional training was no better. Doctors, lawyers, etc., would be made in fifteen weeks on the same principle as is applied to professional training in Model Schools. The abolition of third class certificates and the apprenticing of teachers to teachers of acknowledged ability for a few years, would cause persons thinking of entering the teaching profession to ponder well before they did it, and then entering upon it and continuing in it they would meet a glorious reward.

Dr. McLellan was then introduced and delivered his able and admirable lecture on "The Beginnings

of Knowledge.'

THURSDAY AFTERNOON.

The convention resumed at 2 p.m.

The first paper was read by Mr. R. H. Cowie on "The Teaching Process." (See "Hints and Helps" Department.)

Dr. McLellan then resumed his address on "The

Beginnings of Knowledge."

Mr. C. A. Mayberry, B.A., LL.B., then gave an exhibition of calisthenic drilling, with a class of girls from the Collegiate Institute. The various movements elicited frequent and hearty applause.

THE EVENING MEETING.

On Thursday evening a large audience of teachers and citizens assembled in the City Hall. The leading feature of the entertainment was Dr. McLellan's address on "Educational Fallacies."

In addition to Dr. McLellan's address, instrumental duets were given by Mrs. A. Ahrens and Miss Day, and Mr. A. H. Alexander, and vocal solos by Miss Maggie Wilson, of St. Marys, and Mrs. Walter Stone, and Miss Mary Craib gave a recitation.

FRIDAY MORNING.

Mr. S. H. Harding took up the subject of "How to Teach History." The study of history in our Public Schools was, he said, important, in order to qualify citizens for intelligent voting, as the larger part of them received their only school education in the Public Schools. It would also develop a taste for good reading, which unfortunately a good many book, but that should be a simple story of the his-This the present text book was not. It was a scholarly book, but nowhere came down to the child's intellect. The history of the people should be taught and not that of their rulers. Such teaching would fit the pupils for the intelligent exercise of the franchise and develop manliness.

Miss Hamilton taught, in a way that was much admired, an object lesson on the thermometer to a

third class.

Mr. I. M. Levan, B.A., then spoke on "The Teaching of Literature." He recommended the use of Mr. Wrightson's analytical marks, as found in his Functional Elements of English, and gave examples of these marks. One of the most important subjects to teach was composition, both oral and written. Punctuation should be taught from the first-punctuation, syllabication and capitalization should be taught. Sentences in false syntax, to be corrected, should be taken from the pupil's own composition. Mr. Levan also took up the teaching of prose and poetical literature, and dealt with it in

man interesting and helpful manner.

Miss H. Johnson gave an amusing reading,
"Tommy's Awful Dream," in an excellent style.

Dr. McLellan then spoke on the phonic method

of teaching reading in his usual lucid and forcible style until the noon hour. He was unable for want of time to give the remainder in the afternoon, as he had intended to do.

FRIDAY AFTERNOON.

After reading the minutes of the semi-annual meeting, the election of officers was proceeded with, and resulted as follows:—President, Mr. George Hamilton, Sebringville; Vice-President, Miss Eleanor Walker, Stratford; Sec.-Treas., Mr. F. Parker, Sabringville: Management Comments of the Schrift Schrift Sec.-Treas. Sebringville; Management Committee-Miss Ford, Mitchell; Miss Kean, Tavistock, and Messrs. C. A.
Mayberry, B.A., Stratford; S. H. Harding, Attwood, and George Thompson, Millbank. Auditors
—Messrs. John M. Moran and J. B. Wilson, B.A.

It was moved by Mr. George McCubbin, seconded by Mr. C. A. Mayberry, B.A., that this association forward a memorial to the Minister of Education, praying him to establish a chair of pedagogics in connection with Toronto University.—Carried.

The mover and seconder and Inspector Alexander

were appointed a committee to prepare and forward

the memorial.

Miss McGowan read an essay on the "Expenditure of Vital Force in the School Room.⁹ The teacher who expended a great deal of vital force did so with a great deal of satisfaction to himself and to the people, but there is too much talk on the part of the teacher, and too little training to think. There should be order, but there need not be perfect stillness, which means sleepiness. There is often the best government where there is the least show of it. Arithmetic, history, reading and dictation were successively referred to in illustrating the wasteful expenditure of vital force in teaching.

Mr. Wm. Munro presented his views on "The Teacher." He must be peculiarly fitted by nature for his calling, and if not no amount of training would make him fit. A long list of the qualifications of the property of the prop tions needed in a teacher was given, and was ably amplified by the essayist. The faithful teacher, he said, need not be ashamed to lift his face to any man. He concluded by recommending teachers to take the great teacher, Christ, as their model.

THE Kindergarten system is extending to all parts of this Province. Teachers who qualify for this department are quickly engaged, and still the demand is for more workers. This increased use of the system requires a corresponding increase of supplies, with which to entertain and instruct the little people. To meet this demand Selby & Co., of Toronto, specialists in the manufacture of these supplies, are constantly employed. manufacture of these supplies, are constantly employed in producing everything new and valuable: besides which they are agents for the celebrated Milton Bradley Company, makers of the latest improved lines of these goods. See advt. in this copy of the JOURNAL.

THE new English-French Readers, for use in schools in localities where French only is spoken, are now issued by the publishers, The Copp, Clark Co., Toronto. The books comprise First (2 parts), Second and Third Readers, and are satisfactory productions in all respects. They are authorized by the Department the object being to introduce the compulsory study of English even in those schools where it is not the vernacular.

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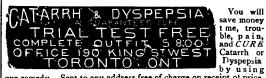
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g.00 to 11.00 a.m	Arithmetic.						
11.05 to 12.15 p.m							
1.15 to 3.15 p.m	Composition.						
3.25 to 4.00 p.m	Dictation.						
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