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The Canada School Journal.

AND WEEKLY REVIEW.

VOL. X.

TORONTO, OCT. 8, 1885.

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The Canada School Journal and Weekly Review.

An Educational Journal devoted to the advancement of Literature, Science, and the teaching profession in Canada.

—o—TERMS.—o—

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The World.

The Roumelian affair seems to be constantly developing new phases. The latest advices bring two new rival aspirants to the front. Servia on the one hand and Greece on the other, are striving hard to turn the revolution to account for their own interests. Unless the conference finds a way out of the difficulty the re-opening of the dread Eastern Question seems to be inevitable. Meanwhile, an amusing, almost ludicrous side of the controversy has been presented in the alleged complaint of a Turkish diplomatist that the Roumelians are showing themselves basely ungrateful. Their ingratitude consists, of course, in their want of appreciation of the benevolence of the magnanimous Turks, who so kindly have given them a master and compelled them to pay him handsomely for the privilege of being his vassals.

The death of Lord Shaftesbury leaves the world with one less Christian philanthropist of the highest order. The name of the deceased nobleman has long been a synonym for princely beneficence and a large hearted interest in the well being of

people of all classes, especially the humble poor. Lord Shaftesbury reduced to daily practice, as few men high or low have ever done, the motto of the noble-hearted Roman, "I am a man and deem nothing which affects humanity foreign to my sympathies." More truly he brought down to real life the great New Testament doctrine of universal brotherhood. We fear that, taking him all in all, the poor of England will not soon look upon his like as a friend and benefactor. *Requiescat in pace.*

The fact that a woman in Sheffield, Eng., who, from being a notoriously bad character, had become a member of the Salvation Army, lately, under the influence of some religious mania, attempted to cut her husband's throat, is seized upon by a prominent weekly as a text from which to deduce a desired conclusion against the liquor prohibition movement. We fancy that with most candid minds the argument will tell the other way. The exception proves the rule. An incident of the kind is so rare that it attracts attention across the ocean. If there were any good reason for believing that the doings of the Salvation Army led to the commission of such crimes with one-tenth of the proportionate frequency of those clearly traceable to strong drink, repressive legislation would not be long in coming. An argument so far fetched defeats itself and suggests that the advocate does not find convincing material at hand.

The School.

The Publishers of the New York *School Journal* have arranged with Col. F. W. Parker to unite the *Practical Teacher*, edited by him last year in Chicago, with the *Teachers' Institute*, published by them. Col. Parker will still edit the *Practical Teacher* department of the combined papers, and is to have the same liberty in editing his department of the combined papers, as he had while conducting the *Teacher*. He thus becomes one of the Editors of the *School Journal* in which everything he writes will appear.

We cannot comply with the request of some of our subscribers to publish the time table for 1st, 2nd, and 3rd Class Examinations for next July, for the reason that that table is not yet made. The time table for the December Entrance Examinations will be found amongst the Educational News and Notes in next issue.

We are glad to announce that arrangements have been made with Mr. J. E. Wetherell, M.A., Head Master of Strathroy Collegiate Institute, to furnish for the JOURNAL a series of papers on the Literature for High Schools and Collegiate Institutes. The series will be commenced in our next number, and the papers will appear at least once a fortnight, perhaps oftener. The subscribers who have written us, asking for these papers,

will see that their wishes were anticipated and forestalled. We feel sure that they will agree with us that the work could not have been put in better hands

The incident at Dutton, mentioned in a paragraph taken from the *St. Thomas Journal*, in our Notes and News column, is worthy of being reflected on by the users of the rod in schools. There is nothing to show that there was anything specially reprehensible in the mode of administering the chastisement, or that it was excessive in degree, granting the propriety of corporal punishment in schools. But the spectacle of a teacher engaged in a hand-to-hand struggle with a refractory pupil can not have been an edifying one to the school, and the memory must be humiliating to the teacher. Surely there is some better way of upholding the teacher's authority than that which degrades him into a wielder of the cat, engaged in a trial of strength with a schoolboy.

The free school idea is taking firm hold of the public mind in England. The adoption of this system is but a question of time, and probably of a very short time. It is curious and, to dwellers on this side of the Atlantic, wonderful, to see the objections that are raised and the quarters from which they come. Probably the strongest opposition, and that which will hold out the longest, is that of those who should be the warmest supporters of the movement, the friends of the Church schools. These rightly foresee in free schools the end of the system which enables them to teach the creed and the catechism of a sect under the patronage of the State and with the money of the whole people, many of whom do not subscribe to the creed or the catechism. But they wrongly conceive that the abolition of compulsory fees will be the death-blow to voluntarism in education. There will always be ample room and a noble work for voluntary institutions.

There are, it is true, weighty theoretical objections against the principle of free schools and State education, but these objections cannot be urged in a country where the Government pays immense sums for the support of higher education in colleges and universities. There is not an argument that can be urged in favor of State support of such institutions which does not apply with treble force to primary schools. If it is duty or good policy to foster secondary education at public expense, it must be far more duty and good policy to raise the masses out of the slough of ignorance and superstition, and there is surely more ground for a charge of unfairness or tyranny against a system of compulsory education with compulsory exaction of fees than without it. If the best interests of the Kingdom demand that the primary education of the whole people be made compulsory, it is surely but reasonable that the kingdom, *i. e.*, the whole people, should provide the funds. For our own part, we have always been inclined to regard the whole system of State education as a temporary arrangement necessary at a certain stage, no doubt a prolonged stage, of national progress, but destined eventually to be superseded by the higher and juster order, in which every parent will see to the education of his own children. All voluntary schools are but a step in this

direction, and the enforcement of universal education will do much to hasten the consummation by making the appreciation of education universal. We can hardly conceive of parents able to read and write who could suffer their children to grow up utterly illiterate.

A TYRANNICAL RULE.

Paragraph No. 10, under the head of Inspector's Duties in the New Regulations of the Ontario Education Department, reads as follows :

"To see that no unauthorized text-books are used in the schools. No books should be placed in the hands of the pupils, except those authorized for their use. Under the disguise of recommending certain works for 'home study,' many unauthorized text books are introduced into the school. This should be prevented by the Inspector in the exercise of his authority as an officer of the Education Department."

If the object were to drive every teacher of high intelligence and spirit out of the profession and to reduce those that remain to the rank of automatons, moving only as the strings are pulled at the Education Office, it would be hard to devise a rule better adapted for the purpose. To forbid the use of any but the authorized books in the schools is bad enough. The tendency is to leave both teacher and pupils "cabinéd, cribbed, confined." It is like requiring one who should be free as an athlete to work in a strait jacket. We believe the day will come in the history of education when the statement that such a regulation was once made and enforced by the highest authority will be received with incredulity, or placed in the category of curiosities in the history of educational development. And yet there are certain arguments of some degree of plausibility to be urged in support of such a rule, as applied to the books actually used in the school-room. But when the system is extended beyond the walls of the school-house, when the Inspector is called upon to carry a kind of espionage into the very homes of the children, we can only wonder that a three-fold rebellion is not provoked—a rebellion of inspectors, of teachers, and of parents. Such a stretch of authority is degrading to the inspectorate, takes away the last vestige of intellectual liberty from the teaching profession, and trenches upon the rights of free citizenship.

But, to put the matter on lower and more practical grounds, we can think of few restrictions more injurious to good teaching than this which virtually forbids teachers to recommend any side help or book of reference. There is no practice more stimulating to the intelligence of the pupil at any stage than that of comparing authors and methods. There is no mental habit that deserves to be more carefully fostered than this very habit of research which is the outgrowth of the practice in question, and which this regulation seems designed to repress. And no better method can be devised for teaching the young to be the slaves of one-sided authorities—and every author is more or less one-sided—than to compel them to take all their earlier facts and impressions in the various subjects of study, from a single authority in each.

The regulation, moreover, deprives both teacher and pupil of legitimate and often much-needed assistance. A very simple

illustration suggests itself. Take the first and second readers of the new series. We have examined them with some care, and we venture to say that the rate of progress assumed in them is far beyond the capacity of the average child. There is often enough in one lesson for three or four. Columns of new words are given that must be perfectly appalling to the untrained mind of the child. The principles of repetition in many new combinations of the words already learned, and the gradual introduction of new words, seem to have been almost wholly lost sight of in the preparation of these books. We honestly confess that we should be very loath to have a child of our own subjected to the ordeal of getting from lesson to lesson in such a book, if he were to be denied all access to the aid afforded by more philosophical primers. There are dozens of little "first steps" published in England and the United States, any one of which would convert the discouraging and almost impossible steep of the Readers into a gentle slope, and thus transform the intolerable toil of the learner into a healthful and delightful recreation. To say to the intelligent teacher that he may not put such help into the hands of his pupils, however willing the parents might be is, we repeat, a useless and meaningless tyranny. This is, of course, but a single illustration of what must occur at every stage of the Public School course. Could we suppose the officials of the Education Department to be interested in the sale of authorized books, as some of the newspapers maliciously insinuate, we should have a reason, though a most unworthy one, for the existence of such a regulation. Apart from this, it is hard to conceive of any.

It is singular that at a time when the tendency in free countries is in the direction of throwing more and more of the duties and responsibilities of self-government upon local institutions and corporations, the opposite policy of centralization should prevail to such an extent in our educational affairs. To take all freedom and responsibility in regard to books and methods off the shoulders of teachers is to deprive them of one of their best means of growth, as well as to put beyond their reach the highest rewards of success.

Surely the day is not distant when all this will be changed, and the Department of Education will content itself with prescribing subjects and courses of study, and leave the selection of books and modes of instruction to the discretion of teachers and the people. Freedom always brings more arduous duties and heavier responsibilities, but it also brings its own rewards, and becomes of itself one of the most potent of all educational forces. The same argument which deprives teachers of the right to choose their own implements and prescribe their own modes of working, lest they may make mistakes or abuse their privileges, would be equally valid for depriving the municipalities of their local self-government and the masses of their elective franchise. As the best way to fit a civilized people for liberty is to make them free, and the best way to learn to do is by doing, so the best way to teach teachers to use the best text-books and methods is to throw upon them the responsibility for such use by making their professional success dependent upon it.

"To tell the child when, and where, and why he is wrong is the indispensable function of the teacher." In this dictum of Bain's we would have the "why" doubly emphasized. We have known teachers who would content themselves with simply telling the child when he was wrong, without giving either the "where" or the "why." Others are particular in regard to both the "when" and the "where," but quite neglect the "why." So far as possible—and we believe that under a right system it is always possible—the child's reason should always be appealed to. He should not be asked to make a correction simply upon the authority of the master or the book. There is no education in that, and it is education, not information, which is wanted. A very suggestive story is told of a schoolboy who afterwards became a very distinguished man. Being asked one day, during a lesson in grammar, why a certain word was in a certain case, he persisted in saying that he did not know. "There," exclaimed the schoolmaster, repeating the rule of syntax, after, of course, having administered a flogging according to the pedagogical fashion of those days, "perhaps you will know the next time." "Why," replied the boy, "that is only the rule you have given. I knew that all the time, but you asked me for the reason, which I did not and do not now know."

An excellent rule for parents, teachers, and all who are in positions of authority is, never to give a command without being sure of ability and determination to see it obeyed. An observance of this rule would often save the teacher much trouble and chagrin. These often arise out of hasty and ill-considered orders and regulations. The teacher soon sees his mistake, but feels that he cannot unsay the command or withdraw the rule without loss of prestige. He has thus imposed upon himself the alternative of a public admission that he was hasty or unwise, or a tyrannical enforcing of an unnecessary, perhaps unjust, mandate. A little more calmness and deliberation would have saved him from this dilemma.

To the above should be added another self-imposed law of still greater importance. Never give a pupil the tremendous advantage of feeling that he is in the right and you in the wrong. The best auxiliary you can possibly have in school government is the child's conscience on your side. Conscience makes a coward even of a little child when it condemns him. On the other hand it often makes him a determined rebel, if it but sides with him in the dispute. The teacher who can succeed in making it manifest to every pupil that he is striving above everything to do right and to do good, will find himself reinforced at every turn not only by the best public opinion in the school—in itself a mighty influence—but by the monitor which dwells in the bosom of every child, and whose office it is to approve the right and to denounce the wrong. Great mistakes are made in consequence of underrating the power of a child's conscience.

While we are on the all-important subject of school government we should like to add one word more. We were going to finish the foregoing sentence with the words "about commands," but we hesitate to use that last term. We dislike

it. The less of formal command in family or school, the better. Peremptory orders and imperious tones are oftener the marks of weakness than of strength. We all know homes, and probably schools too, in which the language of authority is rarely or never heard, because rarely or never needed. A kind request from those who have the happy faculty of combining firmness with gentleness, is generally more effective than the boisterousness of the loudest blusterer. Moreover, the obedience of love, that which flows from duty and affection, is the only genuine obedience. The reluctant submission which springs from fear is often accompanied with rank disobedience in spirit. There is a wonderful meaning in tones of voice, and the child is an adept in reading it, but the only way for teacher or parent to acquire the right tones is to cultivate the qualities of character which underlie and beget them.

It is wonderful how effective small words and acts of courtesy may be made in business and in social intercourse. They are the oil upon the pivots and bearings of the machinery of civilized life. They sweeten toil, alleviate suffering, and transform duty into pleasure. The tendency of the rush and whirl of this busy age, is too much in the opposite direction. Many business men seem to think they have no time for compliments. Questions are asked and answered in the briefest and bluntest manner. The spirit invades, we were going to say pervades, but we recall charming exceptions—the public offices, insomuch that one of the first things one has often to learn in business or travelling is to expect scant courtesy and often bear with seeming rudeness. The same tendency affects too many of our boys and girls, especially the boys. There are few better services the teacher can render the young, than to lead them, by precept and example, to observe in all their intercourse with one another, those little courtesies and amenities which do so much to reduce the necessary friction and smooth the rough places of even school life. A genuine "please" and "thank you," a hearty apology when needed, and especially the cheerful performance of little acts of self-denial in order to promote the comfort of others, add a wonderful charm to all kinds of intercourse. Not only so but they all, and especially the last-named, are a means of moral education, and a practical working out of the golden rule. Let no teacher think it beneath him to enforce, by gentle suasion, attention to these little but expressive courtesies on the part of those placed under his charge.

TEACHERS' ASSOCIATIONS.

We call attention to the letter of a "Teacher for Five Years," in this issue. We are inclined to believe that there is too much ground for our correspondent's criticisms and are sure that there is value in his suggestions. The fondness of a few leaders, self-constituted or otherwise, for taking a lion's share of the time is one of the evils under the sun at all kinds of public conventions. Judging from the reports which pass through our hands, Teachers' Associations are by no means the exception which proves the rule.

We seriously doubt the propriety of making attendance at these meetings compulsory. There is, we take it, altogether too much tendency on the part of the Education Office to employ the verb "must" in its administration. It may seem the shortest and easiest way to the desired end, just as the old style use of the ferule or taws on all occasions may seem to the incompetent or lazy the shortest and easiest way to secure order and enforce study in the school room. But in both cases, the longer way round is, in the opinion of the best educators, the shorter way to the true goal. In both cases the old adage about taking the horse to the pond is applicable. It would surely be proof of higher intelligence and ability on the part of the Department of Education, assuming that it has, of right, anything to do with the Associations, to manage to make them so attractive and instructive that teachers would be sure to attend of their own free will, leave of absence being of course secured to them for the purpose.

With our correspondent we doubt very much the value of the "thirty-minute exhibitions," unless in the rare cases in which they are given by educators whose unquestionable talents and success guarantee their fitness to be set up as models. We are sure, too, that there is very much more voting thanks, and administering "taffy" all around than is either in good taste or agreeable to men of real ability.

The list of topics enumerated in the letter is a good one and may be indefinitely extended. Those included in the last sentence are especially worthy of attention. Every teacher should have, or should endeavor to form, a sound and ripe opinion upon these subjects. To this end the freest interchange of thought is desirable. The matured views of the great body of intelligent teachers, in all cases in which those views are pretty well agreed, should prevail with the Department and shape its legislation. It would be a strange thing indeed if the consensus of opinion in a body of well educated, practical teachers, should not be worth more on such points than that of all the officials of the Education Department, the Minister himself included.

But is there any real obstacle to the carrying out of our correspondent's suggestions? Have not the teachers the matter in their own hands? Is there not enough of tact and force in the majority to put down the bores and put up those whom they really desire to hear? Is there any official interference with their freedom in the matter? We ask for information. If, and in as far as the arrangements are taken out of the hands of the teachers and prosy talkers thrust upon them against their will, their rights are infringed upon and the true ends of such meetings lost sight of. We should be glad of a fair expression of opinion on these and all other topics of interest to the profession. It matters not whether we agree with the writers or not. If their communications are written in a proper manner and spirit, we will gladly insert them.

Some teachers are constantly fault-finding. The habit is ruinous to the school. The school is demoralized and the pupils utterly discouraged by the "croaking voice of the continual fault-finder."
—*Iowa Normal Monthly.*

Special.

ELEMENTARY CHEMISTRY.

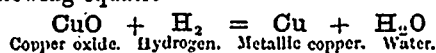
CHAPTER III.—(Continued.)

80. The Hydrogen Harmonicum.

Exp. 13.—Take a glass tube, open at both ends, about one centimetre wide and 30 centimetres long, and slowly pass the jet up into it, the flame is seen suddenly to elongate and a musical note results. The note emitted depends on the diameter and length of the tube, consequently tubes varying in these particulars may be used to produce different sounds. By raising or depressing the tube, the intensity of the sounds may be greatly varied. Ordinary wide mouthed bottles may be used instead of tubes. These musical notes are really a succession of detonations due to the periodic combination of the atmospheric oxygen with the issuing jet of hydrogen, and succeeding each other with such swiftness as to prevent the ear observing the intervals between them. They may be produced by any combustible gas burned in the same way.

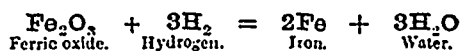
81. Reducing action of Hydrogen.

Exp. 14.—Take a hard-glass tube, about 20 centimetre long and 1 centimetre in diameter, and draw out one end to a moderately wide jet. Place midway in it a thin layer of copper oxide, CuO, connect it by a cork and glass tube with the drying tube, which is itself joined to the generating flask. Generate hydrogen as usual and keep up a steady current through the apparatus. When all the air has been expelled, apply heat to the tube so as to raise the temperature of the copper oxide to a low red heat. The oxide soon begins to glow, and steam issues from the end of the tube, and may be condensed in a cold flask. The lamp may be removed, and when the glowing ceases, the tube is seen to contain a red body, easily identified as metallic copper. The change is expressed by the following equation:—



This reaction has been employed to determine the composition of water by weight.

Iron rust, Fe₂O₃, may be substituted for the copper oxide. Metallic iron will be left in the tube, and in a very fine state of division, in which condition the metal easily takes fire when scattered out of the tube into the air, so rapidly does it combine with the oxygen again. The reaction is expressed by the equation—



OTHER METHODS OF PREPARING HYDROGEN.

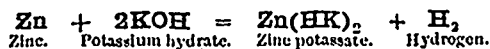
82. By the action of Zinc on Dilute Hydrochloric Acid.

Exp. 15.—Add to a few pieces of granulated zinc, contained in a test-tube, some dilute hydrochloric acid till there is a brisk effervescence. Apply a light to the mouth of the tube, the sharp explosion and the well-known lambent flame show the presence of hydrogen. The reaction is expressed by the equation:—



83. By the action of Zinc on a strong Solution of Potash.

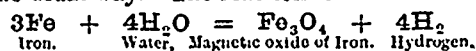
Exp. 16.—Add a little granulated zinc to a strong aqueous solution of caustic potash in a test-tube, to which adapt a cork and delivery-tube. On boiling, a gas will be slowly given off, which may be collected over water in the usual way. Some steam will pass over, but this will condense. On applying a light to a test-tube full of the gas, it will give the well-known flame of hydrogen. The following equation expresses the reaction:—



This method is interesting from its theoretical bearing rather than from any practical utility. But if iron filings are added with the zinc, hydrogen is given off without the application of heat. The zinc dissolves, as above, but not the iron, which forms a galvanic circuit, and thus hastens the solution of the zinc. By this process very pure hydrogen may be prepared.

84. From the Decomposition of Water by Iron at a red heat.

Clean iron turnings or filings, free from rust, are placed in a piece of clean gas-piping, and are heated to low redness in a furnace. The cheapest furnace for this purpose is an ordinary plumber's furnace with holes pierced through its sides. Steam generated from a flask of boiling water is then conducted through the tube, and the liberated hydrogen is collected over water in the usual way. The reaction is—

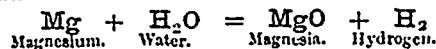


The magnetic oxide of iron produced in this experiment is adherent, and a protection from further rust. Baff's process for preventing articles from rusting, is an application of this principle.

85. From the decomposition of Water by Magnesium.

The preceding experiment, though interesting, is quite a troublesome one. By substituting magnesium for iron the experiment may be conducted in a glass tube, and will be much more satisfactory.

Exp. 17.—Place about 3 feet of magnesium ribbon, in folds, in a hard-glass tube in such a way that the metal touches the glass in a number of points. Draw out one end of the tube to a pretty wide jet, and attach the other to a flask of water. Boil the water in the flask and allow the steam to flow until the air is expelled. Heat the tube sufficiently to prevent condensation at the mouth of the jet. Then heat the metal strongly at the extreme end. After a few moments it takes fire, burning brilliantly, and the escaping hydrogen may be lighted at the jet. It is best to keep the metal quite hot throughout. The reaction is:—



SUMMARY AND ADDITIONAL FACTS.

86. History.—Hydrogen was probably known as early as the sixteenth century, but its true nature was first ascertained by Cavendish in 1766. It was named hydrogen by Lavoisier. It was liquified almost simultaneously and independently by two distinguished physicists, M. Cailletet, of Chatillon-sur-

Seine, and M. Pietet, of Geneva. On January 10th, 1878, Pietet succeeded in liquifying hydrogen by a pressure of 650 atmospheres and at a temperature of -140°C . Cailletet demonstrated its liquification on December 30th, previously. On opening the stopcock, a *steel-blue* colored opaque jet of liquid hydrogen rushed out with a hissing noise, and at the same time a rattling was heard, as if small shot or hail had fallen to the ground. This was caused by the reduction of temperature due to its re-assumption of the gaseous state. It is only therefore an accident of temperature and pressure, that prevents it from possessing the ordinary metallic properties with which we are familiar in lead, silver, or copper. It is simply the vapor of a highly volatile metal.

87. Occurrence.—Hydrogen occurs almost solely in a state of combination in nature, although it has been found in the free state in small quantities, with other gases issuing from volcanoes. Free hydrogen has been found in the sun and other heavenly bodies. As it constitutes one-ninth of water, it is necessarily present in large proportions in all animals and plants. It is a constituent of all acids, and forms an essential portion of nearly all organic substances.

88. Properties.—Hydrogen is a tasteless, colorless, inodorous gas. It is the lightest substance known, being 14.435 times as light as atmospheric air. It burns but does not support ordinary combustion or animal life. In burning, it produces a greater heat than an equal bulk of any known substance. On combining with oxygen to form water, one gram of hydrogen will yield heat enough to raise 34,462 grams of water from 0° to 1°C ., and this is termed its *calorific power*.

Hydrogen is only slightly soluble in water, 100 volumes of the latter dissolving only 1.93 volumes of the former. Some metals absorb hydrogen in large quantities, especially platinum and palladium, the latter taking up no less than 370 volumes of the gas at ordinary temperature. On comparing hydrogen with oxygen, we note their remarkable chemical dissimilarity. Oxygen combines with all the elements except fluorine, whereas the hydrogen compound with fluorine is easily formed, and is of great stability. The combining power between oxygen and the metals is intense, whilst that between hydrogen and the metals is almost nothing.

UNIFORMITY OF TEXT-BOOKS.

Will some one who knows give us three valid arguments in favor of uniformity of text-books in a county or State? Uniformity means that all must use the same books whether they like them or not. All others must be ruled out. There must be only one kind of a geography in a county, and it must be contrary to law to buy or use any other, no matter if the new one is much superior to the one in use. This text-book uniformity, according to law, is one of the most fraudulent humbugs of the present age. Why under the azure blue above us a district cannot be permitted to buy what kind of school books they want, as well as the kind of coffee they wish, we cannot tell. Why not, under plea of cheapness, legislate concerning the kind of cloth men should buy for coats? If a law of cloth-uniformity should be carried into effect, it would wonderfully cheapen garments.

The greatest objection to State or county uniformity is the danger

of jobs. It turns a large amount of money into somebody's till, and when a golden prize is offered it is human nature to try to get it, honestly if possible—but *get it*. We commend our brethren to the history of the text book law in Minnesota. Let them send a commission there and inquire and learn wisdom.

We are living in an era of law hallucination. It seems to be believed that a law may be made the end of all evil. Does the Kansas prohibition law do away with the drinking of liquor? We believe in prohibition, but the law should follow public sentiment. It never will and never can go before it and do any good. Regeneration by law is an exploded dogma. Underneath law there must be a deep current of popular consent.

It is not believed by the best teachers that it is best to turn out all series except one from the schools. Five kinds of geographies are better than one, if the teacher knows how to teach. Uniformity and text-book cramming generally go hand in hand. "Learn this book!" is the language of an old-time teacher, but a live teacher says "Bring in all the books you have, old and new, good and bad, let us have a collection. It is a poor book, indeed, that contains no good things. Our lesson in arithmetic to-morrow will be cube root. See how the authors explain it, and extract the roots of five numbers each containing not less than eight figures." In the geography class this teacher says: "Bring in all the geographies you have. Our lesson to-morrow will be England. Find out three facts concerning each of the cities of London, Liverpool, and York. You may also make a map of England on paper, drawing all the rivers and locating correctly ten principal cities." This is a "live" lesson and given by a live teacher, and the pupils in that school will soon learn to "investigate for themselves." But turn out all the geographies except one, fence up the county, and light is kept away. The doctrine is a wrong one.

We live in an age of excellent text-books, and our pupils want to get the best, and these are usually the latest. Some cry out on account of expense. Well, what if it does cost a little more than the old foggy plan of uniformity for a decade? Is there not benefit enough to pay for the extra money expended? *Our text-books are the cheapest books in the market*, and they are growing yearly cheaper.

Does not the farmer get a new reaper as soon as he sees one that saves more labor than the old one? How about plows, and harvesters, and churns, and stoves, and a thousand other things? The newest are sold by the thousand if they are the best. The farmer grumbles because he has to buy new text-books for Sally when the old ones were good enough for her sisters Sarah and Jane, before they were married. He growls and says: "Use your old books"; but this same farmer goes to town the *same day*, and buys a new cultivator, when he has half a dozen old ones knocking around the farm. He appreciates a new machine, but he has no sort of reverence for a new school book. We trust our law makers will have wisdom given them to let the people buy what books they please.—*N. Y. School Journal*.

Literary Review.

A PRIMER BY STICKENS, Published by Ginn & Co., Boston. Our attention has been called to a new Manual for children, based on a departure in several places from the beaten track of the well-trod "Primer Road." The Author seeks by means of known words, pictures, music, and old time-honored nursery rhymes, to make the acquiring of learning much more simple for our young folks. There is certainly much to be said in favor of the plans adopted, especially in the attempts to follow the more natural plan of childish thought. We heartily commend it to our Junior Form teachers, and a careful perusal of the preliminary pages, will amply repay them for the trouble.

The mere artistic appearance of the pictures is a great feature in advance.

Examination Papers.

EDUCATION DEPARTMENT, ONTARIO.—JULY EXAMINATIONS, 1885.

FIRST CLASS TEACHERS—GRADES A AND B.

ROMEO AND JULIET.

Examiner—J. E. Hodgson, M.A.

1. Define the dramatic unities and examine Shakespeare's observance of them in his *Romeo and Juliet*.

Jul. Wilt thou be gone? it is not yet near day:
It was the nightingale, and not the lark,
That pierc'd the fearful hollow of thine ear;
Nightly she sings on yon pomegranate tree:
Believe me, love, it was the nightingale.

Rom. It was the lark, the herald of the morn.
No nightingale: look, love, what envious streaks
Do lace the severing clouds in yonder east:
Night's candles are burnt out, and jocund day
Stands tip-toe on the misty mountain tops.
I must be gone and live, or stay and die.

Jul. Yon light is not day-light, I know it, I:
It is some meteor that the sun exhales,
To be to thee this night a torch-bearer,
And light thee on thy way to Mantua:
Therefore stay yet,—thou need'st not to be gone.

Rom. Let me be ta'en, let me be put to death;
I am content, so thou wilt have it so.

I'll say you grey is not the morning's eye,
'Tis but the pale reflex of Cynthia's brow;
Nor that is not the lark, whose notes do beat
The vaulty heaven so high above our heads.
I have more care to stay, than will to go:
Come, death, and welcome! Juliet will it so.
How is 't, my soul? let's talk, it is not day.

- (a) Discuss the literary form of this extract.
(b) Point out the figures of speech and explain their force and propriety.
(c) Write a note on Shakespeare's use of "thou" and "you."
(d) Explain: "Reflex of Cynthia's brow." "I have more care to stay, than will to go." "The fearful hollow of thine ear."
3. It has been pointed out that the first three acts of this drama are characterized by flaws, as compared with the last two. Illustrate and account for this.
4. "It is a young man's tragedy in which love and youth are brought face to face with hatred and death." Criticize.
5. Quote from the play passages that you deem worthy of remembrance. Give reasons for your preference.
6. Assign each of the following speeches to its proper character and give the context:—
(a) "Who set this ancient quarrel now abroad?"
(b) "O, then, I see, Queen Mab has been with you."
(c) "The clock struck nine when I did send the nurse."
(d) "But Mantua's law
Is death to any he that utters them."
(e) "The sun for sorrow will not show his head."

ADDISON AND MACAULAY.

Examiner—J. E. Hodgson, M.A.

1. Write a short account of the life and times of Addison, from a literary standpoint.
2. Quote from the Prologue to the Satires, Pope's estimate of Addison. Characterize its justness.
3. Give the substance of the Vision of Mirzah.
4. Enumerate some of the excellences and defects of Macaulay's work as an essayist.
5. Addison gave the play to the managers of Drury-lane theatre, without stipulating for any advantage to himself. They, therefore,

thought themselves bound to spare no cost in scenery and dresses. The decorations, it is true, would not have pleased the skilful eye of Mr. Mauready. Juba's waistcoat blazed with gold lace; Marcia's hoop was worthy of a duchess on the birthday; and Cato wore a wig worth fifty guineas. The prologue was written by Pope, and is undoubtedly a dignified and spirited composition. The part of the hero was excellently played by Booth. Steele undertook to pack a house. The boxes were in a blaze with the stars of the peers in opposition. The pit was crowded with attentive and friendly listeners from the inns of court and the literary coffee-houses. Sir Gilbert Heathcote, governor of the Bank of England, was at the head of a powerful body of auxiliaries from the city;—warm men and true whigs, but better known at Jonathan's and Garraway's than in the haunts of wits and critics.

Examine as to how far the above conforms to, or violates, the rules laid down for the construction of the paragraph.

6. Compare the styles of Addison and Macaulay with regard to grace, humor, pathos, clearness, strength.

ENGLISH GRAMMAR AND HISTORY OF ENGLISH LITERATURE.

Examiner—John Seath, B.A.

NOTE.—Answers to be as concise as possible.

1. Write notes, with illustrations, on the important points in the history of the English Language, under the following heads:—
I. The characteristics of Old English (or Anglo-Saxon). II. The influence upon Old English of (1) Celtic; (2) the Latin of the Roman missionaries, and (3) Danish. III. The characteristics of English at the Norman Conquest. IV. The influence of Norman French on (1) the Inflections; (2) the Vocabulary; (3) the Word-formation; (4) the Pronunciation; and (5) the Syntax, of Old English. V. The chief characteristics of Early and of Middle English. VI. The rise of Modern English—Chaucer and the East Midland dialect. VII. Character of the changes in English since Chaucer's time in (1) Inflections; (2) Vocabulary; (3) Pronunciation; (4) Word-formation; and (5) Syntax. VIII. The influences at work on the language-forms of Modern English.
2. Illustrate, as fully as you can, the influence upon our vocabulary, of (1) the Principle of Enso; (2) Emphasis, and (3) Analogy.
3. Classify the qualities of style under the following heads:—
I. Intellectual Qualities (that is, those that effect the understanding); II. Emotional Qualities (that is, those that affect the feelings); III. Elegancies. Illustrate each quality by reference to writers with whose works you are acquainted.
4. Give a list of the influences that affected English Literature from the time of Chaucer till the end of the reign of James I., naming those writers that seem to you to be the most marked products of their times, and assigning reasons for your choice.

ENGLISH AND CANADIAN HISTORY.

Examiner—Jas. F. White.

NOTE.—Five questions will be counted a full paper.

1. Give a sketch of England under Elizabeth, dealing with the social condition, the literary activity, the trade and wealth of the country and the personal supremacy of the sovereign.
2. Trace the growth of Ministerial Responsibility, individual and collective, referring especially to the Royal Council, Temple's Scheme, and Sunderland's Plan.
3. Sketch the character and policy of Edward Hyde, Earl of Clarendon, showing the faults of his administration, and the grounds of his impeachment.
4. What are the leading provisions of the Declaration of Rights and the Bill of Rights? Show the circumstances that led to the passing of the latter, and examine its bearing upon the legal powers of the Crown, and the privileges of Parliament and people.
5. Give a concise account of the System of French Government of Canada, commenting upon the important changes made, and describing the functions of the chief officers and the state of the administration of justice.
6. Write a paper on the trade and industries of the colony under the French regime, noting the efforts of the several French Ministers for their development, and the results.

Practical Department.

A TEACHER'S WEAKNESS.

Nothing can be more unwise than for a teacher to fly into a passion in the presence of his pupils. Such folly is disastrous to good government, and nearly always ends in mortification and self abasement to the teacher, who is deserving of all the humiliation he thus brings on himself. The following laughable incident describes the embarrassing position in which a teacher placed himself by not bridling his tongue when he should have done so :

"I left my pencil lying on my desk a moment ago," said an irritable teacher in one of our city schools. "I cannot find it now."

Nothing was said by the pupils.

"I am very sure I left it right here," said the teacher, hastily turning over the books and papers on his desk.

"Perhaps it is in one of your desk-drawers," suggested a pupil.

All the drawers are pulled out angrily.

"No, it isn't here; I know it wasn't. I left it right on this desk just before this class came up to recite," was the frowning reply, in which was conveyed the delicate insinuation that some member of the class had taken the pencil.

The teacher searches again in all his pockets and says sharply,—

"I'm positive that some one in this room knows where that pencil is. I want it returned to this desk immediately."

No one moves.

"I will have that pencil again if I have to search every desk in this room. Have you got it, Harry Johnson?"

Because Harry Johnson was the most mischievous boy in school was a poor excuse for the teacher's accusing question, and it was little wonder the boy angrily replied,—

"No, sir; I haven't."

"Well, some one has, and that's all there is about it. And it has been deliberately stolen from this desk."

At that moment a grinning little urchin held up his hand.

"If you please, teacher, the pencil is sticking behind your ear."

But the teacher lost that day what he could never find again—the respect of his pupils.—*Central School Journal.*

CROOKED ANSWERS.

School children become possessed of many singular and amusing ideas. Here are some in the form of answers to questions asked by their teachers :

"Describe the heart."

"It is a comical shaped bag."

"What is a volcano?"

"A volcano is a large mountain with a hole at the top and a fire place at the bottom, and sometimes the fire comes out at the top, and destroys cities at the bottom, if there are any."

"Mention any occupation considered injurious to health."

"Occupations which are injurious to health are carbolic acid gas, which is impure blood."

"Is a bootmaker's trade injurious to health?"

"Yes, very injurious; because the bootmakers press the boots against the thorax, and, therefore, it presses the thorax in, and it touches the heart, and if they do not die, they are cripples for life."

"What is the feminine of goose?"

"Ganderess."

"Where was Bishop Latimer burned to death?"

"In the fire."

Another pupil writes,—

"When food is swallowed it passes through the windpipe and the chylo passes up through the backbone, and reaches the heart, where it meets the oxygen, and is purified."

HOW NOT TO DO IT.

The following are a few of the unscientific and inartistic methods characteristic of too much of our "school-keeping":

1. A blind adherence to the text-book in use.
 2. The verbatim recitation of memorized lessons, without reference to ideas.
 3. The failure to aid pupils in thinking by suitable explanations.
 4. Telling everything in advance, and giving pupils no chance to find out anything for themselves.
 5. In arithmetic, requiring the logic of problems before thorough training in adding, subtracting, multiplying, and dividing numbers. In wasting time on technical "school-masterisms" instead of concentrating the attention upon essentials.
 6. In grammar, by requiring definitions, parsing, conjugations, and rules of syntax before practice in sentence-making.
 7. In geography, by memorizing the answers to a multitude of map questions, to which the child attaches no correct notions, before laying a foundation of ideas drawn from a personal observation of local surroundings.
 8. In history, by memorizing useless particulars before taking leading events.
 9. In botany, by taking books before plants.
 10. In physics, by taking text-book statements and omitting experiments.
 11. In reading, by training children to call words which convey to their minds no correct ideas.
 12. In drawing, by drudging upon lines, angles and geometrical forms, before the delineation of common and interesting objects.
- In view of the charlatanism and empiricism to be found both in courses of study and methods of instruction, we may well be tolerant of the opinions of those who assert that there is, as yet, in our common schools neither an art nor a science of teaching.—*Swett.*

A SHORT MULTIPLICATION TABLE.

The multiplication table looks very long to the child who is trying to learn it. I remember how very, very hard it seemed to me, and how my father encouraged me by writing it in a short way. His device was to make the "rows" begin as follows :

"2 times 2"—"3 times 3"—"4 times 4"—and so on, the last rows commencing, "11 times 11"—"12 times 12."

It will be seen that the table thus written is shortened one-half.

Teachers, take a sheet of paper and write the table for Ole, and Mike, and Christine, and ask them to carry it home and learn it for fun.—*School Education.*

DRAWING.

BY WILLIAM BURNS, DRAWING MASTER, HIGH SCHOOL, BRAMPTON.

(The Editor of this Department will be glad to answer questions for information addressed to him in care of the SCHOOL JOURNAL.)

IV.

In addition to the right line figures mentioned in our last paper, there are several others to which the pupil's attention should be carefully drawn, and not only the figures themselves made, but their practical differences perfectly understood. Such are the different

forms of triangle, rectangle, parallelogram, oblong. Let the teacher use these figures, also, to explain the points of difference as well of agreement in them. In many of our Drawing-books in use these figures and their names are given, and thus it becomes mere book-learning. We cannot too earnestly impress on younger teachers of this subject, always to refer every form to some practical illustration of it in the child's surroundings. Take a slate, for example. How much more a pupil will understand in regard to a "rectangular parallelogram" than by any mere verbal definition.

The next group of work may be readily combined with the former, viz.: Mouldings or borderings, the first being raised or depressed ornament; the second, colored ornament on a flat surface. Let these always be drawn five or six times as long as broad, and be surrounded at a distance of about one-fourth of an inch by heavier lines, to throw up the picture more plainly. The simplest forms are the zigzag, simple and double, and the Greek fret, simple and compound. It may interest the class to explain how the curved line was commonly used by our Celtic ancestors, and the straight line by the Greeks, in the ornament placed round their long robes, &c. To draw the simple zigzag.—Draw two parallel lines about an inch apart, and six inches in length, then divide this into squares of one inch side. Bisect the upper and lower sides of these squares, and join the points of bisection with the opposite angular points of the square. This may be modified by making parallelograms of $1\frac{1}{2}$ inches or three-quarters of an inch in horizontal side. Next draw lines parallel to these diagonal ones, at about one-eighth of an inch on each side. These will produce a "lattice-work" ornament, and the pupils may be required to represent the lattices as crossing from R. to L., or from L. to R. Only be sure that they all cross in one direction and do not commit the absurd error of alternating in the crossing. The Greek fret is simplest drawn by making a square as before, then dividing it into 16 small squares by parallel lines. Let us suppose these points numbered vertically from 1 to 25. Join points 13, 12 and 12, 17 each covering one side of a square—next join 7, 9 and 9, 19 each covering two sides of squares, then join 19, 16 and 16, 1 each covering three sides of squares, and lastly 1 to 5 will complete a pattern. This can be repeated as often as liked, by commencing again at 2, 25 and so on. Many other combinations of these can be devised or copied by any one. The "Triangle Moulding," made by placing triangles in the half-squares alternately with the vertex downward as given in Walker Smith's Manual, is also a very suitable exercise for pupils. A very good exercise to test neatness of drawing may be given by asking the pupils to draw, as it were, a picture frame in the middle of the page, then to cover this frame with an ornament slightly different on each side; and within it to place the initials of the pupil, or those of the school in form of an involved monogram. This is always interesting to children, and we have seen some really remarkable specimens of youthful ingenuity, after a teacher had shown how to do his own monogram either in rustic letters, made of branches of trees, or broken pieces of wood, or any other little variety of that sort of device which will readily occur to an interested mind.

Exercise.—Draw two lines parallel and at 2 inches apart, 7 inches in length, divide (as far as possible) into squares. Within first square place a single zigzag, within the next a "lattice," and in remainder a Greek fret.

The true teacher is a character former as well as an instructor in the branches. A true character is the highest ideal. A truthful, honest, industrious man or woman is a high type of the best civilization.—*J. M. Greenwood, Supt. Schools, Kansas City.*

The teacher needs an iron will. The teachers of wavering will cannot give decision and firmness to the characters of the children under his training. True success in the school-room is attained only by those teachers who possess unwavering decision of character.—*The Iowa Normal Monthly.*

Educational Notes and News.

Perth county model school has an attendance of seventy-eight teachers in training.

Jas. W. Morgan, principal of St. Helens public school, Huron County, is at present attending Hamilton Training Institute.

Mr. Neil McEachern, the new principal of the Shelburne Public School, has entered upon the work.

Mr. McDougall, honor graduate of Toronto, is the new mathematical master in Kincardine high school—salary \$800.

Mr. R. Stothers has been re-engaged in Holyrood school, County of Bruce, at \$480.

Miss Rose, of Woodstock, at present in Chicago, has been appointed by the Presbyterian Church to take charge of a mission school on Chief Pia-a-pot's reserve, near Regina.

Mr. V. G. Fowler was appointed assistant high school teacher of Caledonia, but after going there he was barred by the new regulation requiring a course at the training school.

The new model school at Bracebridge was opened on the 8th instant. Mr. Greenlees is to be the teacher at a salary of \$225 for the term.

Dr. Morrison, formerly principal of the Walkerton High School, has been appointed Professor of Chemistry, Toxicology and Metallurgy, in the U. S. National University at Washington, D. C.

The Sarnia Board of Education has decided to request the Mayor and Town Council to levy a tax of \$7,314 on the ratepayers of the town for the maintenance of the High and Public Schools for 1886.

Those who have children attending school have learned the cost of Hon. G. W. Ross' control of the Education Department by paying 10 cents for a book that can be produced for $2\frac{1}{2}$ cents, and 50 for a book that can be produced for 15.—*Kincardine Standard.*

The Cayuga High School is prospering. An increased attendance, a building repaired and improved, and a good degree of enthusiasm in trustees, teachers, and pupils argue well for its success. The Board and the Head-master, wisely or unwisely, now offer eight prizes to be competed for next midsummer.

Mr. A. C. Lawson, M.A., a former student of the Hamilton Collegiate Institute, has written a very interesting paper on "Ancient Rock Inscriptions in the Lake of the Woods," which has been published in the *American Naturalist*. The illustrations were obtained in the leisure time at the disposal of Mr. Lawson, while prosecuting a geological survey of the Lake of the Woods last summer.

Several changes have been made in the staff of the Caledonia Schools. Mr. R. C. Cheswright has been transferred from the Model School to take the place of Mr. Elliott as Mathematical Master, the latter going to University College, Toronto. Mr. Robert Moir, of Hensall, has been appointed second assistant. In the Model School Mr. Rowat, formerly of Kingston, takes Mr. Cheswright's place, and Mr. Coutts takes the position of assistant during the Model School term. The people of Caledonia are deservedly proud of the record of these schools.

A TEACHER FINED.—Mr. Cairns, school teacher, Dutton, was arraigned before J. P. McIntyre, at Wallacetown, yesterday evening for unmercifully punishing a young son of Mr. Chapman. The teacher was fined \$2 and cost, in all \$7.50.

Our Dutton correspondent thus explains the affair:—On Monday evening Mr. Cairns, principal of the public school, Dutton, punished with moderate severity the twelve-year-old son of Mr. Chapman, shoemaker. During the struggle (for young Chapman struggled like a wild cat), the boy's head struck against the form, and he received a black eye. Chapman senior, thereupon, entered a complaint before L. W. McIntyre, J. P., of Wallacetown. The trial came off last evening and Cairns was fined \$2 and costs. The case will likely be appealed.—*St. Thomas Journal, Oct. 1, 1885.*

Mr. James C. Black, who was engaged to take charge of the senior department of the Wallacetown school, has found out that he cannot leave his present position. The trustees have hired Mr. Knox, of Collingwood, for the rest of the year.

Mr. James O. Black has been engaged by the Wallacetown School

Board to succeed Mr. A. J. McKillop, who leaves Oct. 1st to commence the study of the medical profession.—W. A. Milne, Lucknow, succeeds Mr. D. A. Grant in S. S. No. 2, Aldborough.—Mr. N. A. Buchner, a student of St. Thomas Collegiate Institute, last term, has been awarded a second class certificate.—Mr. D. A. Grant took charge of Sparta school this morning.—Three additional certificates have been awarded pupils of the Aylmer High School:—Essie McLachlan, second B; Olive Bancroft, third; Grace Peacock, third; making, in all, sixteen seconds and eleven thirds.—*St. Thomas Journal.*

Ex-President White, of Cornell, will retain a residence at the university, the trustees having executed to him a long lease of the house he built on the college grounds a few years after the institution was built in 1868. Concerning Dr. White's success, the Board of Regents of Michigan University passed the following resolution: "That in accepting the resignation of Prof. Adams, the Board desires to congratulate him upon his well-deserved promotion to the high and responsible office of President of Cornell University, and also to recognize fully the great obligation of this university to him for his long and faithful services here, and also to wish him in future that great measure of success which his great abilities and eminent position seem surely to promise.

Mr. Whotham, late fellow in modern languages, University College, has been appointed to a fellowship in romance languages at Johns Hopkins University, Baltimore. Mr. Milton Haight, mathematical medallist of the University of Toronto, and late mathematical master of Port Hope High School, is about to enter upon a post-graduate course of mathematical study at Johns Hopkins also. Mr. Robert Balmer, medallist in modern languages of University College, and late modern language master of Galt Collegiate Institute, has just returned from a year's study of the romance languages in Paris, France. Mr. Squair, tutor in French, University College, has also just returned from his annual summer tour in France and Italy, whither he went to perfect his knowledge of French and Italian. These activities on the part of our more earnest young educators, show that the pursuit of culture has a more than ordinary interest for the latter graduates of our Provincial University.—*St. Thomas Journal.*

On Tuesday morning Mr. J. M. Martin, for five years teacher at Park Corner, New London, crossed on the *Princess*, en route to McGill College, Montreal, where he will study medicine. Previous to his going he was entertained at social parties at the residences of Mr. G. T. Marsh and Mrs. D. Montgomery. On Wednesday evening last he was entertained at a sumptuous supper at Mr. H. A. Leslie's Kensington, and was presented with an address signed by the trustees, the clergy, and about fifty other prominent residents. No better testimonial to Mr. Martin's character can be needed than the fact that the school children were most deeply affected at his departure. For five years he has been a conscientious and painstaking teacher, and an upright and honorable member of society, and his going is a great loss to the people of Park Corner. In his new field of endeavor we wish him well.—*Summerside, P. E. I., Journal.*

Prof. Haslam, in his address to the North Canterbury Educational Institute, tells a story to show that in the colonies, no less than in England, it is idle to trust to home teaching for the moral training of children:—"A class of children of fairly well-to-do parents were reading the story of Sir Philip Sydney—how he took the cup of water from his own parched lips and gave it to the wounded soldier, saying, 'His necessity is greater than mine.' The first comment made immediately on the conclusion of the story was, 'Please, teacher, what did he get for it?' Very apposite, too, is Professor Haslam's rejoinder to the Premier's argument that New Zealand children were taught morality inasmuch as they were taught to obey. "At that rate our soldiers and sailors ought to be the most moral men in the world, for there is no school where obedience is so strictly taught as it is in the army and navy."—*London Journal of Education.*

The school board in Plainville, after a long wrangle, broke a deadlock, a few days ago, by adopting a resolution not to hire any school teacher who would not make a written agreement not to get married during the school year; this, because of worry caused by some of them having married and resigned in the middle of terms. The women teachers have all flatly refused to accept of these conditions, and school cannot "keep" until this new and peculiar strike is settled. One of the members of the school board says that the board simply want all who are going to get married to do it

now, before the school year begins, as the board are sick of having love-sick "engaged" teachers; and then they want all who are not now engaged, but who become so, to put off marriage till the end of the school year. But the women teachers squarely refuse to submit to any restrictions whatever on the subject of love, courting, or marriage.—*N. E. Journal of Education.*

Here are some gems of answers given by candidates at the recent teachers' examinations in England:—

One examinee, being asked to name some portions of Shakespeare suitable for school lessons, replies by mentioning "Marmion" and "The Lady of the Lake." This is matched by the profound knowledge of natural history evinced by another, who enumerates "scorpions" among birds of prey. According to one of the revisers of the papers in arithmetic, the following are some of the "flowers that should not be left to blush unseen":—"Præmium is a sum paid by a 1st to a 2nd for a 3rd generally." "A complex fraction consists of several different rules in arithmetic sometimes." "A fraction of a number is the least part less than a farthing." "A fraction is an equal part of a whole thing." "A fraction is simply one number placed over another with a line between them." "Gain or loss p. c. means the gain or loss multiplied by 100 and divided by the cost price." "The denominator tells us into how many parts the fraction or unit is divided." Here is a delightful specimen of lucidity which ought not to be lost:—"To convert a recurring decimal into a vulgar fraction; for every figure that does recur add a 9, and those that do not recur subtract from those that do, and instead of a 9 put an ought." "And yet," remarks the examiner, "the authoress of this delightful jumble converted all three examples with perfect accuracy."

For Friday Afternoons.

THE DEACON'S ONE-HOSS-SHAY.

Logic is logic. We well remember, and we dare say most of our readers can do the same, having often in our school-boy days puzzled over the problem which is the inspiration of the following well-known poem. When a prop or structure of any kind gives way under pressure, it must, of course, yield first at the weakest point. Now suppose—and we may suppose anything in logic or mathematics—suppose there is no weakest point, how can any such thing ever begin to give way at all? We had never then seen Oliver Wendell Holmes' solution of the question. It is no doubt familiar to most of our readers, but will repay reading again, and is a good extract for a Friday afternoon's recitation.

THE DEACON'S MASTERPIECE.

Have you heard of the wonderful one-hoss-shay,
That was built in such a wonderful way
It ran a hundred years to a day,
And then, of a sudden, it—ah, but stay,
I'll tell you what happen'd without delay,
Scaring the parson into fits,
Frightening people out of their wits,—
Have you ever heard of that, I say?

First of November.—the Earthquake-day.—
There are traces of age in the one-hoss-shay,
A general flavor of mild decay,
But nothing local, as one may say.
Seventeen hundred and fifty-five,
Georgius Secundus was then alive,—
Snuffly old drone from the German hive!
That was the year when Lisbon-town
Saw the earth open and gulp her down,
Left without a scalp to its crown.
It was on the terrible Earthquake-day
That the Deacon finished the one-hoss-shay.
Now, in the building of chaises, I'll tell you what,
There is always somewhere a weakest spot,—
In hub, tire, fellow, in spring or thill,
In panel, or crossbar, or floor or sill,
In screw, bolt, thoroughbrace—lurking still
Find it somewhere, you must and will,—

Above or below, or within or without,—
 And that's the reason, beyond a doubt,
 A chaise *breaks down*, but doesn't wear out.
 But the Deacon swore (as Deacons do,
 With an "I dew vum," or an "I tell yeou,"
 He would build one shay to beat the town
 'n' the keounty 'n' all the kentry raoun';
 It should be so built that it *couldn'* break down;
 —"Fur," said the Deacon, "'tis mighty plain
 That the weakes' place mus' stan' the strain;
 'n' the way t' fix it, uz I maintain,
 Is only jest

To make that place uz strong uz the rest."
 So the Deacon inquired of the village folk
 Where he could find the strongest oak,
 That couldn't be split nor bent nor broke,—
 That was for spokes and floor and sills;
 He sent for lancewood to make the thills;
 The crossbar were ash, from the straightest trees;
 The panels of white-wood, that cuts like cheese,
 But lasts like iron for things like 'ese;
 The hubs of logs from the "Settler's ellum,"—
 Last of its timber,—they couldn't sell 'em,—
 Never an axe had seen their chips,
 And the wedges flew from between their lips,
 Their blunt ends frizzled like celery tips;
 Step and prop-iron, bolt and screw,
 Spring, tire, axle, and linchpin too,
 Steel of the finest, bright and blue;
 Thoroughbrace bison-skin, thick and wide;
 Boot, top, dasher, from tough old hide
 Found in the pit when the tanner died.

"There!" said the Deacon, "naow she'll dew!"
 Do! I tell you, I rather guess
 She was a wonder, and nothing less!
 Colts grew horses, beards turn'd grey,
 Deacon and deaconess dropp'd away,
 Children and grand-children where were they?
 But there stood the stout old one-hoss-shay
 As fresh as on Lisbon-earthquake-day!

Eighteen hundred;—it came and found
 The Deacon's Masterpiece strong and sound.
Eighteen hundred increased by ten:—
 "Hahnsum kerridge" they called it then.
Eighteen hundred and twenty came:—
 Running as usual; much the same.
 Thirty and forty at last arrive,
 And then come fifty, and *fifty-five*.

Little of all we value here
 Wakes on the morn of its hundredth year
 Without both feeling and looking queer.
 In fact, there's nothing that keeps its youth,
 So far as I know, but a tree and truth.
 (This is a moral that runs at large;
 Take it.—You're welcome.—No extra charge.)

There couldn't be—for the Deacon's art
 Had made it so like in every part
 That there wasn't a chance for one to start,
 For the wheels were just as strong as the thill,
 And the floor was just as strong as the sill,
 And the panels just as strong as the floor,
 And the whippetree neither less nor more,
 And the back-crossbar as strong as the fore,
 And spring and axle and hub *encore*.
 And yet, as a whole, it is past a doubt
 In another hour it will be worn out!

First of November, 'Fifty-five;
 This morning the Parson takes a drive.
 Now, small boys, get out of the way!
 Here comes the wonderful one-hoss-shay.
 Drawn by a rat-tail'd, ewe-necked bay.
 "Huddup!" said the parson.—Off went they.

The parson was working his Sunday's text,—
 He had got to *fifthy*, and stop'd perplex'd

At what the—Moses—was coming next.
 All at once the horse stood still,
 Close by the meet'n'-house on the hill.
 —First a shiver, and then a thrill,
 Then something decidedly like a spill,—
 And the parson was sitting upon a rock.
 At half-past nine, by the meet'n'-house clock,—
 Just the hour of the earth-quake shock!
 —What do you think the parson found,
 When he got up and stared around?
 The poor old chaise in a heap or mound,
 As if it had been to the mill and ground!
 You see, of course, if you're not a dunce,
 How it went to pieces all at once,—
 All at once, and nothing first,—
 Just as bubbles do when they burst.
 End of the wonderful one-hoss-shay.
 Logic is logic. That's all I say.

BEING A BOY.

One of the best things in the world to be is a boy; it requires no experience, though it needs some practice to be a good one. The disadvantage of the position is that he does not last long enough. It is soon over. Just as you get used to being a boy, you have to be something else, with a good deal more work to do and not half so much fun. And yet every boy is anxious to be a man, and is very uneasy with the restrictions that are put upon him as a boy. There are so many bright spots in the life of a farm boy that I sometimes think I should like to live the life over again. I should be almost willing to be a girl if it were not for the chores. There is great comfort to a boy in the amount of work he can get rid of doing. It is sometimes astonishing how slowly he can go on an errand. Perhaps he couldn't explain, himself, why, when he is sent to the neighbor's after yeast, he stops to stone the frogs. He is not exactly cruel, but he wants to see if he can hit 'em. It is a curious fact about boys, that two will be a great deal slower in doing anything than one. Boys have a great power of helping each other do nothing.

But say what you will about the general usefulness of boys, a farm without a boy would very soon come to grief. He is always in demand. In the first place, he has to do all the errands, go to the store, the post-office, and to carry all sort of messages. He would like to have as many legs as a wheel has spokes, and rotate about in the same way. This he sometimes tries to do, and people who have seen him "turning cart-wheels" along the side of the road have supposed he was amusing himself and idling his time. He was only trying to invent a new mode of locomotion; so that he could economise his legs, and do his errands with greater dispatch. Leap-frog is one of his methods of getting over the ground quickly. He has a natural genius for combining pleasure with business.—
Charles Dudley Warner.

THE DYING STREET ARAB.

It knows what you mean, I'm a-dyin'—
 Well, I ain't no worse nor the rest;
 'Taint them as does nothin' but prayin',
 I reckon, as is the best.

I ain't had no father nor mother
 A-tellin' me wrong from the right;
 The streets ain't the place—is it, parson?—
 For sayin' your prayers of a night.

I never knowed who was my father,
 And mother, she died long ago;
 The folks here they brought me up somehow—
 It ain't much they've teach'd me, I know.

Yet I think they'll be sorry, and miss me,
When took right away from this here;
For sometimes I catches them slyly
A-wipin' away of a tear.

And they says as they hopes I'll get better;
I can't be no worse when I'm dead;
I ain't had so jolly a time on't—
A-dyin' by inches for bread.

I've stood in them streets precious often,
When the wet's been a-pourin' down,
And I ain't had so much as a mouthful,
Nor never so much as a "brown."

I've looked in them shops with the windors
Chokeful of what's tidy to eat.
And I ve heerd gents a-larfin' and talkin'
While I drops like a dorg at their feet.

But it's kind on you, sir, to sit by me;
I ain't now afeerd o' your face;
And I hopes, if it's true as you tells me,
We'll meet in that t'other place.

I hopes as you'll come when it's over,
And talk to them here in the court;
They'll mind what you says, you're a parson;
There won't be no larkin' nor sport.

You'll tell them as how I died happy,
And hopin' to see them agam;
That I'm gone to that land where the weary
Is freed of his trouble and pain.

Now open that book as you give me—
I feels as it never tells lies—
And read me them words—you know, gov'nor—
As is good for a chap when he dies.

There, give me your hand, sir, and thank'ee
For the good as you've done a poor lad
Who knows, had they teached me some better,
I mighn't have growed up so bad.

Matthias Barr, Night and Day.

Correspondence.

To the Editor of the CANADA SCHOOL JOURNAL.

SIR,—As we teachers are compelled to attend our County Associations, I think it is time to take some steps toward revising our almost stereotyped programme. What will benefit us most materially is the paramount question.

How much real benefit do we get from a thirty minute exhibition of practical (?) teaching?

How much longer are we to sit in "admirable dumb," listening to the rapid nonsense and general 'taffy' exchanged by the literary 'big-bugs,' not to mention the 'logical' disputations that frequently take place, calculated to impress on the common herd the bigness of the debaters? We must not presume to differ with such autocrats, and their views must be taken as *ex cathedra*, not *cum grano salis*.

We want information about the mind, its faculties and the order and method of their development—the educative power of the various branches of study, the proper time to introduce these subjects, the motive powers in moral education, in short, more knowledge of the factors that tend to develop manhood, moral, physical and intellectual.

We want free discussion on the use of examinations, the merits and demerits of our text-books, especially the advanced readers, and on any vital questions.

Yours,

TEACHER FOR FIVE YEARS.

Literary Gossip.

Professor Mommsen is at Brussels, and is hard at work at his *Corpus Inscriptionum Romanarum*.

The new edition of Miss Edna Dean Proctor's poems will contain "El Mahdi to the Tribes of the Soudan," and other of her later writings.

Of the new biographies to be published this Autumn none promises to be more interesting than "The Life and Letters of Louis Agassiz," announced by Houghton, Mifflin and Co.

Harper & Brothers, New York, have issued a new volume of Will Carleton's poetical works, entitled, *City Ballads*. His unique books now consist of "Farm Ballads," "Farm Legends," "Farm Festivals," and "City Ballads."

Ella S. Leonard and Caroline G. Lingle, two graduates of Vassar, have purchased the Atlantic Highlands *Independent*. They will edit and publish the paper jointly.

Half a million dollars were expended in connection with the library of the British Museum in 1884.

Dr. D. G. Brinton, of Philadelphia, has now in press Vol. VI of his *Library of Aboriginal American Literature*, being "The Annals of the Cackchiquels," written by a native about 1560, and hitherto unprinted.

Professor Huxley's ill health has obliged him to resign all his appointments in England. He will hereafter reside altogether in Italy. The English government will allow him a pension of £1,200 a year.

Mr. Stopford Brooke, Mr. Saintsbury, Mr. Gosse and Professor Dowden, have been engaged by the house of Macmillan & Co., to write a joint history of English literature, each to cover the field to which each has devoted special attention. The work will be in four volumes.

Tennyson's forthcoming new volume (Macmillan & Co.), will contain several poems that have not before been published.

"Two Thousand Years Ago," or "The Adventures of a Roman Boy," is the attractive title of a work for children, representing the last days of the Roman Republic by Prof. Church.

Question Drawer.

QUESTIONS.

What are the best *text-books* on the following subjects for a student preparing Second Class work without a teacher, viz.: Chemistry, Drawing, and Book-keeping? MAC.

What is the object of suspect, as used in the third stanza of "An Incident at Ratisbon." M. L. F.
Brockville.

ANSWERS.

MAC. — For Chemistry, the papers edited by Dr. Kirkland, Principal of the Normal School, Toronto, and now being published from week to week in the CANADA SCHOOL JOURNAL, are no doubt the best for your purpose.

For Drawing, the authorized series of drawing books, or Walter Smith's Manual.
Gage's Standard Book-keeping is, we think, generally used.

"The more you fill a barrel the more it will weigh," said the teacher.

"Please ma'am, is there any exception to the rule?" asked the urchin.

"None whatever. Everything you put in a barrel adds weight to it."

"I know an exception," broke in Bobby Sharp.

"I guess not. What is it?"

"Well, ma'am, the more holes you put in a barrel the lighter it gets."