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# The Canada School Journal.

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## Table of Contents.

	PAGE.
EDITORIAL.....	229
THE NEW PUBLIC SCHOOL HISTORY.....	231
SPECIAL—	
Prizes and Scholarships.....	232
EXAMINATION PAPERS—	
Drawing Papers.....	235
Educational Department.....	235
PRACTICAL—	
Learning while Teaching.....	237
Scheme for Geography.....	237
Caution to Teachers.....	238
QUESTION DRAWER.....	238
EDUCATIONAL NOTES AND NEWS.....	239
LITERARY REVIEWS.....	240

## THE CANADA SCHOOL JOURNAL

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

### —TERMS.—

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WE are requested to say that it is the intention of the Education Department not to submit a formal paper in Orthoepy at the next entrance examination to the High Schools and Collegiate Institutes. The examiner in oral reading, however, will be asked to consider carefully the pronunciation of the candidates.

THE discriminating review of the new Public School History, by Mr. Hunter, which will be found in this number, should have appeared some weeks since, but, in the crowded state of our columns, has been delayed. We have already published two or three critiques of this little book, the one in our issue of September 16th being by a very competent authority, but the interest in the general subject is not yet exhausted. Apart from its discussion of this particular text-book, Mr. Hunter's paper contains some excellent hints for teachers as well as writers of history, which we commend to the special notice of our readers.

OUR thanks are due to the Department of Education for a copy of a pamphlet on the "School System of Ontario," containing, in compact form, a mass of useful information in regard to our Public Schools, High Schools, Colleges, Universities, Industrial and Reformatory Institutes, etc. A copy of this work should be in the hands of every teacher in the Province. It would be very helpful in enabling them to get a clear and comprehensive view of all our educational appliances.

CIRCULAR No. 19 has recently been issued from the Education Department to Headmasters of High Schools and Collegiate Institutes. Amongst other items of information conveyed are the facts that, in conformity with a recent change made by the University Senate, the literature for First Class Teachers for 1886-7, in addition to Thomson's Seasons and Southey's "Life of Nelson" as prescribed, will be "The Merchant of Venice;" that a candidate may write for a Second Class Non-Professional Certificate without previously taking a Third; that two examiners will hereafter be required to set each paper for Entrance and for Teachers' Examinations, etc. The circular contains, also, hints and instructions bearing upon the modes of teaching approved in English Grammar, Science, Literature, etc. The criticisms evoked by the late examinations have thus already borne fruit.

THE New Brunswick *Journal of Education* which, by the way, is improving with each issue, says that the Local Government has decided to have a new common school arithmetic published in the Province. We hope the New Brunswick Education Department is not going to follow Ontario's bad example in the text-book business. The worst possible way to get text-books, or books of any kind, is to have them made to order, like a pair of boots.

MR. INGRAM B. OAKES, A.M., in his address before the recent Educational Institute in St. John, N.B., dwelt upon the importance, the condition, and the needs of secondary education in the Province. He pointed out that the influence of the High School upon the lower schools is most salutary, both in stimulating the pupils by attracting them upwards towards its level, and in providing a class of teachers of high qualifications. He also dwelt upon the fact that the High Schools are the pillars on which the University rests. "To them it looks for its supply. Through them it draws its life." "It is from this standpoint, says Mr. Oakes, and in view of the value of University education as related to the civilization of our age and country, and as affecting most vitally all the lower grades of instruction, that the importance of the High School culminates." Mr. Oakes' description of the Grammar Schools of New Brunswick is, we fear, more truthful than flattering. Their efficiency is sadly hindered by reason of their being burdened with classes below the proper High School grade.

We give in this issue a moiety of Mr. McHenry's excellent paper on the prize and scholarship question. Few more important educational matters are before the public to-day. The time is ripe for discussion, and Mr. McHenry is to be congratulated on the able and fearless manner in which he has grappled with the issues involved. To some of these we may refer again, when the whole paper is before our readers. We may just say here that we are disposed heartily to agree with Mr. McHenry's views. Those views may be, probably are, a little in advance of the time. We have not yet fully rallied from the effects of the twin craze for examination and prize-giving but the fever is rapidly declining. The prizes and scholarships must go. Enlightened educational opinion will ring them out and ring in the era of juster methods and loftier motives.

OUR readers will have been struck with the general unanimity of the professional opinions elicited by our circular touching the recent examinations. On the main point, the unsuitableness and unfairness of the papers in *History, Literature and Grammar*, there were remarkably few dissentients. In regard to the *Algebra* paper, there was somewhat more difference of opinion. This may arise from the nature of the subject, the mathematical faculty being probably more unequal in both teachers and pupils than that called into requisition by any other study. Some of the more important principles, to be deduced from the correspondence, as effecting the qualifications of examiners are:—(1) Examiners should as a rule be practical teachers; (2) they should be men of exceptionally good judgment; (3) they should not be hobbyists or specialists; (4) they should be as free as possible from pedantry and egotism; (5) they should in no case be makers of text-books which might by any possibility be adopted in the schools; (6) they should take pains to acquaint themselves with the work prescribed in the programmes, and with the capacities of ordinary children at the various ages and stages of progress.

THE particulars of a scheme of University extension, by which a University degree is brought within the reach of many elementary teachers in the north of England, are published. The University of Durham is prepared to deliver in towns in the north of England evening lectures on the subjects required in the examinations for the degree of B.A. These lectures will be the same as are given to students resident in the University. Students who have attended evening lectures for two years are admissible to the first-year examination, and having passed that examination receive a certificate testifying to the fact. They are then (or at any subsequent period) admitted to the final year's course of study in the University, and after residing three terms of eight weeks each, are eligible to attend the final examination for the degree of B.A. An ex-pupil teacher who begins to attend these lectures at the age of eighteen may obtain the degree at the age of twenty-one. A pupil teacher who from the age of sixteen attends the lectures concurrently with his work as a pupil teacher, may obtain the degree at the age of nineteen, and then have a year in which to get trained or practically qualify himself for obtaining a school. A certificated master who leaves the training college at twenty may attend the evening lectures for two years concurrently with his work as a master; and then, by a three' terms residence in

Durham, obtain the degree at the age of twenty-three. Before being admitted to the evening lectures, students are, however, required to pass a preliminary examination.

AMONGST some other good things said by Inspector Spankie, in his address at the opening of the Model School in Kingston, we commend the following:

"The mere fact of passing an examination, however strict, is no absolute guarantee of fitness to teach and manage a school. It takes a peculiar person to be just the right sort of a teacher. Intellectually, his mind should be a fountain and not a reservoir. His knowledge should gush up, and not be required to be drawn up. He should have ingenuity and tact, and not be a helpless creature, plodding on day after day in the same old beaten path, like a horse on a treadmill. He should be fresh and cheerful, and not a petrified post of Medusa. His heart should be young and vigorous, though his head may be as bald as Elisha's. In a word, he should, like Dickens' Raven, 'never say die.' He must be acquainted with the world as well as with books; familiar with human nature as well as with Lovell's geography. He should have breadth and depth, and, if possible, originality and wit, and not go about with his half-dozen thoughts rattling in his head like shrunken kernels in a bean-pod."

THE *Indiana School Journal* urges upon teachers the desirability of a method upon which we have often insisted, that of requiring pupils to write letters and other documents of a kind required in every-day life. They should practice this work continuously, just as they are required to practice addition or subtraction. In time they would acquire a corresponding facility. This would be of immense advantage in future life. More than that, the habit of thinking and expressing thought—in other words, of deciding just what one wants to say, and saying it in presentable English—is one of the very best kinds of intellectual training. "Write a formal application for a school, or a resignation. Write a letter of introduction. 'Can't be done for want of time!' So? Well, put five of these compositions in the form of a letter. Have some of those lessons in arithmetic in letter form. This will not take much more time. There are other ways that any teacher will think of when he begins to devise ways and means by which letter-writing may be taught."

DR. MALCOLM McVICAR'S address on "Mistakes in Education," delivered at the opening of the term at McMaster Hall, a week or two since, is, we are glad to learn, to be published. Dr. McVicar has earned a place in the front rank of modern educators by his services in the United States, especially as Superintendent of Education in New York State for many years. The present excellent public school system of that state was, we believe, largely moulded by his hand. He is, what every teacher should be, an enthusiast in his profession. His views, as enunciated in the lecture are, we observe, eliciting hostile as well as favorable criticism, especially those in regard to religious instruction in schools. Not knowing exactly his position in regard to that and other points we withhold comment until we can see the printed paper, some portions of which, at least, we shall try to lay before our readers.

The day when the routine of the public school was largely a series of memoriter exercises has, it may be hoped, gone by for ever. But it is possible that in this, as in other things, the reaction may be carrying us too far towards an opposite extreme. There is a legitimate and most salutary exercise of the memory to which every child should be accustomed. All should be taught from their earliest years to learn and repeat gems of prose and poetry. In this way the mind and heart may be early imbued with noble thoughts, tender and elevated sentiments, and sterling principles for the government of conduct. Our literature happily abounds with aphorisms and couplets, paragraphs and poems, which are excellently adapted for this purpose. Choice poetical selections will be found as a rule more easily learned and remembered. The Germans lay much stress on the beneficial effects of teaching poetry to young children. Its uses are manifold. "The taste for harmony, the poetical ear," says Miss Aiken, as quoted by an exchange, "if ever acquired, is so almost in infancy. The flow of numbers easily impresses itself on the memory, and is with difficulty erased. By the aid of verse, a store of beautiful imagery and glowing sentiment may be gathered up as the amusement of childhood, which in riper years may beguile the heavy hours of languor, solitude and sorrow; may enforce sentiments of piety, humility and tenderness; may soothe the soul to calmness, rouse it to honorable exertions, or fire it with virtuous indignation." Some of the American educational publishers are sending forth packets of cards, containing gems of thought, sentiment and truth, graded to suit the capacities of school children at every stage of progress. We believe it would be difficult to overrate the good effects of having the mind in the impressionable years of childhood and youth thus saturated with the best thoughts of all ages in their noblest forms of expression. The Bible is, of course, the richest storehouse of such treasures, but, as has been said, English literature abounds with them. We shall make it a point to collate memory gems from time to time for the columns of the JOURNAL, and hope that teachers will not fail to avail themselves of them. The learning and recitation of such passages will make one good method of varying the Friday afternoon exercises.

### THE NEW PUBLIC SCHOOL HISTORY.

BY J. M. HUNTER, M.A., LL.B.

This history possesses what recently authorized histories have lacked, an attractive external appearance. It is, besides, low in price, and is printed in clear type on good paper. The weak point in its mechanical execution is the engravings. The maps are very fair, but some of the portraits are hideous. Cromwell's famous "Paint me as I am" scarcely gives sufficient warrant for the likeness on page 76. Poor Charles II. suffers still worse (page 83), and the climax seems to be reached in the likenesses of William and Mary (page 89). (In this connection, we suggest as a stock examination question—Which is William and which Mary? Give reasons for your answer.)

On turning to the text, we are at once struck with a new and valuable feature in a public school history: we mean the "Hints to the Teacher" and the "References" which are prefixed to every chapter. By this simple expedient teachers are made to feel that their work is not done when they have heard a recitation. More

than this, scholars are shown that when they have learned the facts to which this manual is necessarily confined, there is something more beyond! The curse of history teaching has been that the book in the pupil's hands was the be-all and the end-all of the pupil's knowledge. If the teacher cared nothing for the subject (as must necessarily happen in many cases) the pupil had nothing to awaken in him a hunger for further knowledge, and no guide to point out where the hunger could be satisfied.

The style of the book is good. The authors state in a simple, clear way the main facts. Collier's work, although liked by the pupils, had really a bad effect on them. His glowing periods fastened themselves on their memory, and were faithfully reproduced at examinations. The effect was, in many cases, ludicrous. The epoch series, on the other hand, is written in almost too childish a strain. The authors of this book seem to have struck a fair medium.

In the grouping of the facts the influence of Green is very manifest. This is not undesirable. Although a greater definiteness in the matter of time was gained by the old method of arranging in reigns, yet that method afforded small scope for pointing out the real succession of events. Of what use, for instance, is it to arrange the facts of the Anglo-Saxon period in reigns? Only one reign of the period deserves prominence—that of Alfred. Most of the other kings of the Saxon period are mere names. An author puts the historical emphasis in the wrong place when he calls attention to them.

Upon what should the historical emphasis be put in this period? Let this question be considered as illustrative of the success of the authors in writing this book. The following points appear to require to be set in the best light possible. The English people—who were they—whence did they come? The nature of the English conquest—the formation of the petty monarchies—their consolidation. The institutions brought over by the English—the influence of the conquest upon these institutions—their development up to the Norman conquest. The language and literature during the pre-Norman period—the introduction of Christianity—the social life of the people.

We turn to the book. We do not find all we expect, but we find most of it. It is difficult, certainly, to put the essential features of this period into simple, clear and interesting language. But what is difficult is not impossible. The authors of this book have done well, but with time and thought they might do better. Take one or two points. One of the things to be carefully guarded against in teaching this period is the precise and definite idea apt to be conveyed by the use of the term Saxon Heptarchy. The common conception is that of seven kingdoms, established as the result of the English conquest,—each kingdom having its boundaries well-defined, and its government definitely established. How far this is from the fact, any one acquainted with the period knows. It is hard to put in brief and clear form the indefiniteness that characterised the territorial subdivisions of that period, continually changing as they were, and still harder to convey, especially to the young scholar, a correct idea of the rudimentary nature of the government in its early stages. Yet to be true history that is what has to be done.

Would it not be well, also, in writing the story of this period, to emphasise the slow nature of the English conquest? By so doing the physical and other difficulties with which the Angles and Saxons had to contend can be indicated. By a conflict of a century and a half against wild nature and wilder men the foundations of the English nation were laid.

Is it not desirable, even in an elementary work of this kind, to indicate the broader movement of which the Saxon conquest is but

a part, and of which the Danish invasions were but a continuance? A hint of this kind is always fruitful, because it brings together events that are apt to stand apart, and because the pupil cannot help but see that he is looking at events from a broader standpoint once he has grasped the general fact.

Other points suggest themselves, but space forbids. The authors are to be congratulated on their work as a whole. Only the lazy or the careless can fail to be benefitted by the book, since, even if the book itself is not all that it should be, it indicates the sources from which the teacher can draw the facts which will expand and correct it.

## Special.

### PRIZES AND SCHOLARSHIPS,

BY D. C. M'HENRY, M. A., PRINCIPAL COBOURG COLL. INSTITUTE.

(A paper read before the Ontario Teachers' Association).

A retrospect over the history of our educational methods shows that decided progress has been made. This progress, however, has not been uniform and continuous, but is made up of a succession of lines, much like those of a vessel tacking against the wind—generally onward, but in its progress often going from one extreme to the other.

Those of you who have spent many years in teaching, can recall numerous changes that are nothing but a series of contrasts. To younger teachers also the past decade furnishes not a few such changes in the laws, theories, and practices of our educational work.

That which strikes one as singular is the fact that each novelty has been fairly popular in its turn, almost on its introduction. Indeed, the greater the contrast the more readily has it appeared to meet with popular approval.

Such, for example, were the changes from the operation of our educational system largely through local centres of authority, to the general control of the system from one central office; from the general superintendency to the present ministerial regime; from the payment to High Schools on the basis of attendance only, to payment by results; from payment by results to payment according to local liberality; from the special fostering of classical teaching in High Schools to the reign of mathematics; from the so-called mathematical craze to a corresponding specializing in English; and so on through the erratic line which we are expected to recognize as the path of substantial progress.

It would seem, indeed, that legislative enactments and departmental regulations have had much to do in making and unmaking our opinions, instead of our having statutes and regulations as the outcome of opinion prevalent among those who are more directly experienced in educational matters.

To the changes enumerated may be added the remarkable change in public and professional sentiment on the subject of prizes. For many years the Educational Department regularly encouraged the practice of distributing prizes. To-day, if I mistake not, its influence lies in an exactly opposite direction. As for teachers, the entire abolition of prizes now appears to be the proper thing. In our universities the tendency is clearly in the same direction. This, moreover, is undoubtedly the popular view of the question.

If I prove not indifferent to traditional custom, I shall dispose of the question by simply tossing it aside with the remark that it is virtually settled, and must take its predestined course, until the pendulum takes a swing to the opposite extreme.

This easy method, however, is hardly satisfactory. The emphatic and even impatient utterances of some writers and speakers on this subject—while in harmony with a prevalent spirit of change—may

and probably do reflect current opinion; but I am sure that in some cases there has not been a full and impartial investigation of the principles that underlie the question.

In fact it is largely a question of motives, and such considerations bring us as teachers into the realm of our deepest problems.

The principles that govern the giving of prizes are not easily distinguishable from those motives that lie beneath our most praiseworthy efforts to excel in the various callings of life.

If we exercise a little patience, I think we shall find that the question is fairly debatable, and also that it will ultimately resolve itself into that of the preponderance of resulting good or evil. Herein I hope we may find a practical issue.

1. Let us first examine the reasons usually assigned for giving prizes and scholarships, and ascertain, if possible, how far the intended objects are realized.

(a) *In order to attract students.* This evidently accounts for the major part of our university prizes, scholarships, and medals. It is no secret that our arts colleges are as eagerly competing for numbers as the most enterprising of our medical schools or Collegiate Institutes. The quiet dignity of the competition does not diminish its keenness, nor is the real object of these pecuniary attractions concealed beneath the bland expressions we hear on convocation days as to the heroic struggles of medallists, and the congratulations bestowed in distributing scholarships among the needy sons of wealthy parents, who generally receive them.

We must have colleges, and colleges must have students, even if they have to be bribed to attend by displaying long lists of cash prizes. As a rule these inducements are carefully placed at or near the entrance, in the hope that if students thirsting for knowledge can once be enrolled and kept for a year, the charms of an institution so generous will not fail to hold them till graduation.

The same remarks apply generally to all schools that add to the educational advantages they offer these pecuniary inducements. I say they apply generally. It would be too much to say that every educational institution that offers prizes does so merely or mainly to attract students; for prizes are offered in some schools that are crowded with students without an effort being made to swell their numbers. We shall find elsewhere the reasons that operate here. Our universities, however, will hardly deny that the main reason they have for offering prizes of various kinds is to attract students to their halls.

The amount thus expended is very large, as may be seen by collating from college calendars the lists of cash prizes.

I understand that during the past ten or twelve years Toronto University has spent on an average over \$4,000 a year out of public funds. To this must be added private scholarships amounting to about \$600 a year. The Senate, moreover, has decided to increase this amount by placing at matriculation five additional scholarships.

Trinity College spends annually \$2,000 in prizes and scholarships, \$500 of which is placed at matriculation.

Victoria spends annually about \$500 in prizes, scholarships, and medals.

Queen's spends \$1,000 a year in prizes for arts students, to which may be added \$930 offered to theological students, and \$240 to medical students—about \$2,100 in all.

McGill College offers prizes, medals, and scholarships, of the annual value of over \$4,000.

Dalhousie College, Halifax, offers prizes of the annual value of nearly \$7,000.

From these six arts colleges we have an annual expenditure of over \$20,000, representing an invested capital of more than \$300,000.

To this we may add the large sum spent for this purpose by our Theological Colleges, Ladies' Colleges, Medical Schools not already

named, Private Schools, Public Schools, and High Schools. The annual expenditure may safely be put at \$35,000, representing a capital of over half a million dollars.

In the United States the annual expenditure in 370 colleges and universities for scholarships alone is over \$100,000. Add to this the money spent for this purpose in their other educational institutions, and we shall have an annual outlay of probably \$160,000 a year, representing a capital of *over two and a half millions*.

Now, if my supposition is correct, that these prizes are offered mainly to attract and retain students, we are in a position to estimate approximately what it costs to induce the youth of our continent to accept the blessing of a good education.

It is important, in reference to this matter, to inquire whether this great attracting force really does attract—whether by this means students are induced to attend our institutions of learning; if so, what class of students are reached, and also whether a sufficient number of students worth educating might not be secured by a process more rational and less expensive. We may profitably consider, besides, what other use might be made of the capital thus invested.

Perhaps the best test of the attracting power of scholarships and prizes can be made by asking each teacher that prepares students for college, or for other examinations where prizes are offered, to estimate for himself the effect of such inducements.

I think that the united testimony of these teachers will be, that with many students the question of winning scholarships at matriculation is one of supreme importance—in some cases determining the college selected, and even the course of study to be pursued.

The practice of annually displaying long lists of scholarships and prizes would hardly be kept up unless it were found to be effectual.

The amount thus offered by some of our colleges is ridiculously large for the number of matriculating students.

Trinity College, for example, with ten or twelve arts matriculants offers \$500.

McGill with thirty arts matriculants offers them about \$500 in cash scholarships; and of the 110 free tuition scholarships, at \$20 each, a large number are given in the first year.

Dalhousie last year offered to twenty-one arts matriculants the sum of \$2,500. This was distributed to these fortunate young gentlemen in the form of five exhibitions, of \$200 each; and ten bursaries, of \$150 each—each prize tenable for two years. That is, at the end of their second year five of this class will have received \$400, and ten of them \$300 each in cash. If any one can persuade himself that Dalhousie does not offer a warm welcome to matriculants, he must be strangely insensible to the charms such bursaries would have for the average student.

To take an example from American universities, the John Hopkins University offers the enormous sum of \$20,000 annually, on competitive examinations alone.

In view of such facts, it is hard to see how certain colleges could fail to be popular in this money-loving age.

If it can be shown that the students who must be attracted by these prizes could be reached in no other way, and that they are worth the effort made to obtain them, possibly the outlay may be justifiable. In my opinion, however, the material thus drawn into our colleges is not of a superior kind, in some cases consisting of students that could be secured by nothing less than money, and who hardly pay for the four years' coddling they receive.

What High School Headmaster has not received letters from such persons, inquiring what inducements we were offering for intending students? After entering a High School or Collegiate Institute,

their chief concern is to get the most they can for the least money. This mercenary spirit controls them in their course through the High Schools, guides them as they proceed to the University, and is an actuating principle until at graduation they receive the final instalment in cash or an equivalent, and go forth to swell the ranks of the mercenary and venal.

That such instances are to be found is perfectly certain; that they are not more general is to be attributed to the limited resources of colleges for offering scholarships.

If one may judge from recent action in the Provincial University, these attractions would be multiplied if the funds were available.

What would be the effect if throughout our country all these scholarships were to be withdrawn to-morrow? I think that among other good results the following would appear:—

1. Those students who are attracted mainly by prizes and scholarships would soon be missing.

2. Our colleges would have about all the really good students they have at present.

3. The colleges, thus left without pecuniary attractions, would so improve in educational attractions as to fill their classes with students who would do credit to the universities and to their country.

Take for example the \$20,000 annually expended in Toronto, Trinity, Victoria, Queen's, McGill, and Dalhousie, and with it either establish an additional chair in each college or increase its material equipment. To the true student every one of these colleges would soon present irresistible attractions.

Assuming, then, that this first reason for the prize-system is the principal one, I submit that the funds are misapplied; that the practice not only fails to attract the talent we need, but that by creating a false ambition and encouraging mercenary motives, it actually tends to attract an inferior class of students. To this add the fact that, by a proper use of the funds the best class of students might be attracted, and this, too, through the constant upbuilding and permanent improvement of our colleges.

(b) The second reason assigned is that many *poor students* are thus encouraged to attend college, who would otherwise be debarred from the privilege. Let us examine this question. The desire to aid poor but deserving students is certainly a laudable one; but if the distribution of funds contributed for charitable purposes, say in Toronto, were surrounded with the doubt and uncertainty connected with the appropriation of this money to poor students, I fear that the distribution of funds to the city poor would soon be looked upon with distrust and suspicion. Contributors unable to trace contributions to the objects of charity, would cease to give, and the system fail from want of confidence.

In the first place I do not believe that poor students as a rule win and receive the scholarships or any fair proportion of them. And in the second place, I contend that there is a much better way of aiding such students as do receive assistance.

If I am credibly informed, not more than ten per cent of the scholarships awarded at Toronto University go to students who can be considered poor. This very year two of the leading scholarships are won by a son of one of our merchant princes. In the very nature of the case we should expect no other result. The scholarships are awarded on competitive examinations. To succeed at these long, and in many cases expensive training is required—just that kind of preparation which the sons of the wealthy can and do receive when they are reading for honors. An inspection of the prize-lists will show that these prizes, which are distributed without reference to the circumstances of students—solely on the marks obtained—are generally received by men whose securing a college education does not depend on their winning scholarships. The object in view, in other words, is not attained.

But admitting that some needy students are thus aided; is there not a more rational method of determining the distribution? In many cases it is not general diligence nor the struggles of poor students, but genius that is rewarded.

I should prefer that some method be adopted for affording aid to needy students, which would be independent of all competitive examinations on entering college. I think the beneficiary aid thus given and received should be on the ground of *moral worth, existing need and reputable scholarship*. It should also be given privately, the transaction being made known to none but the college president (or a select committee) and the student. Such assistance should be withdrawn from students who incur serious college censure or who fail to maintain good studentship.

The sum of \$12,000 is thus quietly distributed every year at Yale College, \$6,500 at Boston University. Students needing aid are required to interview the college president before a certain day in the college year, and fully satisfy him on all conditions laid down. They are then quietly enrolled for beneficiary aid and proceed with their studies without publicity and loss of self-respect.

Surely, if needy students are to be aided, it should be in some such way as this. It has the merit of *directness*. Every dollar intended for needy students goes to needy students—not to the sons of the wealthy. It has the merit of *fairness*—the aid being given on the ground of real worth together with respectable ability—not on the doubtful chances of a competitive examination. It has the merit of *testing the real intentions of the donors*. The charitable element of the present method is hardly separable from that of unseemly competition between students and colleges. By the method proposed it will be seen to what extent these friends of needy students really wish to help them. It also has the merit of *economy*. At present \$20,000 a year is paid out simply on the reports of examiners. The most undeserving rascal in the class may take the highest prize if he scores the highest number of marks, while the honest, hard working student of limited advantage and lower marks receives nothing. The cash, however, is spent—as a rule all spent. By the method I propose only so much would be used as was actually needed by deserving applicants. Probably one half the money now spent in scholarships might be saved for other purpose.

Again, if students are attracted to college, and are thereby benefited; or if certain needy students have been enabled, through scholarships received, to gain a college education otherwise unobtainable—if these benefits are really conferred, who would be most likely to know it and gratefully acknowledge the fact? Certainly the students themselves. But what do we find? At a meeting of the students of Toronto University last March, the following among other resolutions was passed:

“That whereas, in the opinion of the undergraduates, medals and scholarships are detrimental to the true interests of education; and whereas contrary to the expressed wishes of the undergraduates, scholarships and medals have been restored by the College Council; and whereas the library is not equipped so as to afford the students all the advantages such an institution should confer; and whereas there is the greatest necessity for the appointment of a lecturer in political economy; therefore the undergraduates protest against the restoration of medals and scholarships, and also against the action of college officials in soliciting contributions for such purpose, thus diverting public benefactions from more worthy objects.”

Evidently the supposed benefits are not such in reality, or they are very ungratefully received. In either case the money here expended should be used where the recipients would not protest against its appropriation.

The college paper, also, strongly condemns the present system. The policy of forcing upon students the acceptance of a large sum of public money, annually received under protest, is certainly very questionable.

We are compelled to conclude that this expenditure, in the face of such general expressions of disapproval on the part of the supposed beneficiaries, must be kept up, if it be continued, for some purpose other than that of directly aiding students.

(c) The only other general reason for giving prizes, to which I shall refer, is that *they serve as an incentive to study—a reward for success*.

This opens up a wide field of unsettled controversy, and in the time allotted to this paper I can merely touch the leading points.

Incentive to study is unquestionably one of the mainsprings of successful teaching. Something proper to do and a motive for doing it, one of the surest ways of securing attention and interest in study. Incentives to mental effort may be good or they may be bad; they may induce healthy action, or they may lead to injurious results. So with *rewards for success*: they may prove a benefit or an injury, according to circumstances. We cannot, therefore, either wholly approve or condemn the giving of prizes as incentives or rewards. *Incentives we must have; a motiveless pupil cannot be educated.*

As suggested in my opening remarks, the question turns largely on the *preponderance of good or evil* resulting, on the whole, from the practice of giving prizes.

The good effect should be apparent both in the individual *student* and also in the *institution*. It is usually claimed for the student (a) that he is spurred to greater diligence in his studies when working for a prize; (b) that the emulation thus created among students is supposed to fit them for the struggles they will meet in after life.

1. I admit that these results are to some extent realized; but my first objection is, that whatever benefits arise from the prize-system reach a very small proportion of students. As a rule, those who win prizes are students who least need this spurring, while those who do need it fail to enter the race. I shall not wait to prove this. Every experienced teacher knows that it is the case. The coming prize-men in the High School and university classes are very soon known, and the others settle down into the quiet resignation of interested spectators. So in college. The coming medallists are singled out early in the course and the spurring and emulation are limited to three or four in each class. It not unfrequently occurs that for the last year or two there are only two competitors for the two medals. This is a very serious objection, and to my mind is sufficient to warrant a radical change in the system. For the non-competing majority the prize system is injurious rather than otherwise. They soon realize that it is a test of early advantages and a trial of present strength, rather than a means of encouraging diligence in study or rewarding students for relative improvement. Feeling that there is no room for the weak, they gradually accept their doom, and often settle down into utter indifference. In such students we not unfrequently find an utter deadness to the best form of educating influence—the most unpromising material on which a teacher may be called to work. The dazzling success of the few too often blinds us to the wants of the many; and almost unconsciously we are turning our schools into the training ground of a few students intellectually strong, to the neglect of many students whose comparative weakness deserves our special attention. (Concluded in next issue).

The Corporation of London last year expended on educational works 15,531l.—viz. City of London School, 3,605l.; Freeman's Orphan School, 5,048l.; technical education, 3,050l.; Royal College of Music, 1,000l.; School of Music, 2,828l. The Guildhall Library and Museum cost the corporation 6,676l.; the new School of Music (part of the cost), 3,064l.; and the new London Almshouses, 10,584l.—*City Press*.

Examination Papers.

DRAWING PAPERS.

BY W. BURNS, B.A.,

South Kensington Certificated Art Teacher.

The questions given will be arranged thus : 17 and 18 Freehand Pencil ; 19 and 20, Model—these can also be done by the student in Crayon, on coarse paper, on a larger scale ; 21 and 22, Geometrical Drawing ; 23 and 24, Perspective. In every case it is requested that the whole working be shown, and the answers lined in more heavily. As the object more especially to be attained is to prepare students for examination work, the papers should be worked as would be done at an examination, except in the matter of using books of reference. The answers are to be promptly sent to Mr. William Burns, Box 326, Brampton, and if the fee for examination of the answers for the course of ten papers (\$1.00) is enclosed, the papers will be mailed, when corrected and noted, to the student's own address, which should be annexed to each set of answers.

17. Draw two parallel lines of 6 in. long and 2 in. apart. Divide into squares. In each square draw the diagonals, and within each triangle thus formed place a triangle with sides parallel to the larger triangle.

18. Draw two parallel lines as before. Within squares thus formed make curved lines joining the centre points of adjacent sides. Join the centre and angular points of square with curved lines, interlacing with the former ones.

19. Give model of cubical block, surmounted by cone. Size and position at pleasure.

20. Give model of cylinder, 4 in. long and 2 in. diameter, lying on its side. Position at pleasure.

21. Given any three points, construct a circle to pass through them. Within this circle construct an equilateral triangle.

22. Draw an oval of 1½ in. width.

23. Give, in parallel perspective, view of pyramid with square base, side of base, 1 in. ; height of axis, 1½ in.

24. Give, in parallel perspective, view of a plinth, 2 in. by 1 in. by ½ in. At the centre, place a square column of ½ in. side and 2½ in. in height. Distance of spectator, 6 in. Height of eye, 2 in. Pictures to left of spectator, 1½ in.

EDUCATION DEPARTMENT, ONTARIO.—MID-SUMMER EXAMINATIONS, 1886.

THIRD CLASS TEACHERS.

ENGLISH GRAMMAR.

Examiner—John Seath, B.A.

1. Explain the nature of the words in the following, that are not distinctly classifiable as one or another of the seven parts of speech used to express our thoughts :

Yes : certainly. Why, surely there is no one who will say that when the struggling people are attempting to secure their rights, you would deprive them of the opportunity of doing so. (Value 15).

2. Make a list of the inflections of the personal and the demonstrative pronouns, and illustrate by one example of each inflection, the uses of these inflections in the expression of our thoughts. (Value 8).

3. Classify, on the basis (a) of meaning, and (b) of form, the following adjectives and adverbs :

clearly, well, what, late, each, all, forty, always, fourthly, forward, ponderously, sideways, already, slovenly, most. (Value 10).

4. Explain the force of each of the italicised verbal forms in the following extract :

"He. I shall go to town to-morrow. Of course you will ?  
She. No, thanks. I shall not go. I shall wait for better weather, if that will ever come. When shall we have three fair days together again ?

He. Don't mind that. You should go. I should like to have you hear Ronconi.

She. No, no ; I will not go.

He (to himself). But you shall go, in spite of the weather and yourself.

(To her) . . . Do come ; you will enjoy the opera ; and you shall have the nicest possible supper at Delmonico's.

She. No ; I should not enjoy the opera. . . . I wouldn't walk to the end of the drive for the best supper Delmonico ever will cook." (Value 15).

5. Distinguish the following (1) as to meaning, and (2) as to grammatical construction :

(a) The eye which sees all things, sees not itself.

The eye, which sees all things, sees not itself.

(b) Oh shame ! where is thy blush ? O Shame, where is thy blush ?

Oh, shame ! where is thy blush ? Oh, Shame, where is thy blush ? (Value 2 x 6 = 12).

6. Still onward winds the dreary way ;  
I with it ; for I long to prove  
No lapse of moons can canker love,  
Whatever fickle tongues may say.

And if that eye which watches guilt  
And goodness, and hath power to see  
Within the green the mouldered tree,  
And towers fallen as soon as built.

Oh, if indeed that eye foresaw  
Or see (in Him is no before)  
In more of life true life no more  
And love the indifference to be,

Then might I find ere yet the morn  
Breaks hither over Indian seas  
That Shadow waiting with the keys,  
To shroud me from my proper scorn.

(1) Classify, and explain the relation of, the clauses in ll. 2-4 and 9-16. (Value 16).

(2) Classify, and explain the exact construction of, the italicised words. (Value 2 x 8 = 16).

(3) Explain the use of the mood-forms in ll. 4, 9, and 14, and of the tense-form in l. 5. (Value 3 x 4 = 12).

(4) Why is the inflection of "watches," l. 5, different from that of "hath," l. 6 ? (Value 3).

(5) Analyze each of the following, giving the force of the several parts :

"onward," "winds," "whatever," "goodness," "mouldered," "indeed," "foresee," and "waiting." (Value 2 x 8 = 16).

7. Correct any errors in the following, giving in each case your reason :

(a) It is our belief that as many or even more University men will be found in the ranks of this profession than in either medicine, law or divinity. (Value 6).

(b) We are at the outset met with the special peculiarity that in the case of each of the other three professions each of them has the exclusive right to say what are to be the terms of admittance. Has this profession any say as to admission ? Not a word more than any member of the community. (Value 6).

(c) It is not necessary that we should point out the results which are sure to follow the adoption of the practice to which we have referred without some safe guard. (Value 3).

(d) The objection is frequently made to reading the Koran, that the lessons are read in an indifferent, mechanical, careless style, and therefore they had better not be read ; but let the unconscious influence of the prelector's character be free to do its work. (Value 9).

(e) Not only is the attempt made by it to ascertain who are prepared to begin the course but also to show how the subjects should be taught. (Value 3).

DRAWING.

Examiner—J. A. McLellan, LL.D.

Ruling the Paper.  
Divide a sheet of foolscap into three equal parts by two horizontal lines. Bisect the top and bottom divisions by a vertical line.

*Adjustment of work.*

Place the Freshand in the left subdivision and the Geometry in the right subdivision of the top space; the Perspective in the middle division, and the Designs in the subdivisions of the bottom space.

*Freehand, (No perspective effect). Time 15 minutes.*

Make drawings showing the size and shape of the back, side, and end of a book, (say Third Reader), length to be 3 inches, width  $1\frac{1}{2}$  inches, and thickness  $\frac{1}{2}$  inch. Details of design on cover at pleasure. (Value 20).

*Geometry.—Time 15 minutes.*

- (a) On a horizontal line 2 inches long, construct a square
- (b) On the upper side of this square construct an Equilateral Triangle.
- (c) About this triangle describe a circle.
- (d) Draw a tangent to any point in the circumference of this circle. (Value 20).

*Perspective.—Time 30 minutes.*

- Height 6 feet, distance 16 feet, scale  $\frac{1}{2}$  inch = 1 foot.
- (a) Place in perspective a block 2 feet square, 1 foot thick, lying on one of its square faces, having two of its edges parallel to the picture plane, and its nearer left hand corner touching the picture plane 2 feet to the left. (Value 10).
- (b) Centrally upon this block, with its edges parallel to the corresponding edges of the block, place a prism 1 foot square and 3 feet high. (Value 10).
- (c) Make the top of the prism, the base of a pyramid 4 feet high. (Value 5).

*Design.—Time 30 minutes.—10+20.*

- (a) Draw a circle 3 inches in diameter, and about it describe a square. Divide the circumference of the circle into 6 equal parts, and join the alternate points of division by straight lines, thus forming two intersecting equilateral triangles. Represent these triangles as being formed of bands  $\frac{1}{2}$  inch wide, and make these bands interlace. (Value 10).
- (b) Draw two horizontal lines, each 4 inches long, and 2 inches apart. Divide the space between them into contiguous equilateral triangles. Use these lines and triangles, as the basis of a design for a border suitable for a wall paper. (Value 25).

ENGLISH COMPOSITION.

*Examiner—J. E. Hodgson, M.A.*

1. Distinguish, and illustrate the correct use of:—amiable, amicable; earthy, earthly; clean, cleanly (adj.); regal, royal; fact, feat. (Value 5).
2. Then it was that the *fertile* genius and *serene* courage of Hastings achieved their most *signal* triumph. A swift ship, flying before the south-west monsoon, brought the *evil tidings* in a few days to Calcutta. In twenty-four hours the Governor-General had framed a complete *plan of policy* adapted to the altered state of affairs. The struggle with Hyder was a struggle for *life and death*. All *minor* objects *must be sacrificed* to the preservation of the Carnatic. The disputes with the *Mahrattas must be accommodated*. A large *military* force and a supply of money must be instantly sent to Madras. But even these measures would be insufficient, unless the war, hitherto so grossly mismanaged, were placed under the direction of a *vigorous mind*. It was no time for *trifling*. Hastings determined to resort to an extreme exercise of power, to *suspend the incapable* governor of Fort St. George, to send Sir Eyre Coote to *oppose* Hyder, and to *intrust* that distinguished general with the *whole administration of the war*.

Re-write this paragraph, substituting as exact equivalents as you can for the italicized portions. (Value 20).

3. Re-write the following sentences, paying special attention to the correction of errors in the use of capitals, punctuation, the order and the use of words.

- (a) the prisoner was run in last night the charge aganst him being stealing a quarter of beef (Value 4).
- (b) a ring has been lost last night the finder will make it worth his while to call at 56 church st (Value 5).

(c) for any tourist to visit the united states and leave without seeing Boston it would be considered that he had missed what was best worth seeing (Value 6).

(d) the church is being used as a museum and may remain in its present shape for some time to come (Value 4).

(e) canada is harder to govern than the british empire when times are good and ireland quiet its shape makes it difficult. (Value 6).

4. Write a short essay on one of the following subjects, paying special attention to the topics enumerated:

- (a) WARREN HASTINGS:—his origin and education; the characteristics, the aspirations, and the associates of his boyhood and youth. (Value 25).
- (b) MAHOMMED REZA KHAN:—his character, position, and duties; the cause, the object, and the method of his deposition; his trial and acquittal. (Value 25).

MENTAL ARITHMETIC.

*Examiner—J. J. Tilley.*

*Questions of equal value.*

1. If  $3\frac{1}{2}$  yds cost \$21.60, what will  $5\frac{1}{2}$  yds. cost?
2. If 6 horses eat 54 bus. of oats in 6 weeks, how long will 720 bus. last 8 horses?
3. Find the interest on \$12,200 for 6 years and 10 months at 6 per cent. per annum.
4. The numerator of a fraction is  $33\frac{1}{2}$  per cent. more than the denominator, and the sum of both is 434; find the fraction.
5. A can do a piece of work in 30 days, which B can do in 25, C in 20, and D in 15 days. In what time will they do it working together?
6. Divide \$1860 between two persons in the proportions of  $\frac{2}{3}$  and  $\frac{1}{3}$ .

ENGLISH LITERATURE—MACAULAY.

*Examiner—John Seath, B.A.*

But neither the culprit nor his advocates attracted so much notice as the accusers. In the midst of the blaze of red drapery, a space had been fitted up with green benches and tables for the Commons. The managers, with Burke at their head, appeared in full dress. The collectors of gossip did not fail to remark that even Fox, generally so regardless of his appearance, had paid to the illustrious tribuna the compliment of wearing a bag and sword. Pitt had refused to be one of the conductors of the impeachment, and his commanding, copious, and sonorous eloquence was wanting to that great muster of various talents. Age and blindness had unfitted Lord North for the duties of a public prosecutor; and his friends were left without the help of his excellent sense, his tact, and his urbanity. But, in spite of the absence of these two distinguished members of the Lower House, the box in which the managers stood contained an array of speakers such as perhaps had not appeared together since the great age of Athenian eloquence. There were Fox and Sheridan, the English Demosthenes and the English Hyperides. There was Burke, ignorant, indeed, or negligent of the art of adapting his reasonings and his style to the capacity and taste of his hearers, but in amplitude of comprehension and richness of imagination superior to every orator, ancient or modern. There, with eyes reverentially fixed on Burke, appeared the finest gentleman of the age, his form developed by every manly exercise, his face beaming with intelligence and spirit, the ingenious, the chivalrous, the high-souled Windham. Nor, though surrounded by such men, did the youngest manager pass unnoticed. At an age when most of those who distinguish themselves in life are still contending for prizes and fellowships at college, he had won for himself a conspicuous place in Parliament. No advantage of fortune or connection was wanting that could set off to the height his splendid talents and his unblemished honor. At twenty-three he had been thought worthy to be ranked with the veteran statesmen who appeared as the delegates of the British Commons, at the bar of the British nobility. All who stood at that bar, save him alone, are gone, culprit, advocates, accusers. To the generation which is now in the vigor of life he is the sole representative of a great age which has passed away. But those who, within the last ten years, have listened with delight, till the morning sun shone on the tapestries

of the House of Lords, to the lofty and animated eloquence of Charles, Earl Grey, are able to form some estimate of the powers of a race of men among whom he was not the foremost.

1. What is the main subject of this paragraph? What are the chief subordinate subjects? (*Value 5*).

2. Show, how, in the above extract, the author observes the principles that govern the construction of a paragraph, with especial reference to its (a) unity, (b) continuity, and (c) variety. (*Value 8*).

3. Account for the reference to the culprit and his accusers in the first sentence. (*Value 2*).

4. Account for the order of the personal descriptions. (*Value 5*).

5. Why does Macaulay consider it necessary to explain the absence of Pitt and Lord North? (*Value 2*).

6. Why are the names of Windham and Earl Grey introduced each after the description of the man himself? What name is given to this device? (*Value 3+1*).

7. Show, in each case, the effect of the repetition of "his," ll. 13 and 14; "English," l. 19; "There," ll. 18, 19 and 24; and "British," ll. 37 and 38; and of the use of "the ingenious, the chivalrous, the high-souled," ll. 27 and 28; "unblemished," l. 35; and "culprit, advocates, accusers," l. 39. (*Value 2 x 7 = 14*).

8. Explain the exact significance of the description, "the English Demosthenes and the English Hyperides." (*Value 4*).

9. Criticise the form of ll. 19-24. (*Value 2*).

10. Contrast the effect of the last sentence in the above extract with that of the following one, accounting for Macaulay's use of the additional particulars:

*But those who, within the last ten years, have listened till morning in the House of Lords, to the eloquence of Earl Grey, can form an estimate of the powers of men some of whom were better than he.* (*Value 8*).

11. By reference to "illustrious," l. 7; "urbanity," l. 14; "reverentially," l. 24; "delegates," l. 37, and "animated," l. 44; show how light may be thrown upon the exact meaning of a word (a) by means of its etymology, and (b) by distinguishing it from its synonyms. (*Value 2 x 5 = 10*).

12. Give the terms that describe the style of the above extract, and explain their application. (*Value 4*).

13. Illustrate from the above extract the characteristics of Macaulay's style, (a) which writers should imitate, and (b) which they should avoid. Give in each case the reasons for your opinion. (*Value 6 x 6*).

## Practical.

### LEARNING WHILE TEACHING.

BY L. E. MORSE.

I have been teaching some few years, and I believe I have learnt more in that time than I have taught; at least, what my pupils have acquired from the text-books has not been as much, I think, as I have learnt from them in the way of psychology—or, if that word is too clumsy, say child-mind. When pupils and teachers are new to each other, the first thing the child does is to observe, with minuteness and accuracy if not scientifically, every thing he sees about the teacher,—his face, clothes, tone of voice, manner; his linen even, and finger-nails. He has not been in the teacher's presence two hours before he has, in his childish way, "sized up" that strange being who is to be his master for the next few months.

Little Edward is learning to count, and gets as far as twenty and stops, puzzled; his little brain is striving to reason it out; his brow is clouded, and his lips working; in perplexity he looks up at the teacher. Is there a kind, sympathizing, encouraging look for him, or is there a lowering scowl? Whichever it is, that determines little Edward's progress. Crops wont thrive in bad weather; and a child's mind wont expand on frowns.

I have often thought there was a close analogy between catching young fish and handling naughty boys. The expert angler never "yanks" the fish out of the water bodily,—he lets the fish wear himself out; and I have often pursued the same course with naughty boys. Not long ago a boy of nine daubed his face with ink, to the great amusement of his neighbors. My attention was called to it, of course, and I joined in the laugh, much to his sur-

prise. When the mirth had in a measure subsided, I km<sup>nd</sup>,—brotherly, as it were,—told him if he was trying to represent an Indian, he should have put a patch on here, more on there, and not so much on this place, and a different color in that place, adding, that a few feathers would complete his costume, and that if he really wanted to do that sort of thing he must do it well; but just now he might go to the brook and wash his face; to-morrow, if he chose, he might come with his war-paint. He never troubled me any further in that way.

It is a great error, I believe, for a teacher to sit primly on an elevated platform, entrenched behind a desk, literally and figuratively, and call little children to the "throne" to recite what they have learnt. The most successful teachers I have ever known were in the habit of sitting down in the midst of the pupils, working with the pupils, — in short, acting the part of an elder brother who wants to teach them certain things, and who is all kindness and sympathy. A teacher who goes out with the boys and "catches" for them, or umpires for them, or keeps tally,—who is "hail fellow" with them without losing his dignity,—is the teacher whose slightest word is a command, and whom public opinion,—child opinion, school opinion,—wont allow any naughty boy to worry. No boy bothers a teacher unless he has the tacit moral support of his class.

There are few pleasures in life greater than that of watching, guiding, and directing the growth of mind in children who love and respect their teacher.—*Journal of Education*.

## SCHEME FOR GEOGRAPHY.

BY M. E. BARTLETT.

### FIRST YEAR.

I. The application of geographical terms to the features of the landscape. Moulding. (I use clean sand in a large shallow box as preferable to a moulding board.)

II. Points of compass as determined by the sun.

III. Ideas of direction, distance, (using the foot as unit of measure indoors, and the rod outside).

IV. The succession of summer and winter with their accompanying heat and cold; of day and night with their light and darkness.

V. Plants.

- Classification as wild and cultivated.
- Kinds that are cultivated, identification.
- Usefulness of each.
- Why cultivated in summer.

VI. Trees.

- Kinds. Identification by wood, bark, leaves, and general outline. (We found it quite a study to identify the different species of oak in our vicinity).
- Distinction between trees that drop their leaves in winter and those that do not. Example of each.
- Distinction between hard and soft woods.
- Usefulness of trees.

VII. Animals.

- Classification as wild and domestic.
- Kinds that are domestic.
- Usefulness of animals.

VIII. Birds.

- Names of those common to the locality.
- Identification by plumage and song.
- Usefulness of birds.

IX. Fishes.

- Names of those common to the locality as far as can be identified.
- Usefulness.

X. Minerals.

- Names of those that can be obtained.
- How obtained.
- Usefulness.

XI. Recognize in manufactured products the results of the occupations of man. Name different occupations in vicinity; materials used in the work produced; power used.

XII. Develop the ideas of division of labor, exchange, use of money, gathering of people into towns.

XIII. Consider means of transportation.

SECOND YEAR.

I. Devote time to getting conceptions, basing the work upon ideas already gained through the correct perceptions, but which are yet inadequate.

This work should result in notions as adequate as possible of such things as rivers, mountains, plains, the ocean, great cities, regions of perpetual winter and summer, of long continued day or night.

II. Interpretation of map.

Develop ideas of area, scale, proportion. Make a plan of the school-room, whose outline and proportion the child can see.

Outline the school-yard, father's farm, or the city block, showing that the map or outline represents the surface as a bird would see it from above.

Locate places in their appropriate positions within the area represented. City map.

III. Introduce the globe. Teach the shape of the earth; the division of the earth's surface into land and water; names of the grand divisions of each; compare the grand divisions of the globe with those drawn on a Mercator projection.

IV. Interpret the symbols of the map, as rivers, cities, mountains, etc.

V. Map of North America, so pointed out as to show its relief. Teach location of its mountains and plains. Show that its general outline and direction of its rivers depend on the location and direction of its mountains. Name its lakes, cities, oceans that border it, its great indentations and projections.

VI. Develop idea of a political division. Teach the political divisions of North America. Associate the name with the form and location.

VII. Review the surface and drainage of the United States. Teach the political divisions of the United States, the capital of each State, locate each capital on the map, and one or two important cities in the States. Use dissected maps. Develop ideas of comparative area.

(A United States R. R. map pasted on stiff cardboard and cut out by Statelines, makes a good dissected map, when not convenient to obtain a better one.)—*The Teacher's Institute.*

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 him. Then, indeed, will the scholars look down upon that teacher, and probably give him a far lower place in their regard than he really deserves. 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. Still, he 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.*

Question Drawer.

QUESTIONS.

Please publish the questions on History set at the late examinations, with answers to the last two, as I find it impossible with the books at my command to get satisfactory answers. J. B. P.

I hold a Second Class Certificate, Grade A. As I wish to enter a drug store to study, would you kindly inform me if my certificate would be considered as matriculation. W. L. G.

(1) Can you explain why chronologists give B.C. 3 as the date of the birth of Christ?

(2) How many years since the creation?

(3) How should children beginning to write be taught to hold the pen? Where should the handle point? Please give plain directions in simple language (as you would to a class). C. B.

Those of your readers who are of a mathematical turn of mind will find the following problem somewhat interesting. I should like someone to publish a solution, or at least an answer:—A rope whose length is 8 rods is fastened to the inside of a circular wall of radius 5 rods; over how much surface can a horse eat that is tied at the other end of the rope?

WM. W. IRELAND, Pefferlaw, Ont.

THE RIGHT-ANGLED TRIANGLE.

So much has been published on this triangle that one might hastily conclude that the subject has been exhausted. We may exhaust ourselves, but the subject can never be exhausted. The following problem and its solution are, so far as I know, original, and will awaken much curiosity, and necessitate much thought, science, and labor, to satisfy the curiosity:

Suppose we have a right-angled triangle whose base is 2 and perpendicular 1; it is possible to find a quantity which, if added to the base and to the perpendicular, will make the new hypotenuse rational; and if the same quantity be subtracted from the base and from the perpendicular, the second new hypotenuse will be rational.

In order to afford mathematicians an opportunity to try, I withhold the publication of the quantity till the first of November.

JOHN IRELAND, Fergus.

ANSWERS.

J. B. P.—The History questions were published in the last number of the JOURNAL. It will be a good exercise for some of our readers to furnish clear and concise answers to the two questions indicated. Perhaps some one who wrote successfully on this paper will give us the substance of his answers.

W. L. G.—We understand you to mean matriculation into the Ontario College of Pharmacy. The qualification for the certificate of the Pharmaceutical Council which presides over this college is "that the candidate shall furnish to the Council satisfactory evidence of having served an apprenticeship, under a written contract, for not less than three years, to a regularly qualified Pharmaceutical Chemist." He must also satisfy the Council that he has passed an examination entitling him to admission to a High School, etc. Your certificate would, no doubt, satisfy the latter requirement.

C. B.—(1) The exact date of the birth of Christ has been a subject of much debate, and has not been, and probably cannot be, definitely settled. The difference in opinion or computation amongst chronologists ranges over a period of about four years. This will be easily understood when it is remembered that the Christian era was probably not proposed till some time in the 6th century. We are not aware that there is any agreement amongst chronologists to regard the error in the accepted chronology as exactly three years, or, in other words, to fix B.C. 3 as the exact date of Christ's birth. That would be but the opinion of one or more.

(2) That is another unsettled question. The computations of critical students of the Hebrew, the Samaritan, and the Septuagint texts of the sacred scriptures make the date of creation at from 4000 to 6000 years B.C. The former has been the more commonly accepted view. It seems now, however, to be pretty generally admitted that the era of the creation of the world must be carried back much farther than even 6000 years before Christ.

(3) This brings us down to the practical with a sudden turn. We prefer to refer it to the authorities on penmanship. The old rule, in our school-boy days, was that the pen-handle must point over the right shoulder. Our own private opinion is that it is not a matter in regard to which any cast-iron rule can be laid down. The end is to be able to write (1) legibly and (2) rapidly. Probably some will do better by holding the pen in one way, some in another.

The following are my solutions of the five problems in your issue of September 15:

1.  $40 + 40 = 80 = \frac{1}{2}$  of remainder.  $80 \times \frac{2}{3} = 140$  and  $140 - 80 = 60 = \frac{1}{3}$  of his money. ∴ \$180 answer.

Educational Notes and News.

II. 7 men and 5 women do  $\frac{1}{2}$  of work in 1 day; 3 men and 8 boys do  $\frac{1}{4}$  of work in 1 day; 21 men and 15 women do  $\frac{1}{3}$  of work in 1 day; 21 men and 56 boys do  $\frac{1}{3}$  of work in 1 day.  $\frac{1}{3} - \frac{1}{4} = \frac{1}{12}$  = what 56 boys do more than 15 women. Let unity equal amount of work done by the 15 women in 1 day. 56 boys would do  $1 + \frac{1}{12} = \frac{13}{12}$ . 1 woman would do  $\frac{1}{15}$  of the work in the same time that it would take 1 boy to do  $\frac{1}{56} \times \frac{13}{12} = \frac{13}{840}$ . ratio is  $\frac{1}{15} : \frac{13}{840}$ , or 448 : 243. 15 women =  $15 \times \frac{13}{840} = 27\frac{1}{28}$  boys.  $56 - 27\frac{1}{28} = 28\frac{27}{28}$  boys do  $\frac{1}{4}$  of work in 1 day. 1 boy will do  $\frac{1}{4} \times \frac{28}{28\frac{27}{28}} = \frac{1}{28}$  in 1 day, and 8 boys will do  $\frac{8}{28}$  in 1 day;  $\frac{8}{28} - \frac{1}{28} = \frac{7}{28} = \frac{1}{4}$  = what 3 men do.  $\frac{1}{4} \times \frac{3}{1} = \frac{3}{4}$  = what 1 man does;  $\frac{3}{4} + \frac{1}{4} = 1$  = what 1 man and 1 boy does in a day.  $1 \div \frac{1}{23\frac{1}{4}} = 23\frac{1}{4}$  days, answer.

III.  $900 + 600 = 1500 = \frac{1}{3}$ .  $2700 =$  first remainder.  $2700 + 300 = 3000 = \frac{2}{3}$  of what he was worth.  $\therefore \$5000$  answer.

IV. No amount of money will amount to 4 times itself in 4 years at 2%.

V. Multiplying by 100 and dividing by 4 will produce the same result as multiplying by 25; but multiplying by 1000 and dividing by 40 will clear your answer of a decimal:  $\frac{25371}{40}$  answer.  
Hepworth, Oct. 1st, '86. R. Mc.

The following are my solutions to I and III of "Subscriber's" questions in your issue of Sept. 15. Though somewhat lengthy, they are "plum and easy," I think. The II I could find no solution for but lengthy ones:

I.  $(\frac{2}{3} \$80) =$  1st spending; then  $1 - (\frac{2}{3} - \$80) = \frac{1}{3} + \$80 =$  what he had left.  $\frac{2}{3}$  of  $(\frac{1}{3} + \$80) + \$40 = (\frac{1}{3} + \$34\frac{2}{3} + \$40) =$  2nd spending; then  $(\frac{2}{3} - \$80) + (\frac{1}{3} + \$34\frac{2}{3} + \$40) = \frac{1}{3} - \$5\frac{2}{3} =$  what he spent, and  $1 - (\frac{1}{3} - \$5\frac{2}{3}) = \frac{2}{3} + \$5\frac{2}{3} =$  what he had left =  $\$40$ ; then  $\frac{2}{3} = \$40 - \$5\frac{2}{3} = \$34\frac{2}{3}$ , and  $\frac{2}{3} \times \frac{33\frac{3}{4}}{4} \times 21 = 60 \times 3 = \$180$  he had at first.

III.  $(\frac{2}{3} + \$300) =$  cost of house; then  $1 - (\frac{2}{3} + \$300) = (\frac{1}{3} - \$300)$  amount left and  $\frac{1}{3}$  of  $(\frac{1}{3} - \$300) + 600 = \frac{1}{3} - \$133\frac{1}{3} + \$600 =$  cost of lot; then  $(\frac{2}{3} + 300) + (\frac{1}{3} - \$133\frac{1}{3} + \$600) = \frac{1}{3} + 766\frac{2}{3} =$  cost of house and lot, and  $1 - (\frac{1}{3} + \$766\frac{2}{3}) = \frac{2}{3} - \$766\frac{2}{3} =$  what he had left =  $\$900$ .  $\therefore \frac{2}{3} = \$900 + \$766\frac{2}{3} = \$1666\frac{2}{3}$ , and  $\frac{1}{3} = \frac{1666\frac{2}{3}}{5} \times 15 = \$5000$ , what he was worth.

MARION SAMSON, Chatham, Ont.

Work has been commenced on the Woodstock College enlargements.

The total number of lady students attending McGill University, Montreal, at the present session is 66.

Prof. McLaren delivered the opening lecture at Knox College on the 6th inst. Subject, "The New Theology."

The opening lecture at McMaster Hall, was delivered by Prof. Malcolm McVicar, LL.D. Subject, "Mistakes in Education."

Mr. Geo. Sharman, Principal of the Simcoe Model School, had his grade raised last departmental examination from 1st C to 1st B.

Rev. R. T. Thompson has been appointed to the newly established Lectureship on Old Testament Introduction, in Knox College, Toronto.

The next meeting of the Teachers' Association for the Southern Division of East Lambton will be held in Alvington about the 20th of October.

The Mount Elgin Institute opened on September 24th, with 66 pupils, the largest number on record, and 6 above the limit allowed by Government.

At the recent opening of McMaster Hall, Rev. D. A. McGregor, B.A., was inducted in the chair of Homiletics, vice Rev. Prof. Stewart, B.A., resigned.

Mr. Barton Earl, English Master of Peterboro Collegiate Institute, fell on the street on Saturday night, breaking both bones of his left leg, close to the ankle.

The Teachers of West Huron, Ont., were to hold their Annual Institute Meeting yesterday and to-day. A good programme is announced, including a question drawer.

The proposed extension of Alma Ladies' College, has been postponed until spring, to give time to raise the additional \$3000 called for by an improved plan. Total cost to be \$17,000.

The trade unions are continually limiting the opportunities of American boys for learning a trade, but they are only hastening the time when industrial and trade schools will be free and common. —N. Y. School Journal.

One and a half millions of money necessary to complete the sum of £3,442,989 for public education in England, were during the late short session, voted in about half-an-hour in the small hours of the morning between half-past two and four.

Twenty-one graduation diplomas were bestowed on students who had completed the course at the St. Thomas Collegiate Institute. About ten of these had passed in some or all the classes of subjects at the University Matriculation Examinations.

Mr. E. Higley, who has been headmaster of West Lorne public school for two years, has resigned the position with the view of entering Huron College, London, to study for the ministry. His successor at West Lorne is Mr. J. McKillop, M.A.

In 1883-84 there were in England, 4,553 elementary schools, at which 774,000 children and pupil-teachers were taught drawing. Of these 514,000 were examined by the Inspectors of Science and Art Department, and grants amounting to 31,000L., were paid.

The Albert County, New Brunswick, Institute, met on the 30th ult. Prof. Burwash, of Mount Allison University, was to deliver an address on agriculture, and papers on secondary education, geology and mineralogy in schools, elocution and other important topics, were to be read.

The Toronto Public School Board, at its last meeting, resolved, that Headmaster Boddy, of the Bathurst street school, be suspended for one month, without salary, for having inflicted unduly severe punishment upon a pupil, the charge having been fully investigated and proven.

The University of New Brunswick opened its academic year of 1886-7 on Thursday, September 16th. The Freshman class numbers twenty-three, including one young lady who intends taking the full course. Nine other young ladies passed the Matriculating Examination. —N. B. Journal of Education.

The Mercers' Company have decided upon the erection at New Cross of a large school for girls in connection with Ask's Havelham Schools. The new building, the cost of which is estimated at 23,500L., inclusive of the land, will accommodate 500 girls, and will be erected in such a manner as to be capable of extension.

Solutions to questions in JOURNAL, Sept. 15th, '86:

I. Commence at last part of question: He spent \$40 more than  $\frac{3}{4}$  of remainder and had \$40 left. If he had spent  $\frac{2}{3}$  of remainder he would have had \$80 left.  $\therefore \frac{2}{3}$  of remainder = \$80.  $\therefore \frac{1}{3}$  of remainder = \$140. If he had spent  $\frac{2}{3}$  of money at first, he would have had \$140 - \$80 = \$60 left.  $\therefore \frac{1}{3}$  of money he had at first = \$60, and  $\frac{2}{3}$  of money = \$180, answer.

II. I do not know whether in second part of question if 8 boys is a misprint for 8 women or not, but the way the question stands I think it would be difficult to give a clear solution for teachers, let alone pupils.

III. Solution nearly the same as No. I.

IV. The question is not given correctly, I think. If he did not take out any money, at the end of 4 years he would only have  $\frac{97\frac{2}{3}}{100}$  of his original capital, which is not near four times the original capital.

V. Solution:  $\frac{25 \times 39.371}{12 \times 5380} = \frac{1000 \times 39.371}{40 \times 12 \times 5280} = \frac{39.371}{2536600}$ . In the first part the third part should be  $\frac{39.371}{2534400}$  instead of  $\frac{39.371}{2536600}$ .

The second part of fraction is only the first part with both numerator and denominator multiplied by 40, to clear number of decimal.  $25 \times 40 = 1000$ , and denominator multiplied also by 40. This accounts for the 1000 and 40.

A. T. ANDERSON, Clambrassil, Ont.

We have received solutions, also, from C. R. Minard, Cornwallis, N. S., and from "Toro." Both wisely decline No. IV as it stands. The former assumes that 8 boys, in No. II, means 8 women, which makes a much easier question. We have not space for the solutions.

Principal Caven stated at the opening of Knox College the other day that the present condition of the Endowment Fund, was that out of the \$200,000 aimed at, about \$189,000 was now subscribed, of which about \$129,000 had been paid up. This, together with a special donation of \$20,000, brought the already realized amount into the neighborhood of \$150,000.

The Ninth Annual Session of Carleton County, New Brunswick Teachers' Institute was held at Woodstock, on the 16th and 17th ult. The attendance of teachers and the interest manifested in the proceedings seem to have been beyond the average. Among those who took an active part in the proceedings were Inspector Oakes, Dr. Hall, of the Nova Scotia Normal School, and Dr. M. C. Atkinson, M.P.P.

The *Daily Chronicle*, commenting on Sir Spencer Wells's address as President of the Sanitary Congress, writes:—This, he says, is an age in which we must push popular education in both sexes far beyond conventional limits, otherwise we shall lose our place in the race of life, and no longer rank as "heirs of all the Ages and foremost in the files of Time." Evils may come, especially to women, from over-pressure in education—but then, says Sir Spencer Wells—and no surgeon in Europe has a better right to dogmatise on such a subject—"if overwork sometimes leads to disease, it is more morally wholesome to work into it than lounge into it." Even over-pressure in schools he traces, *pace* Sir J. Crichton Brown, to "some of our sanitary success." The sanitarians have been the means of keeping in life the weaklings—the survivals of the least fit—and under the strain of a system adapted to the average boy and girl, they break down.

A certain number of men are calm, even-lived, sensible, and practical. Men of that class are almost certain to write plain, round hands in which every letter is distinctly legible; neither very much slanted forward, nor tilted backward, no letter very much bigger than its neighbor, nor with heads much above or tails much below the letters not so distinguished; the letters all having about the same general uprightness, and the lines true to the edges of the paper, neither tending upward nor downward. Exact, business-like people will have an exact handwriting. Fantastic minds revel in quinks and streamers, particularly for the capital letters, and this quality is not infrequent in certain business hands, as if the writers found a relief from the prosaic nature of their work in giving flourishes to certain letters. Firm, decided, downright men are apt to bear on the pen while writing, and to make their strokes hard and thick. On the contrary, people who are not sure of themselves, and are lacking in self-control, press unevenly, and with anxious-looking, scratchy hands. Ambitious people are apt to be over-worked; they are always in haste and either forget to cross their t's, or dot their i's. They are also apt to run the last few letters of every word into an illegible scrawl. Flurried, troubled, and conscience-tormented persons have a crabbed and uneven handwriting.—From "Wonders of the Alphabet," by Henry Eckford, in *St. Nicholas* for October.

The standard of education in Spain, according to a consular report just issued, is very low, not 24.50 per cent. of the population being able to read and write. But here again progress is apparent, and according to the latest statistics, published in a report by the Director-General of Public Instruction, there were no less than 23,132 public and 6,696 private primary schools. In addition to the above, each province has its secondary or collegiate school, in which a higher standard of education is prescribed. These colleges are well attended; but the teachers are on the whole wanting in training and zeal, owing probably to their inadequate salaries. There are ten universities in the peninsula, besides special institutions supported by the State for the study of agriculture, engineering, architecture, the fine arts, etc. The subjects taught in the public and primary schools are theology and moral training, reading, writing, arithmetic, grammar, agriculture, geography and history, geometry, drawing, music, domestic economy, hygiene, needlework, etc. By the law of June, 1857, education was made compulsory, and an admirable scheme was elaborated for raising the very low standard of primary instruction, but none of these reforms have been properly carried out, nor can education be said to be compulsory in the full meaning of the term. Now, however, under the present Government, no effort will be spared to put into practice the provisions of the law above referred to, which, moreover, it is understood, will undergo modification and improvement during the approaching Parliamentary session. It is felt that until primary education has become more widely diffused, it would be fruitless to look for any great development of home industries, upon which must so greatly depend Spain's material progress.—*London Globe*.

## Literary Reviews.

**SHELDON'S WORD STUDIES.** Containing graded lessons in the Orthography of words and their correct uses in sentences.

The title of this book indicates its general scope and purpose. Considerable space is wisely devoted to dictation exercises. The words seem to have been selected and arranged with care. The letter-press is excellent, and the binding substantial. The book will no doubt take a good place amongst its many competitors for the favor of teachers.

**THE AUTOBIOGRAPHY OF BENJAMIN FRANKLIN.** With notes and a chapter completing the story of his life. Part I.

This little book constitutes No. 19 of the Riverside Literature Series, which is being published by Houghton, Mifflin and Company, Boston and New York. It is one of their new numbers, comprising over 1000 pages of the best and purest literature, that are to be added to the series during the current school year. These books are excellently adapted for the use of schools. We hope soon to see the day when something of the kind will supersede the Readers for all the higher classes in Canadian schools.

**THE FIRST STEPS IN NUMBER.** By G. A. Wentworth, A.M., Professor of Mathematics in Phillips Exeter Academy, and E. M. Reed, Principal of Training School, at Plymouth, N. H. (Boston: Ginn & Company).

The professed object of this book is to provide teachers with a record of the work done in Number in the primary schools of to-day. It makes no pretensions to novelty either in the subject matter, or in the manner of presentation. Its processes are based on and intended to illustrate the two simple educational laws, first that the child should be required to show what he is talking about, second, that his progress must be step by step. The book abounds, we might almost say superabounds with fresh examples. It gives suggestions for versatility of drill, and illustrates in detail the teaching of a hundred topics. The work provided is deemed sufficient and arranged for four years' work. An important principle announced by the authors is that of making numbers the chief thing, processes subordinate, and placing what has been found in experience more easily understood before that which is more difficult, without respect to its scientific relation. As fractions really present no greater difficulty than wholes, they accompany the integral numbers from the beginning. Among the many competitors for the favor and patronage of those who are in search of the best methods of leading children by easy and sure paths to the comprehension of numbers, these first steps will take a good place.

**ENTERTAINMENTS IN CHEMISTRY: Easy Lessons and Dictations for Safe Experiment,** by Harry W. Tyler, S.B., of the Mass. Institute of Technology. (The Interstate Publishing Company, Chicago and Boston).

In this interesting and useful little book, Professor Tyler has aimed to make clear to the minds of pupils exactly what chemistry is, and the best methods of studying it. In the performance of this task he has described a series of experiments which can be performed without the aid of costly apparatus, at home or in the schoolroom, but which demonstrate the main principles of the science just as accurately as those involving greater skill and knowledge. The book is written in a clear and lucid style, without the use of more technical terms than are absolutely required. 16mo, cloth. Price 60 cents.

**EASY GERMAN STORIES: A First German Reading Book.** By B. Townsend, M.A., Assistant Master at the High School, Nottingham; late scholar of Trinity College, Cambridge. (Livington's, Waterton Place, London, 1886).

In addition to a series of easy stories for translation, carefully chosen and well graded, this Reader contains some very useful introductory hints in the shape of Rules and Observations, and appends nearly forty pages of explanatory notes, and a vocabulary. As a practice book for beginners, it certainly goes far to make German both easy and interesting. It can scarcely fail to become popular both with schools and private students.

**TITRUGH A MICROSCOPE.** By Samuel Wells, Mary Treat and Frederick LeRoy Sargent (The Interstate Publishing Company, Chicago and Boston). 16mo, cloth. Price 60 cents.

This attractive little handbook begins at the beginning, and tells the young student of the microscope exactly how to proceed in his investigations, what to do, and how to do it, and the reasons therefor. Mary Treat has long been known as an interesting writer on natural history, and the valuable series published two or three years ago in *Harper's Monthly* were from her hand. Naturally she has had great experience with the microscope, and so, too, has Mr. Wells, who gives suggestions as to outfits, preparation of objects, and methods of experiment. Mr. Sargent tells how home-made microscopes may be prepared and used. The book is well illustrated.

**SCHOOL DEVICES: A Book of "Ways" and Suggestions for Teachers.** By Edward R. Shaw and Webb Donnell (E. L. Kellogg & Company, New York). \$1.25. To Teachers, \$1.00, 10 cents for postage.

The object of this book is to afford practical assistance to teachers who wish to keep their work from degenerating into routine, by giving them new "ways" of teaching. The design is to make the teacher's work varied, alternative, and effective. Variety must exist in the school-room, and the authors of this volume desire the thanks of the teachers for pointing out methods of obtaining variety without sacrificing the great end of right scholarship. New "ways" induce greater effort, and renewed activity. Its authors have put together a great variety of suggestions that cannot fail to be of real service.