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# The Canada School Journal.

VOL. IV.

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## The Canada School Journal

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### CANADA SCHOOL JOURNAL HAS RECEIVED

*An Honorable Mention at Paris Exhibition, 1878.  
Recommended by the Minister of Education for Ontario.  
Recommended by the Council of Public Instruction, Quebec.  
Recommended by Chief Superintendent of Education, New Brunswick.  
Recommended by Chief Superintendent of Education, Nova Scotia.  
Recommended by Chief Superintendent of Education, British Columbia.  
Recommended by Chief Superintendent of Education, Manitoba.*

The Publishers frequently receive letters from their friends complaining of the non-receipt of the JOURNAL. In explanation they would state, as subscriptions are necessarily payable in advance, the mailing clerks have instructions to discontinue the paper when a subscription expires. The clerks are, of course, unable to make any distinction in a list containing names from all parts of the United States and Canada. The present issue reaches nearly 12,000.

—With this number the CANADA SCHOOL JOURNAL completes its third volume. The publishers are delighted to record the deep sense of gratitude which they feel towards the very large circle of educators throughout the Dominion and the United States who have so cordially aided them in securing such a fine circulation. They have reason to believe that no other educational journal printed in the English language has been received with such heartiness by those for whom it is intended. This is accepted as an endorsement of the course pursued, in presenting a practical journal, whose highest aim is to enable the teacher to perform his daily work in a more intelligent manner. It is also an evidence of the earnestness and professional enthusiasm of Canadian teachers. This is a hopeful sign. There are no other journals so ably conducted as educational papers, which have been so coldly received by those whose interests they advocate.

It is, however, pleasing to learn that the many excellent school journals published in the United States are receiving a more liberal support than formerly. Every teacher should at least read the journal of his own country, and one published in another land.

Subscribers frequently write, "THE JOURNAL seems to get better every month." To justify this commendation has been the constant aim of the publishers. The immense success already achieved, encourages them to greater efforts to improve its character. They intend during the coming year to maintain the past high standard of the "Mathematical" and the "Practical" departments, and to pay more attention to the publication of carefully selected examination papers and other suggestive aids to the teacher.

They have also made arrangements to record carefully the progress of education in other countries, and to open a column

for literature notes. A Teachers' Exchange will also be conducted during the coming year, in which teachers will be able to state difficulties in relation to the subjects they have to teach, and other teachers will be requested to state briefly their methods of treating them.

The fullest information will be given from time to time concerning the regulations issued by the Education Departments of each province of the Dominion, examinations, etc.

The columns of the JOURNAL will continue to be open to teachers, trustees, and others interested in educational matters, for the fair discussion of any questions relating to any department of school organization or management.

The publishers take special pride in assuring the Canadian friends of the JOURNAL, that it has met with unqualified approval from leading educators abroad. In another department of the present number may be found selections from letters kindly written by a number of the most prominent State Superintendents in the United States in regard to it.

Their cheering words of praise are gratefully received, and it is to be hoped that the friends of education throughout the Dominion will renew their efforts for the maintenance of a journal devoted to their own interests.

### SCHOOL INSPECTION IN THE MARITIME PROVINCES.

We learn from our exchanges in Nova Scotia and New Brunswick that in both Provinces important changes in their respective systems of Public School Inspection have been recently effected. The nature and scope of these changes will be better understood in connection with a brief description of the systems which they modify. So far as we can learn, systematic inspection was provided for in Nova Scotia for the first time by the Free School legislation of 1864. The arrangements for the inspection of schools established by the Act of that year continued in force substantially unmodified until the recent changes were announced, the Act itself having invested the Council of Public Instruction with power to make such changes without the aid of specific legislation. Under its general provisions there was an inspector for the schools of each county, his remuneration being determined by a scale of payments based on the number of schools inspected and the amount of Provincial money accruing thereto and passing through his hands. Some years ago the Acadian township of Clare was set off as a separate inspectorial district, so that, under the latest operation of the system now superseded, the Province had nineteen inspectors, or one in excess of the number of counties. Though, owing to the diversity in size and population of the counties, the duties and emoluments of the respective inspectors greatly varied, the method adopted was deemed best suited to the existing

wants of the Province, taking into account the transition state of education, local peculiarities and the migratory habits of teachers." Undoubtedly much valuable pioneer work was performed by many of the gentlemen appointed and serving under this system. It was not, however, we think, calculated to secure a vigorous and thorough inspection of the schools as to the character or *quality* of the work done in them. For some years after the Free School Act came into operation, the strictly inspectoral functions of the so-called inspectors were necessarily subordinated to the particularly pressing practical duties growing out of the introduction of a new order of things. As clerk of the County School Board, as the most important member of the Commission appointed to divide the county into new school sections, as a sort of educational missionary to enlighten the ignorant as to the advantages of education, to vanquish unfounded prejudices, and to overcome selfish opposition, the inspector—who in most of the counties had his own private business to keep in motion—found the time at his disposal for legitimate inspection of educational work done exceedingly limited. It is only natural to suppose that to some extent the character of school inspection in Nova Scotia was determined by the circumstances of its inception. In more senses than one it is true that "the beginning is more than half of the whole work." One thing is certain, that from its beginning to its close the system of inspection, to which we refer had its educational effectiveness seriously impaired by the fact that the Inspectors were not salaried officers, devoted to one work, but simply persons paid certain fees for performing certain duties—such performance being deemed quite compatible with the practice of a profession or the pursuit of a business. We believe that in two or three of the larger counties the duties of inspection engrossed the whole time of the Inspector, but we suppose it is equally true that in these the fees were considerable enough to furnish a decent livelihood. That the Inspectors of the smaller and less remunerative districts gave collateral attention to their private avocations is nothing to their discredit. A necessity is never a disgrace. But it is plain to be seen that the system itself provided in but an imperfect degree the conditions of impartial, thorough-going inspection. However, a Government Inspector is quite a different official from a local supervisor of schools. The duties of the latter begin and end with the care and improvement of the schools placed under his supervision. The former is a guarantor of the fact that the public money has been honestly earned; and there should never be established a competition between one's duty and his interests.

The remedy provided, as we understand the action reported, consists in dividing the whole Province into ten Inspectoral Districts. The Inspector henceforth is to be an officer devoting his entire attention to the duties of inspection. The precise bounds of the Districts and the names of the new Inspectors have not been announced at this writing. It is well understood, however, that the general principle of division to be adopted is the grouping of two contiguous counties to form an Inspectoral District, with probably the metropolitan County of Halifax standing by itself, and perhaps two

Districts formed from three of the largest counties. We have no reason to doubt that the introduction of this new system will be accompanied by such minor improvements and modifications of the practical work of inspection as will secure the most satisfactory results.

Though New Brunswick was seven years behind Nova Scotia in the establishment of the Free School system, she preceded her many years in making provision for the inspection of schools receiving Government aid. The Educational Act of 1847 provided for the appointment of *two* School Inspectors for the entire Province. These gentlemen had a wide field of exertion placed before them, surely. In 1852 this system—foredoomed to be nugatory—was replaced by one providing for the appointment of an Inspector for each county in the Province. In 1858, this, in turn, was superseded by the division of the Province into four great Inspectoral Districts, which continued in existence until swept away by the well-known legislation of 1871, which, on this point, recurred to the system established in 1852 and provided for an Inspector for each county. The office of County Inspector, thus created, or restored, was apparently intended to be but of a temporary nature. The sum provided for its remuneration was too small—both relatively and absolutely far below that appropriated for similar services in Nova Scotia—to secure exclusive devotion to the work of inspection. In fact the officials themselves were Inspectors in little more than name, their chief duties having been of a practical character, connected with the introduction of a new system. Indeed this is explicitly stated in a published "Remark" of the Board of Education:

"\* \* \* It is believed that the interests of education will be best promoted by the employment of Inspectors, for a limited period, chiefly in the work of making practically known to the people the provisions of the law, the steps to be taken to secure its advantages, the requirements respecting school accommodation, the careful and proper adjustment of boundaries. \* \* \* As soon as this is reached, the work of inspection proper will require special attention, and demand professional qualifications for its successful discharge. \* \* \*"

The changes from the imperfect and preliminary system of County Inspectors which have recently come into force can be briefly summarized. "The work of inspection proper" is now fully provided for. By an Act passed at the last Legislative Session, provision was made for the division of the Province into eight Inspectoral Districts by the Board of Education, and for the appointment thereto by the same authority of qualified Inspectors. Both the Districts and Inspectors under this Act have been announced. Good security has been taken for the thoroughness of the work of inspection, in so far as this depends on the qualifications of the Inspectors. A regulation of the Board of Inspectors provides that:

"In view of the operation of Section 13 of the Act, all candidates for the office of Inspector thereunder shall have taught for a period of at least three years, and shall have obtained a license of the Grammar School class \* \* \* ; and upon appointment to office each Inspector shall spend one term at the Provincial Normal School, or such term as the Board of Education may require. \* \*"

We assume that the recent appointments have been made under this regulation. We may add that a very responsible duty is by law assigned the new Inspector, viz., that of deter-

mining by a semi-annual examination of the pupils, to a considerable extent, the Provincial allowance of the Teacher. The proper discharge of this duty will require conscience as well as capability.

On comparison of the populations of the two Provinces, it will be seen that about equal estimates of the amount of work capable of being overtaken by an Inspector have been formed by their respective authorities. If we assume that the Districts of each Province, as compared with each other, contain equal populations, each Inspector in Nova Scotia will have under his charge the schools of 98,780 people, each in New Brunswick those of 40,799.

#### OUR HIGH SCHOOLS AND COLLEGIATE INSTITUTES.

The English-speaking Provinces of the Dominion have made liberal provision for elementary education, and with some of them the cause of higher education has not been overlooked. New Brunswick and Nova Scotia, in addition to their excellent Public School systems, have already made no inconsiderable provision—in the establishment and support of County Academies—for higher education; and we have not a doubt that, under the able superintendence of Dr. Rand, of New Brunswick, and Dr. Alison, of Nova Scotia, still further progress will be made, and a thoroughly efficient system of secondary education be ultimately developed in each of these Provinces. But thus far, Ontario, we suppose, bears the palm in the work of higher education. Our High School system had a humble yet wise beginning; it is now rapidly reaching a state of efficiency which will leave it almost without a rival. The wonderful progress of our High Schools during the last seven or eight years must afford deep satisfaction to all—and they are many—who are interested in the great work of national education. Until recent years, the importance of an organized system of secondary education had not taken firm hold of the popular mind, and, as a consequence, many of the High Schools were in a weak and unsatisfactory condition. Public Schools were thought to be a national necessity, as providing an elementary education for the masses: High Schools were regarded rather as a luxury, intended to benefit the few. But broader and sounder views of the aim and scope of higher education, and its relation to primary education, have begun to prevail. The undoubted advantages which our well-organized system of High Schools has conferred, and is still conferring, on the people at large, have made plain the fact that these schools are really the poor man's universities—the colleges of the "commons"—and have therefore made them highly popular with the masses of the people. The sound principle that "schools and colleges are institutions of the STATE"—that higher education is an essential element in every system worthy of the name of NATIONAL—is now generally accepted by educators and statesmen, and has become, as it were, an article of the people's faith. This last fact is evident from the liberal expenditure voluntarily incurred for the support of High Schools and Collegiate Institutes. To say nothing of the large amounts annually raised by local taxation for the current expenses of these schools, there has been

expended in Ontario, during the last six years, upwards of *half a million*, merely for the erection and improvement of buildings for High School purposes.

We have not space to point out in detail the evidences of increased efficiency in these institutions, and their supreme importance to the country: the noble work they are doing in educating teachers, the numbers of intelligent farmers and artisans they are turning out; the liberal education they are affording to many who are destined by intellectual power and moral worth and high intelligence, to exercise a mighty influence on the destiny of the nation—these and many other advantages which might be discussed will not be questioned by any candid and intelligent observer.

But we wish to point out that the time has come when the Government and Legislature should deal more liberally with the High Schools. We venture to express the hope that the Minister of Education—whose able administration of his Department has contributed so largely to the increased efficiency of our national schools—will see the justice of asking the Legislature for an increase of the grant for higher education. Our High Schools are fairly entitled to this increase. We are not far wrong in stating that the cost of maintaining them has nearly trebled since 1871, while the Government grant has remained almost stationary. This largely increased expenditure, and consequently increased efficiency, are mainly due to a wise direction and pressure exercised by the Department of Education, which has constantly acted on the principle that those who help themselves—who with praiseworthy liberality incur heavy expenditure for educational purposes—deserve to be, and shall be, proportionately assisted by grants from the public treasury. The voluntary efforts made by the people themselves have been marked by an amazing liberality: let the action of the Legislature be marked by an equal liberality, and a fair appreciation of the self-imposed sacrifices of the people. Education is expensive, we are told. All good things are expensive; and if every expenditure of public money can be as fully and clearly justified as that for education, our legislators will never be censured by those whom they represent. It should be borne in mind that no inconsiderable portion of the cost of our High Schools is incurred in educating the teachers of the country; they are in fact supplying the place of *Normal Schools*, in so far as giving a non-professional training is concerned, and on this ground alone their supporters are justified in expecting more liberal treatment from the Legislature. We have said that this would be an act of *justice* to the people who have been encouraged and influenced to the exercise of a liberality that few States have equalled and none surpassed. We say further—and we have the means of knowing whereof we speak—that such action of the Legislature would meet with the approval of the people—it would be a *popular* "move." And, while we know well that our legislators, in the exercise of a serene and philosophic statesmanship, are to be influenced only by the highest motives we think it is no disparagement to the best of them to say that the influence of an enlightened public opinion may become an element in their motives of action. Let it be remembered that the supporters, and those interested in the success of the High Schools and Collegiate Institutes—those

who are doing so much for the moral, material and intellectual progress of the nation—represent the intelligence, the wealth, and to a great extent the *political power* of this country, and it will be admitted that our representatives would win a large measure of popularity by heartily responding to the liberal action of the people themselves. We believe, indeed, that the legislative grant to the *Public Schools*, as well as that for High School purposes, ought to be considerably increased. We have "millions of surplus," and a revenue which largely exceeds our expenditure; let some of this vast surplus be devoted to the interests of education. The amount annually granted for education, Primary and Secondary, is insignificant compared with the millions raised by the people themselves. The people are willing, they are anxious, that the legislative grants for educational purposes should be increased. Millions for necessary public improvements—millions for education, the greatest of all national benefits—but not a cent for ignoble or dishonourable ends—is the motto of the people. Out of the pockets of the people the millions of surplus and revenue have come; there can be no better way of restoring to the people their own, than by liberal grants to the cause of education. The question at issue involves the intellectual life and culture of the nation. This is above party and the warfare of party politics. For ourselves, we place the interests of the country above the exigencies of party. We shall refuse to support, we shall strongly oppose, any representative who shall be found opposing liberal grants wisely made for the education of the people, or who shall attempt to make political capital at the expense of the people's rights. Let the friends of education everywhere, let the people everywhere do likewise; let them rise superior to party passions and party prejudices, and visit with righteous indignation every narrow-minded soul who, to subserve the purposes of party, shall be found hostile to the highest interests of the State, by raising his voice and giving his vote against liberal grants of the people's money to promote the national welfare.

#### NEW BRUNSWICK SCHOOL PROGRAMME.

The Provincial Board of Education in New Brunswick has just issued an elaborate programme or scheme of instruction for the Public Schools of that Province. That for High Schools is to be published hereafter.

The course of instruction is divided into three parts: 1st, for schools in cities and towns; 2nd, for schools in villages; and 3rd, for ungraded schools in country districts. The course of instruction for cities and towns extends over a period of eight years; that for villages, according to the number of "departments" in a school, to periods of from one to three years, from one to four years, and from one to eight years—the primary departments taking the junior part of the course, and the advanced the senior, or remaining part of the course. For ungraded schools in country districts the course of instruction extends over six years, according to the circumstances of the school. The English nomenclature of "standards," instead of "classes," is adopted in the New Brunswick course.

It is to be noted that industrial drawing is required to be taught in the schools of all grades.

The inspectors are charged with the duty of determining the quality of instruction to be given in any school or department. He is also to "require an intelligent acquaintance with the subjects of the standards prescribed." The Board of Trustees are authorized to determine whether the "optional subjects" of sewing and knitting for girls shall or shall not be taught in their schools. The principle of "payment by results" has been introduced into the New Brunswick schools, and provision is made for the distribution of \$7,000—one-half to teachers and the other half to trustees—according (1) to the character of the "accommodation and appliances," and (2) the number of pupils annually certified by the Inspector as having satisfactorily completed the work embraced in Standard VIII. of the course, or Standard VI. (in the case of ungraded country schools.)

It is worthy of note that in the Ontario Rural Schools there are now virtually only five classes, or practically only four and a half, out of the prescribed six, extending over four and a half, or five years, instead of six as in New Brunswick.

#### EDUCATION AT THE ANTIPODES.

##### No I.

The elaborate reports on education in Australia and New Zealand now published every year, indicate the great interest felt on this important subject in these distant provinces of the empire. From those before us for last year we propose to glean a few items.

*Queensland.*—This province has a population of about 250,000, and an area of 678,600 square miles. The Act under which the schools are managed was passed in 1875. There were 305 schools in operation in 1878, attended by 40,661 children. The number of teachers was 703—360 males and 343 females. The cost of these scholars was £99,117 10s., or about \$545,587. The total expenditure for all school purposes, including inspection, grammar schools, and Education Department was £117,748, or \$588,740. The law of 1875 contains "compulsory clauses," but as yet they have not been put into operation. The school population of the colony is not reported. The average cost per pupil for the year, based upon average attendance, was £5 7s. 9d., or \$26.55. There are three Grammar Schools in operation, and four "Orphanages." These latter are under the control of the Education Department. There is as yet no Normal School established. The teachers have, therefore, to depend upon the ordinary schools for any professional instructions which they may receive. The effect of this untoward state of things is thus graphically described by one of the inspectors:—

"Many schools, taught under quite intellectual conditions, are deficient in discipline without being aware of it. . . . The teacher carps at particular lines of examination, and is perpetually on guard against probable imposition and presumption on the part of the Inspector; the pupils are shy and don't like to answer; they are livid and daren't answer; they are

careless and answer negligently; they are impudent and answer flippantly; they are reckless and answer nonsensically; their looks and gestures betray that they care little about what is going on; they want self-respect, and are thoughtless regarding the good name of their school." . . . "Although the schools are mostly governed in a kindly way, driving is more common than leading. . . . Unnecessary noise is often permitted to interfere with instruction. . . . Strict order and earnest attention are not so habitual as to prevent waste of teaching power, both mental and physical."

It may be said that in many of our Canadian schools the same criticism would be just if applied to them, even where they happen to be under the control of trained teachers; but we must nevertheless say that the Queensland picture is happily with us the rare exception.

*New Zealand.*—This colony embraces 106,260 square miles of territory, and has a population of over half a million. The present School Act was passed in 1877. The educational report of this colony comes down to 30th of last June. It states that up to that time there were, out of a school population of 105,208 (between the ages of 5 and 15 years), 87,160 pupils receiving tuition in public or private schools or at home. The number of schools reported was 748. These were taught by 844 "head teachers" during the year, and 767 "assistant" or "pupil teachers." The expenditure on behalf of these schools, including £90,492 for buildings, was £306,680, or \$1,533,400, being at the rate of £3 19s. 6d. (or \$19.90) per pupil for "maintenance," or £6 3s. 9d. (\$30.75) per pupil, including "management," "inspection," and "buildings." For this latter item the Legislature voted £100,000 last year. There are four training institutions for teachers in operation—two of them are on a "comparatively large scale."

Incidental to the New Zealand system of education, we may mention that public libraries and school savings banks are provided for; £5,000 were granted for the former in 1878, and every facility is given for the establishment and maintenance of the latter in the public schools. We may mention that there are nine Grammar or High Schools for boys, and four for girls, in operation, besides two Universities—New Zealand and Otago—and four colleges, chiefly theological.

#### REV. DR. RYERSON AT STRATFORD.

It is now so long since we have heard an educational utterance from the venerable ex-Chief Superintendent of Education, that we gladly welcome his appearance at the recent High School opening at Stratford. The High School Board has reason to congratulate itself on its exceedingly handsome building—probably the handsomest High School building in Ontario. It was fitting, therefore, that our most distinguished educationist should have been invited to take part in the interesting proceedings of its opening and dedication to the noble uses of education.

In addition to the thoughtful courtesy of inviting the reverend doctor to take the principal part in "the opening," the High

School Board paid the ex-Chief the additional and appropriate compliment of presenting to him a formal address of welcome. In reply to this address the doctor spoke with much feeling. He recalled some of the incidents connected with the founding of our present system of education, and explained the principles upon which that system had been founded. He said:—

"In establishing the school system of Canada great difficulties had been encountered. The people shrunk from incurring the necessary expense, and his first aim, in assuming office in 1844, was to secure their confidence and sympathy, and to impress on them that the system was their own, that the Government would never interfere with what the people wanted to do. Although it was not generally known, Canada was mainly indebted to Holland for its present educational system. In that country a system based on the sentiments of the people was established, and so well was it adapted to their wants, that though up to 1857 there were three revolutions, yet no part of the system was changed. In 1850, Mr. Baldwin, then Premier of Canada, had given two days to the consideration of the revised School Bill. That gentleman had advocated local self-government as regarded general affairs, and he (Dr. R.) had urged on him the conferring of the same powers on the people in regard to educational matters. Mr. Baldwin assented, and the bill then passed was the nucleus of the present school system. So much having been done for public schools, Mr. Baldwin a year after wished to do something for high schools, or grammar schools as they were then called, and he (Dr. Ryerson) told him that if the grammar schools were to be successful they must be the schools of the people, not of the Executive Government. The people would never consent to be taxed for schools which they did not control. The next year (1855) a statute was prepared, and in order to obtain money to carry on the high schools, the scheme of union boards was devised, whereby taxes might be imposed for both. That was a very imperfect arrangement, and did not always result harmoniously, and he sincerely wished that all these union boards were wiped out of existence.

"Soon after he assumed office it became necessary to have properly qualified teachers, and for that purpose the normal schools were established. In 1847 the necessity of thoroughly trained inspectors, men versed in all branches of learning, next made itself felt, and that was overcome in 1871 by making the Government and the municipalities contribute towards their salary. What was sought was to impart a thorough training from beginning to end. Every citizen should possess a good common school education, which laid the foundation of a superstructure which rose step by step to the Provincial university. Although it was with great difficulty that the people were persuaded to tax themselves for higher education, yet he had appealed to them so constantly, and had so persistently urged its claim upon them, that he was satisfied the high schools now had as deep a hold on their sympathies and affections as the public schools. He would call attention briefly to the necessity of teaching practical science and mechanics in the high schools, technical education in fact, and he was glad to know that something had been done in that direction. Though he (Dr. Ryerson) was now in the evening of his days, his heart still beat warmly, and his interest in education was as deep as ever. When he thought of the difficulties that had been overcome, he rejoiced that the system he had founded was so firmly fixed in the hearts of the people that no man could shake its foundation. Alluding to religion in the schools, which was eliminated in the United States, he rejoiced that the elements of morality and religious training were not neglected, as they constituted the real greatness of the people and the stability of their institutions."

These words from our former educational leader will be welcomed by many.

—The elections of the London (Eng.) School Board take place in November. The indications were, as given in latest advices, that the contest this year would be a severe one. Political considerations were likely to be introduced, and the candidates were ranged in two well-defined parties. Those opposed to the old Board have two cries. They claim that the Board has been "extravagant," and that "they are educating

some children whose parents are able to pay for them at other institutions." We can probably find even in Canada men who are *fully* equal to their English brethren in their readiness to crush educational interests under the plea of "extravagance," but the day has fortunately passed on this side of the Atlantic when an intelligent man would dare to claim that the Public Schools were only for the education of the children of the poor. Let us hope that the day is not far distant when the Public School system of England will be patronized by the rich as well as the poor. The Bishop of Manchester, in his opening address before the Social Science Congress, pointed out this defect in the English system; and an agitation has already set in in favor of Government interference and support in regard to middle class education. The present Government is not likely to take any action in the matter, however, as Lord George Hamilton lately, in a public address, held that "the Government should educate the children of no parents who were rich enough to pay for them."

—As the result of numerous memorials sent to the British Education Department by School Boards, a society called the English Spelling Reform Association has been formed. Its objects are to advocate the *general principle* of reform and to collect information, but not to promote any special system. Among many eminent members may be mentioned the Bishop of Exeter, Prof. Max Muller, Dr. Abbott, Mr. Lowe, Mr. Mundella, Sir Charles Reed, and Professors Sayce and Smith.

—The sixth annual report of the Scotch Education Department has lately been issued. The average attendance in Government schools in Scotland during the year was 977,250. The report shows progress in every department. The average Government grant per scholar has advanced from 15s. 8½d. to 16s. 9d., and that for the current year is estimated at 17s. 9d.

—The Science and Art Department in England has adopted a new method for checking the number of poorly trained candidates who try the Elementary School Drawing Examinations. A fine of one penny is to be inflicted for every exercise marked "Failure." The sum is not large, but the principle will admit of extension.

—We have to thank Mr. W. S. Howell, teacher, Sombra, for his kind suggestions in regard to publishing sets of Uniform Promotion Examination papers as models for the guidance of teachers and others in examining their pupils. We will publish from time to time the papers set in some of the counties.

Mr. Wm. Cassidy, holding a first-class Provincial certificate, grade A, has been appointed head master of the Palace-street school, Toronto.

## Contributions and Correspondence.

### GRAMMAR—WHEN SHOULD IT BE COMMENCED? &c.

BY WM. CROCKET, A.M., PRINCIPAL OF PROVINCIAL NORMAL SCHOOL, NEW BRUNSWICK.

Grammar is one of those subjects which we are inclined to bring before pupils at too early an age. The interest which we ourselves take in the subject, and the seeming progress which our pupils make, leave no doubt in our minds as to its suitability at any stage. We are, moreover, under the impression that a knowledge of grammar is essentially necessary to enable our pupils to speak correctly.

Our own interest in the subject no doubt reflects itself in our pupils, and we make ourselves believe that matters are as plain to them as to us. Under this belief we skim the surface of the subject, imagining that if they can define the parts of speech asked for and give examples, all is understood. This may be done and is often done correctly, and yet gross misapprehension underlies it all. It is not only possible, but in nine cases out of ten highly probable, that pupils who have mastered, or rather been supposed to master, the parts of speech, have no proper conception even of a noun. Were they asked if they had ever seen, felt or heard a noun, they would regard the question as absurd, or they would name some animal which they had seen, touched and heard. Such misconceptions are the inevitable result of commencing the subject prematurely. Grammar is in its very nature an abstract subject, and does not admit of concrete illustrations. An adjective is not a quality, nor is a noun a man, but they are the names of conceptions; and until the pupil is able to dissociate the conception from the thing itself—in other words, to think of the word book without associating it with the thing book—he is unable to enter upon the study of grammar. He may enter upon the study of arithmetic at any stage, for the subject admits of visible illustration, but grammar is a new departure for him—his mind is appealed to, not through his senses as hitherto, but is thrown as it were upon itself. The age at which the pupil, then, should begin grammar will depend upon the age at which he is capable of abstract thinking. With the mass of pupils this power does not manifest itself before the age of nine or ten. Commenced at this age and properly treated, the subject will not only be freed from misconception, but may now be used as a means to develop and strengthen the dawning power.

(To be continued.)

### ELEMENTS OF OUR EDUCATIONAL SUCCESS.

BY DR. HODGINS, DEPUTY MINISTER OF EDUCATION.

There are certain conditions essential to the success of our educational system, which, in discussing the question, cannot be overlooked or ignored.

It is not my purpose, however, to enter into the general question, but merely to point out in how far we have been able, more or less satisfactorily, to comply with these "conditions," in whole or in part, in putting into operation our own educational system.

The "elements" of success—or rather the principles essential to success—which must take a practical shape in a system of education are in the main as follows:—

1. Free Schools—with the complement of some efficient means of enforcing "compulsory attendance."
2. Suitable School Houses (constructed with the necessary "modern improvements"), with sufficient grounds, etc.

3. Fully Trained Teachers for the various grades of the schools.

4. Programme of Studies, embracing a range of subjects . . . beyond the reasonable capacity of the pupils, or crowded into insufficient time, yet comprehensive enough to provide for the teaching of elementary science, etc., in the higher grade of schools,

5. Uniform System of Examinations throughout the Province; (1) for teachers, and (2) for entrance into the High Schools and Collegiate Institutes.

6. Thorough and Systematic Inspection of the Schools, by experienced men trained for their work.

This brief summary can only be regarded as touching the main features of a successful school system. Were we to go further, we should have to consider some of the higher and lower departments, or features, of that system, as well as some practical details of administration. But this is not necessary for our present purpose.

The aim of the promoters of our school system has been to keep steadily in view, and to incorporate as far as possible in our school system, the principles to which we have given a practical form in the items enumerated above. As thus expressed they have been in operation, more or less actively, in our school system since its commencement, and especially since the legislation of 1871. Their operation has on the whole been most satisfactory, especially in two or three directions.

1. For instance, the new system of inspection has been of immense benefit to the schools. It is not too much to say that the condition of the schools, their discipline and the methods of instruction pursued therein, have been vastly more improved during the period which has elapsed since the introduction of the system of county inspectors in 1871, than during the preceding twenty years under the old plan of township superintendents. It is no reflection upon this class of officers to say so. The defects were inherent in the system, and not so much in the men. They had neither the time nor the remuneration, and in many instances, the professional knowledge to enable them to do better under a system so desultory and imperfect in itself.

2. Then, again, there has been a complete revolution in the character and condition of the school houses and the material appliances connected therewith. Thus, while the expenditure for school houses in 1850 (when the present school system was consolidated) was about \$50,000; in 1860 it was \$260,000, and in 1870, \$480,000; it at once rose in 1871 to over \$600,000; in 1872 to \$823,000; and in 1873 to \$1,070,000; so that the expenditure on behalf of school houses alone (from 1871 to 1877 inclusive) reached the large sum of about \$7,000,000; or on an average nearly \$1,000,000 were annually expended for seven years on the erection and repairs of school houses since the passage of the law of 1871, and up to the end of 1877. A large number of the buildings erected have been of the most substantial kind, and many of them highly ornate.

3. These facts are very gratifying; but the most conspicuous advance in the department of progress has been made in the arrangements for the training of teachers. These have been largely extended within the last year or two. Formerly, for instance, no facilities existed for the professional instruction of candidates for third-class certificates. Now, however, a Model School has been provided in each county, and attendance at which is necessary as a condition for obtaining upon examination the third or lowest grade of a teacher's professional certificate.

The experiment for training teachers of all grades is an interesting one, and well worthy of considerate attention, with a view to improve the details of the scheme, where defects may be found to exist. For the information of those who are not familiar with the details of this feature of our school system, we may say that the

machinery for training teachers is two-fold: one part provides for the literary or "non-professional" education of the teacher, and the other for practice in experimental teaching, or "professional" training. The literary or "non-professional" education of candidates for second or third-class certificates, is left to the teachers themselves. They may obtain it in any way they please. The test of its possession is applied at the ordinary yearly examination, held simultaneously in the various counties and at the High Schools and Collegiate Institutes. On successfully passing this examination, the candidate-teacher for a full third-class certificate is required to attend a County Model School and pass a professional examination; and for a second-class certificate he is required to attend one of the Normal Schools—in both cases for at least a term. To obtain a first-class certificate the candidate must pass an examination in a wide range of professional and non-professional subjects. Candidates for these certificates are required to attend a Normal School for a year, except in special cases.

4. In addition to these admirable facilities for preparing teachers for their work, provision has been officially made for keeping alive a professional *esprit* among them, and for stimulating their zeal while engaged in the arduous duties of the school-room. For this purpose the law and regulations provides for the holding of a two days' Convention—institute in each county, riding or city, once a quarter. At these conventions all the teachers of the division are expected to attend, and every facility and encouragement are given to them to do so. A parliamentary grant of \$50 is annually made to each association, and authority is given to county councils to make a like grant; while in making the apportionment of the school fund to the schools, the time of the teacher's attendance at the convention is reckoned in.

5. There is only one more subject to which our space will allow a reference to be made. And this is one of the most important of all—the system of uniform examinations for teachers and in high schools, prescribed by the School Act of 1871. Although this system does not accomplish *practically* all the desirable objects which it is theoretically designed to secure, yet it is an immense improvement on the old desultory system, or rather want of system, which prevailed up to 1871. Formerly each County Board and each High School dictated its own questions, fixed its own standard of excellence, and placed its own estimate on the answers given by candidates. Now, not only is the course of study fixed by the Department, but a uniform series of questions are prepared by experts and sent out by its authority to each county. At a prescribed time the examination papers are opened and placed before candidates, and the answers received. It is not necessary to enter into further details, but it is clear that under such a system some approach, hitherto unattainable, to a common standard of excellence can be reached, and the knowledge and qualifications of the parties concerned be submitted to a uniform and satisfactory test.

There are other parts of our educational system which have marked features of excellence, and which have contributed largely to its success. Space, however, forbids our entering upon them. There are also marked defects and several deficiencies, but a similar reason prevents their consideration at present.

J. G. H.

#### FIRST-HAND AND SECOND-HAND KNOWLEDGE.\*

BY W. B. DALBY, F.R.C.S.

In every system of education in which popular science forms no part, whatever knowledge the pupil gains is acquired from what he reads or from what he is told, and the truth of facts so pre-

\*Part of an address delivered at St. George's Hospital, London, October 1, 1879.



sented to him he must take either upon trust or, in so far as they can be demonstrated to his reason, by logic or mathematics. In the study of natural science, on the other hand, he sees, he feels, he hears the same fact repeated again and again under the same conditions; and the informant is Nature—Nature, who never errs. Which is the better mode of acquiring information? Which information is the more likely to be true, to be the more worthy of trust, and safer to be acted upon? These questions need no reply. We shall all agree that one of the most important elements in education is English literature, and certainly in this department history must be included as not the least useful and delightful. But consider for a moment how entirely different, as a force in mental culture, is the information acquired by learning anything in science or in history. Take, for example, the character, or even the acts of Mary Stuart. Although the events in her life occurred only some three hundred years ago, I dare say I could find among the students I am addressing as much difference of belief in many of her recorded actions, and certainly of opinion in regard to her character, as on any subject I could raise. To do this it would only be necessary to select a student fresh from the reading of Mr. Froude's history, and another who had derived his impressions from earlier histories, and had not laid aside the romance with which Scott's novels have surrounded this Queen. Mr. Froude's references to existing documents may be sufficient to induce me to receive his facts for purposes of history; but, accept his account as much as I will, my belief is of a very faint sort if I compare it with anything I have seen for myself. Viewed in the light of actual knowledge, the facts derived in the two ways have a different kind of value to me, both no doubt good in themselves, but still widely apart. With all due respect to the authorities at our old universities, I cannot but think that the time will come when the elements of physiology and chemistry will be considered as valuable a method of mental training as the production of what are fancifully termed Latin verses, as the study of the traditional records of Jewish history, or the learning by heart of sentences from Paley's "Evidences." In the work which you now propose to undertake you will require no one's evidences but those of your own senses, and any statement from your teachers you will be able to subject to such tests. In whatever degree you do this your studies will be useful; when once you omit this they will be feeble and barren in their results. When you read or are told that an artery pulsates, that it is composed of so many coats, each possessing peculiar properties and uses, you will see and feel the artery to beat, you will examine its coats, you will see their properties exemplified in life, in death, in health, and in disease: in health, when it is divided by the knife, or tied to arrest hemorrhage; in disease, when it is the seat of aneurism and other changes. Of what service would it be to you to read of all this? You would be better almost without such miserably insufficient information. Besides, what you read may not be true; you will decide for yourselves whether it is or not. If you wish to see the result of an education which makes a man arrive at an opinion accurately, act boldly, display manual dexterity, and effect good results, you may see it in any of the surgeons while delegating an artery to cure an aneurism. Again, supposing you to have made yourselves acquainted with the most complete account of typhoid fever, and simply to have supplemented what you have so learned by looking at any number of cases, and hearing what others have to say upon them. Until you have tested for yourselves the truth of all that you have heard or read about the disease, your knowledge would be worse than useless, for you might fancy that you know something about it, and, armed with such conceit, have the effrontery to take charge of a patient so suffering. When you have seen patients every day from the beginning to the end of the

fever, have taken the temperature of their bodies and noted its variations, become so familiar with their pulses that you recognize the period at which it may be necessary to administer stimulants, examined the excretions, watched the changes in symptoms; noted the effects of treatment, observed every detail in diet and nursing, made yourselves acquainted with the affections which the fever leaves behind, witnessed the modes of death with patients who do not recover, examined the *post-mortem* changes in those who die from it, and, lastly (most important of all), have discovered the source whence the fever arose—if you have done all these things, your knowledge of the subject will be real, and you will have learned that, though books have their uses, they should in science and medicine be only used for the purpose of directing attention to what is to be looked for, and as a means of comparing the observations of others with your own. Thus far, then, books may be relied upon, and no further. If this be so, the very essence and goodness of a scientific education is lost when a student endeavors to pass his examinations by learning from text-books what he should have taught himself by observation, and from pictures what he should have learned from localities. Those whose information is so gained have seized the shadow instead of the substance, and their work will forever bear the marks of their indifferent education.

The results of the two modes of acquiring knowledge will be seen in the different classes of practitioners which they respectively produce. In the first order is the physician who intelligently studies physiology; who recognizes in pathology what I would for the moment call an eccentric physiology; who says to himself when contemplating disease: "I see here such and such organs of the body out of order, such and such functions imperfectly performed; let me try to place these organs at rest, so that they may recover themselves (where recovery is possible), and perform, perhaps, in time, their functions as heretofore;" who appreciates that in pneumonia the tendency is toward recovery when not interfered with, if the patient's strength is so supported as to tide over the period during which the lung recovers itself; who sees in typhoid fever the same necessity for support, with the additional one of resting the intestine until the ulceration has time to heal; who, in the case of diseased kidneys, rests these organs by putting their work on to other organs, such as the skin and intestines, and allows no food which requires the special exercise of the kidneys for purposes of elimination. Similar management with other diseased organs. Here knowledge of physiology precedes knowledge of disease, and disease means to this physician disordered physiology. How different from the meddling apothecary of not long ago—never easy without he was pouring his medicines into his patient every few hours, having for every symptom a fresh drug which added to his patient's difficulties, and for every pain some outward application which increased his discomfort! Now, his modern counterpart is he who has learned chiefly from books and untrained observation what he knows of disease; for please observe, that constantly seeing patients by no means implies that the faculty of accurately observing has been attained, and if this faculty is not acquired by a man early in life he will blunder on into old age. Such a one does much the same as his predecessor in a milder way when his first consideration takes the form of the inquiry, What is a good medicine for this and what for that? He knows what will cure something or other, and prescribes it. So well is what I am saying beginning to be understood, that the very expression "sure," unless applied with a special meaning, as to an aneurism, a hernia, or the like, has become almost offensive, and will ere long be used only by the ignorant and pretentious. The physician does not pretend to cure his patients; he places them in the conditions most favorable to recovery, and is thus often the means of averting death

and conducting them to health. You must not think that I am underrating the value of medicines; a large number of drugs we know well to be most useful and often necessities in the treatment of disease, but the practice of ordering medicines to every patient who applies for relief is no longer the practice of physicians, although perhaps it may be followed by those who would on occasions be the last to resort to it if they had the courage of their opinions. But pathology is better understood than it was a few years since, and with a more complete knowledge of morbid processes has come a corresponding knowledge of the frequent inability of drugs to control them; add to this that, with a fairly intelligent patient, the man who possesses an intimate acquaintance with the morbid change which produces the symptoms has the power of explaining his disease to him, and so successfully insisting upon the requisite conditions for treatment, irrespective sometimes of little, if any, assistance from drugs—such a knowledge cannot be attained without a thorough scientific training, and I could multiply examples where this kind of education is as useful as it is to the physician.

At the risk of being tedious, I cannot help repeating that the mental training which encourages the habit of careful observation, of accumulating facts, the reality and truth of which are tested by experiment, which sweeps away opinions based upon imperfect premises, which succeeds in leaving upon its pupil a profound regard for accuracy in all his work, must be a valuable addition to any course of education—an addition, for I should be sorry to urge that it was a complete substitute for any branch of knowledge except it be philosophy and metaphysics. How science has superseded philosophy was well told by George Henry Lewes when he wrote: "The method of verification, let us never forget, is the one grand characteristic distinguishing science from philosophy, modern inquiry from ancient inquiry. The proof is with us the great object of solicitude; we demand certainty, and, as the course of human evolution shows certainty to be attainable on no other method than the one followed by science, the condemnation of metaphysics is inevitable. Philosophy was the great initiator of science; it rescued the nobler part of man from the dominion of brutish apathy and helpless ignorance, nourished his mind with mighty impulses, exercised it in magnificent efforts, gave him the unslakable thirst for knowledge which has dignified his life, and enabled him to multiply tenfold his existence and his happiness. Having done this, its part is played; our interest in it is purely historical."—*Lancet*.

### Mathematical Department.

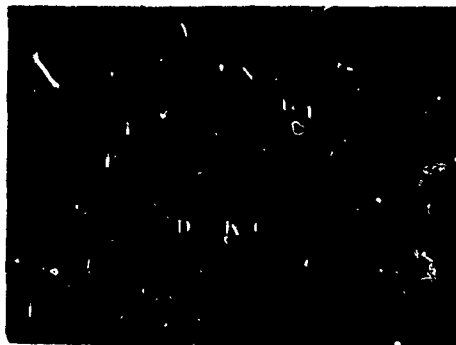
Communications intended for this part of the JOURNAL should be on separate sheets, written on only one side, and properly paged to prevent mistakes. They must be received on or before the 20th of the month to secure notice in the succeeding issue, and must be accompanied by the correspondents' names and addresses.

#### GEOMETRICAL MAXIMA AND MINIMA.

I. Of all triangles having the same vertical angle, and whose bases pass through the same point, the least is that whose base is bisected at this point.

Let  $AEF$  be a triangle whose base  $EF$  is bisected in  $D$ . Then  $AEF$  is less than any other triangle  $ABC$  which has the same vertical angle  $EAC$ , and whose base passes through  $D$ .

Through  $F$  draw  $FG$  parallel to  $AE$ . Then it may easily be shown that the triangles  $EBD$ ,  $FGD$  are equal. Therefore the triangle  $DFC$  is greater than the triangle  $DBE$ . To each add  $ABDF$ , and the triangle  $ABC$  is greater than the triangle  $AEF$ .



II. The greatest parallelogram that can be inscribed in a given triangle so as to have the vertical angle of the triangle for one of its angles, is that formed by drawing two straight lines from the bisection of the base parallel to the sides.

Let  $ABC$  (preceding figure) be the triangle, and let  $K$  be the middle point of  $BC$ , and  $D$  any other point in  $BC$ . Let  $DN$ ,  $KL$  be parallel to  $AB$ , and  $DP$ ,  $KM$  parallel to  $AC$ . Then the parallelogram  $AK$  is greater than the parallelogram  $AD$ .

Let  $EDF$  be drawn such that  $D$  is its middle point. Then it may readily be shown that the parallelogram  $AK$  is half the triangle  $ABC$ , and that the parallelogram  $AD$  is half the triangle  $AEF$ . But by the previous theorem the triangle  $ABC$  is greater than  $AEF$ ; therefore  $AK$  is greater than  $AD$ .

III. Of all equiangular parallelograms of the same perimeter, that which is equilateral is the greatest.



Let  $ABCD$  and  $A EFG$  be two equiangular parallelograms of the same perimeter, of which the former is equilateral.  $ABCD$  is greater than  $A EFG$ .

Let  $AB$ ,  $AG$  produced meet  $CF$  produced both ways in  $K$  and  $L$ ; and let  $H$  be the point of intersection of  $EF$  and  $CD$ . Then from the equality of the perimeters it may be shown that  $HC$  is equal to  $HF$ . Therefore the triangle  $KBC$  is isosceles, and  $BK = BC = BA$ . Hence  $KC = CL$ , and  $C$  being the bisection of  $KL$ , by the preceding theorem the parallelogram  $AC$  is greater than the parallelogram  $AF$ .

Cor. 1. The square is the greatest of all rectangles of equal perimeter.

Cor. 2. The space which can be enclosed by a straight line of given length, and an indefinite straight line, the given finite line being divided into two segments inclined to each other at a given angle, is greatest when the segments are equal. For the double of such space when the segments are equal is a rhombus and therefore a maximum.

Cor. 3. To construct a rhombus equiangular to a given parallelogram and of the same perimeter. Let  $A EFG$  be the given parallelogram. Produce  $AG$  to  $L$ ; make  $GL$  equal to  $GF$ ; join  $LF$  and produce it to meet  $AE$  produced in  $K$ . Bisect  $KL$  in  $C$ , and draw  $CB$ ,  $CD$  parallel to  $AL$ ,  $AK$ .  $ABCD$  is the rhombus required. Proof is evident from the theorem.

IV. Of all triangles having two sides of the one equal to two sides of the other, each to each, that which has the two sides perpendicular to each other is the greatest.

For the vertex of any triangle whose angle is not right will evidently be nearer to the base than the vertex of that which has the

right angle, and thence it follows that the triangle whose angle is right is the greatest.

Cor. 1. Of all parallelograms on the same base and with same perimeter, the rectangle is the greatest. For the other sides are equal, and the triangle which is half the rectangle is greater than a triangle which is half of any of the other parallelograms.

Cor. 2. A square is greater than any other parallelogram of equal perimeter. For, if the parallelogram be not a rhombus, construct a rhombus equiangular with it and of same perimeter. (IV. Cor. 3.) The rhombus will be greater than the parallelogram by III. But by IV., Cor. 1, the rhombus is less than the square. Therefore the square is still greater than the parallelogram.

Cor. 3. The space which can be enclosed by an indefinite straight line and a straight line of given length, which is divided into two segments, is greatest when the segments are equal and are perpendicular to each other.

V. In a given indefinite straight line to find a point, from which if two straight lines be drawn to two given points on the same side of the given line, their sum should be a minimum.

Let  $A, B$  be the two given points, and  $KL$  the given straight line. Draw  $AC$  at right angles to  $KL$  and produce it to  $D$ , so that  $CD$  is equal to  $AC$ . Join  $BD$  cutting  $KL$  in  $E$ . Then  $AE, EB$ , drawn to  $E$  are together less than  $AF, FB$  drawn to any other point  $F$ . For  $AE = ED$ , and  $AF = FD$ . Therefore  $AF + FB = DF + FB$ , and  $AE + EB = DE + EB = DB$ . But  $DF + FB$  is greater than  $DB$ ; therefore  $AF + FB$  is greater than  $AE + EB$ .

VI. The perimeter of an isosceles triangle is less than that of any other equal triangle standing on the same base.

Let  $ABC$  be an isosceles triangle, and  $DBC$  any other equal triangle upon the same base, so that  $AD$  is parallel to  $BC$ . Produce  $BA$  to  $E$ , making  $AE$  equal to  $AB$ ; join  $ED$ . Then it may be shown that  $DE$  is equal to  $DC$ . Therefore  $BD + DC = BD + DE$ , which is greater than  $BE$ , i. e., than  $BA + AC$ ; or the perimeter of  $ABC$  is less than that of the equal triangle  $DBC$  on the same base.

Cor. 1. If any polygon be not equilateral, another equal polygon may be found of the same number of sides and with a less perimeter.

Let  $ABCDE$  be a polygon, and let  $AB$  be not equal to  $BC$ . On  $AC$  as base construct an isosceles triangle  $AHC$  equal to  $ABC$ . Then  $AH$  and  $HC$  are together less than  $AB, BC$ , and therefore the perimeter of the polygon  $AHCDE$  is less than that of the equal polygon  $ABCDE$ .

Cor. 2. An isosceles triangle is greater than any scalene triangle of equal perimeter and on the same base.

For an isosceles triangle equal to the scalene triangle and on the same base will have a less perimeter, and therefore less than the perimeter of the first isosceles triangle, than which it will therefore be less in area; i. e., the given isosceles triangle is greater in area than the scalene triangle.

Cor. 3. Hence if any polygon be not equilateral, a greater polygon may be found of the same number of sides and of equal perimeter.

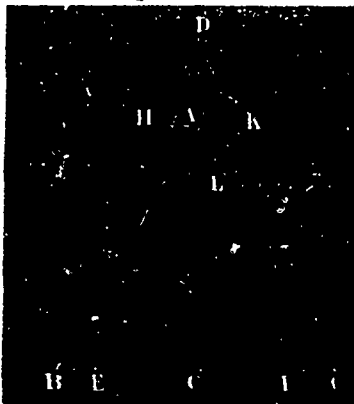
Let  $ABCDE$  be a polygon; and let the sides  $AB, BC$  be unequal. On  $AC$  as base construct an isosceles triangle  $AHC$  such that  $AH + HC = AB + BC$ . Then the isosceles triangle  $AHC$  is greater than the triangle  $ABC$  of equal perimeter, and therefore the polygon  $AHCDE$  is greater than the polygon  $ABCDE$  of equal perimeter.

It will readily be seen that we are not justified in inferring from the preceding that, the perimeter being given, the area of a polygon is a maximum when it is equilateral, for, in addition to its being doubtful, so far as the preceding goes, whether there is a

maximum at all or not, we may make a polygon whose sides are equal assume an infinite number of different shapes, and of course these are not all maxima.

VII. If the base of an isosceles triangle be less than the base of an equal equilateral triangle, its side shall be greater than the side of the equilateral triangle.

Let  $ABC$  be an equilateral triangle and  $DEF$  an isosceles triangle of equal area, the base  $BC$  being greater than the base

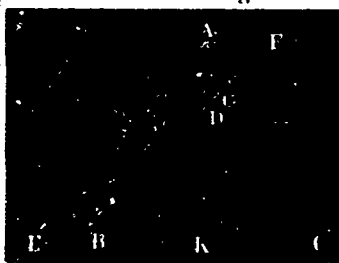


$EF$ . Then  $DE$  shall be greater than  $AB$ . Though  $A$  draw  $HAK$  parallel to  $BC$ ; join  $DB, AE, EK$ . Then because the triangles  $DEA, BEA$  are equal,  $DB$  is parallel to  $AE$ ; and therefore  $HA$  is equal to  $BE$ ; but  $HA$  is equal to  $AK$ ; therefore  $BE$  is equal to  $AK$ , and they are parallel; therefore  $EK$  is equal to  $AB$ . Now the angle  $CKL$  is less than the angle  $CLE$  which is  $60^\circ$ , being equal to the angle  $BAC$ . Hence

the angle  $EKD$  is obtuse, and  $DE$  is greater than  $EK$ . But  $EK$  is equal to  $AB$ . Therefore  $DE$  is greater than  $AB$ .

VIII. The perimeter of an equilateral triangle is less than that of any other equal triangle.

Let  $ABC$  be the equilateral triangle. If the other triangle be not isosceles, construct an isosceles triangle equal to it, whose perimeter will therefore be less than its perimeter. Let  $DEK$  be half of this isosceles triangle.



Then, as before,  $BD$  is parallel to  $AE$ . Produce  $BD$  to meet in  $F$  a line through  $A$  parallel to  $BC$ .

First let  $KE$  be not less than  $KA$ . Then the angle  $KAE (=ADF)$  is not less than  $KEA (=AFD)$ ; therefore  $AF$ , i. e.,  $EB$  is not less than  $AD$ . Therefore  $ED, EB$  are together not less than  $ED, AD$ . But  $ED, DA$  are greater than  $AE$ , which is greater than  $AB$ . Therefore  $DE, EB$  are greater than  $AB$ , i. e., the semi-perimeter  $DE, EK$  is greater than  $AB, BK$ , and therefore the perimeter of the original triangle is greater than that of  $ABC$ .

Next let  $KE$  be less than  $KA$ . Make the angle  $EAG$  equal to the angle  $AEB$ . Then because  $KE$  is less than  $KA$ , the angle  $KAE$  is less than the angle  $KEA$ , and therefore  $AG$  falls above  $AD$ . Again, because  $CE$  is greater than  $CA$ , the angle  $CAE$  is greater than the angle  $CEA$ , and therefore  $AG$  falls below  $AC$ . Angle  $AGF = GAE = AEB = AFG$ ; therefore  $AF = AG$ . Also angle  $ADG = BDK > BAK$  or  $> DAC > DAG$ ;  $\therefore AG$  or  $AF$  or  $EB$  is greater than  $DG$ . Hence  $DE, EB$  are greater than  $ED, DG$ , i. e., than  $EG$ . But because  $AG = EB$ , angle  $GAE = BEA$ , and  $EA$  is common, therefore  $EG$  is equal to  $AB$ ; and therefore  $DE, EB$  are greater than  $AB$ , and again the perimeter of the isosceles triangle and therefore of the original triangle is greater than that of the equilateral triangle.

Lastly, if the base of the isosceles triangle be less than that of the equilateral, its side is greater by the previous theorem (VII). If on a side of this isosceles triangle another isosceles triangle be constructed equal to it, this will have a less perimeter, but its perimeter will, by the previous cases, be greater than that of the equilateral triangle. Hence in this case also the equilateral triangle has the least perimeter.

Cor. An equilateral triangle is greater than any other triangle of equal perimeter. For an equilateral triangle, equal in area to the other, has a less perimeter; and therefore one of equal perimeter will have a greater area.

IX. The perimeter of a square is less than that of any other quadrilateral rectilinear figure which is equal to the square.

Let  $ABCD$  be any quadrilateral. Join  $AC$ . On  $AC$  construct an isosceles triangle  $AFC$  equal to  $ABC$ ; then  $AF, FC$  are less than  $AB, BC$  by VI. Also on the other side of  $AC$  construct an isosceles triangle  $AGC$  equal to  $ADC$ ; then  $AG, GC$  are less than  $AD, DC$ ; and the perimeter of  $AFCG$  is less than that of  $ABCD$  which has an equal area. Again join  $FG$ . On  $FG$  construct an isosceles triangle  $FKG$  equal to  $FAG$ ; then  $FK, KG$  are less than  $FA, AG$ . On the other side of  $FG$  construct an isosceles triangle  $FIG$  equal to  $FCG$ ; then  $FI, IG$  are less than  $FC, CG$ . Hence the perimeter of  $FIGK$  is less than that of the equal quadrilateral  $FCGA$ , and therefore than that of the equal quadrilateral  $ABCD$ . But it may easily be shown that  $FIGK$  is a rhombus or a square. But by IV., Cor. 1, a square equal to this rhombus will have a less perimeter. Still less then will the perimeter of this square be than that of the equal quadrilateral  $ABCD$ .

Cor. The square is greater than any other quadrilateral rectilinear figure of equal perimeter.

## Practical Department.

### SOME POINTS IN ALGEBRAIC FACTORING.

BY J. A. M'LELLAN, M.A., LL.D., INSPECTOR HIGH SCHOOLS, ONTARIO.

(1). Since the square of a binomial is equal to the square of each of the terms together with twice their product, it follows that to factor a trinomial which is a perfect square, we have simply to connect the square root of each of the squares by the sign of the other term, and write the result twice as a factor. From like considerations we may factor an expression which is the square of any polynome; for the square of a polynome is equal to the square of each term together with twice each term into all the terms that follow it. Suppose we wish to factor  $x^2 + y^2 + z^2 - 2xy + 2yz - 2zx$ .

In this case, the fact that we have three squares and three double products, suggests that the given quantity is the square of a trinomial in  $x, y, z$ . To find the signs which are to connect these letters, we have merely to notice the signs of the double products; thus, the sign which is to connect  $x$  and  $y$  will be determined by that of the product  $-2xy$ ; the sign which is to connect  $y$  and  $z$  will be determined by that of the product  $+2yz$ , &c. Hence, since the  $xy$ -product has the sign minus, the signs of  $x$  and  $y$  must be different; therefore we have  $x-y$  as two terms of the required trinomial. Further, since the  $yz$ -product has the sign plus, the signs of  $y$  and  $z$  must be alike, but the sign before  $y$  is minus, therefore the sign before  $z$  must be minus; hence the required trinomial is  $x-y-z$ . Similarly may be factored,

$$x^2 + y^2 + z^2 + u^2 - 2xy - 2yz - 2zu - 2xu + 2xz + 2yu.$$

(2). The formula which expresses that "the difference of the squares of two quantities is equal to the product of the sum and the difference of the quantities," can be frequently employed in factoring. We shall notice now one of the many important cases. Expressions of the form

$$ax^2 + bx^2 + c$$

can always be resolved into real factors; we shall give some examples of one important class, leaving other cases for future consideration. The class referred to is that which includes expressions in which  $b$  is less than twice the square root of  $ac$ , of which a typical example is

$$x^4 + x^2y^2 + y^4.$$

To factor this we throw it into the form above referred to, viz., the difference of two squares. Now, one of the squares will be that of a binomial whose terms are the square roots of the squares in the given expression:—in this case the square root of  $x^4$  and that of  $y^4$ ; hence we must have

$(x^2 + y^2)^2$ , to get which  $x^2y^2$  has to be added to the middle term of the given quantity, and of course must also be subtracted from the resulting square. Hence we have

$$(x^2 + y^2)^2 - x^2y^2, \text{ which gives } x^2 + y^2 \pm xy.$$

Since, therefore, we have merely to add to the middle term what will make the expression a perfect square, i. e., what will make it twice the product of the square roots of the two squares, we derive the following practical rule for factoring such expressions:

(1). Take the square roots of the two extreme terms (i. e., the squares) and connect them by the proper sign; this gives the first two terms of the required factors.

(2). Subtract the middle term of the given expression from twice the product of these two roots, and the square roots of the difference will be the third terms of the required factors.

Apply this to a few examples:—

$$9x^4 + 8x^2y^2 + 4y^4.$$

Here the square root of the first term is  $3x^2$ ; that of the last is  $2y^2$ , and therefore the first two terms of the required factors are  $3x^2 + 2y^2$ ; twice the product of these is  $12x^2y^2$ , from which subtract the middle term, and there results  $9x^2y^2$ , the square roots of which are  $\pm 3xy$ . Hence the factors are

$$3x^2 + 2y^2 \pm 3xy.$$

The student will observe that, since the square root of  $y^4$  is  $+y^2$ , or  $-y^2$ , it may sometimes happen that while the former sign will give irrational factors, the latter will give rational factors; for example,

$$x^4 - 8\frac{1}{2}x^2y^2 + y^4.$$

Taking the positive root of  $y^4$ , we have, by the rule above given,  $x^2 + y^2 \pm xy\sqrt{10\frac{1}{2}}$ ; but taking  $-y^2$ , we have  $x^2 - y^2 \pm \frac{1}{2}xy$ .

It may be observed further that sometimes both signs will give rational factors; for example,

$$16x^4 - 17x^2y^2 + y^4.$$

Here taking  $+y^2$  we have, by the rule,  $4x^2 + y^2 \pm 8xy$ ; and taking  $-y^2$  we have  $4x^2 - y^2 \pm 5xy$ .

(3). By the formulas which enable us to factor trinomial expressions, we can find the factors, where such exist, of a quadratic polynome. Convenient rules may be given for the factoring of trinomials, but we shall omit these for the present, and assuming that the student has acquired some facility in resolving trinomials, we shall point out how polynomes may be factored by the application of perfectly familiar principles. For example, factor

$$8x^2 - 8xy - 8y^2 + 80y - 27.$$

We first of all factor the first three terms, getting at once by inspection  $8x - y$ , and  $x - 3y$ . We have thus obtained two terms of each of the required trinomial factors. Now, to find the remaining terms, we must observe the following conditions:

1°. Their product must equal  $-27$ .

2°. The algebraic sum of the products obtained by multiplying them diagonally into the  $y$ 's must equal  $+80y$ .

3°. The sum of the products obtained by multiplying them diagonally into the  $x$ 's must equal 0 (i. e.  $= 0x$ ). We see at once that  $-9$  with the first binomial above found and  $+3$  with the second, satisfy the required conditions, and hence the factors are  $8x + y - 9$ , and  $x - 3y + 3$ .

As another example, take

$$12x^3 - xy - 20y^3 + 8x + 41y - 20.$$

We have at once for the factors of the first three terms  $4x + 5y$  and  $3x - 4y$ .

Now find the terms whose product is  $-20$ , the sum of whose diagonal products with  $y$  will give  $41y$ , and the sum of whose diagonal products with  $x$  will give  $8x$ ; these conditions are satisfied by  $-4$  with the first pair already found, and  $-5$  with the second pair. It may be remarked that in general if the condition with respect to the  $y$ -products is satisfied, that with respect to the  $x$ -products will be satisfied, and conversely.

But the above principle may be extended so as to lead with absolute certainty to the factors of the polynome. Take for example  $x^2 + xy - 2y^2 + 2xz + 7yz - 3z^2$ . Proceed thus :

Reject 1° the terms involving  $z$ .

" 2° " " "  $y$ .

" 3° " " "  $z$ .

and factor the expression that remains in each case.

Then we have

$$1^\circ. x^2 + xy - 2y^2 = (x-y)(x+2y).$$

$$2^\circ. x^2 + 2xz - 3z^2 = (x+3z)(x-z).$$

$$3^\circ. -2y^2 + 7yz - 3z^2 = (-y+3z)(2y-z).$$

Now arrange these three pair of factors in two sets of three factors each, by so selecting one factor from each pair that two of each set of three may have the same coefficient of  $x$ , two the same coefficient of  $y$ , and two the same coefficient of  $z$ , coefficient of course including sign. In this example there are

$$x-y, x+3z, -y+3z, \text{ and}$$

$$x+2y, x-z, 2y-z:$$

From the first set select the common terms (including signs), and form therewith the trinomial  $x-y+3z$ ; similarly from the second set form the trinomial  $x+2y-z$ : hence the factors are

$$x-y+3z, \text{ and}$$

$$x+2y-z.$$

The first method above explained will enable us to factor very easily most expressions that occur. But in cases of difficulty, the method last described leads with certainty to the factors required.

We had intended to give illustrations of other important methods of factoring, and especially to show the application of the theory of divisors to the resolution of various algebraic forms. But want of space compels the omission of these for the present.

## MISTAKES IN SCHOOL MANAGEMENT.

BY JAMES HUGHES, INSPECTOR PUBLIC SCHOOLS, TORONTO.

### II.

IT IS A MISTAKE TO CONFOUND "SECURING ORDER" WITH "MAINTAINING ORDER." Many teachers forget, when taking charge of a new class, that they are dealing with strangers, on whose sympathy and affection they have no claim. They often lose control of their pupils on the first day by practising the very principles which are of highest service in securing the best discipline. They appeal to instincts which are slumbering, and to motives which, so far as they are concerned, have no existence. Pupils are at school on the opening day to study the "new teacher," not their lessons, and the more incomprehensible and non-committal he is the more they will respect him. Like their seniors, they will regard mysterious silence as profundity, and a self-contained manner as indicative of great reserve power. No rational teacher should expect to win the love of his pupils at first sight. During the first few days his great aim should be to show them by his actions and manner, not by words, that he understands himself, his pupils, and their relations to each other. To baffle their curiosity in regard to himself is the first step towards securing their respect. Beyond this only three things are absolutely necessary during the first week:—

1. He must show that he can see everybody at all times, and that it is impossible to do wrong without being detected.

2. He must be decided in awarding punishment for an intentional offence. A severe whipping promptly and coolly given on the first day may assist materially in doing away with corporal punishment.

3. He must prove that he is master of the subjects he has to teach.

A lady once subdued a rebellious pupil by offering him her cane with the request that he would whip her. She had previously shown him and the whole class in a clear and feeling manner that he was guilty of a serious offence for which some one must be punished. At the right moment she surprised him with her strange request, and completely overpowered him. This was natural, because her pupils were young, and she had gained their affection by a long course of kindness. The story got into the papers, and an ardent youth, about to take charge of a class of grown-up boys, determined to adopt the young lady's plan. He opened school on the first morning with a fervid address, full of what boys call "taffy," and calmly waited for the hour to arrive when by a single exhibition of his generosity he would gain permanent sway over their grateful hearts. He was confident that his address must have made an impression, and that the noble boys would appreciate his self-sacrificing spirit. The hour at length arrived, and with due ceremony he called the culprit before him, spoke to him in most feeling terms, showed the necessity of punishment for the offence, stated that rather than punish a "dear pupil" he would submit to be punished himself, and finally presented the delinquent with a bundle of rods with the request that he would select therefrom the largest and whip his "dear teacher." He turned his back expecting to hear cries of penitence, but instead he was astounded by shouts of encouragement to the obedient pupil, who had faithfully carried out instructions, and was now wielding the largest rod with judgment and power, in which invigorating exercise he was quickly joined by as many pupils as could get rods from the bundle. Those who could not be so accommodated pelted him with every available missile, and finally threw him out after emptying the ink bottles on his head.

Kindness and affection are the strongest elements of a teacher's power, but they need a stable foundation to rest upon.

IT IS A MISTAKE TO MAKE TOO MANY RULES. Some teachers make so many rules that they cannot remember them themselves. Their pupils forget them too, and violate them without intending any wrong. If a great many rules are made, some of them must be of minor importance, and the pupils and parents too will lose respect for the more important, through their contempt for the trivial. Law loses its influence when it becomes whimsical.

The breaking of a law should be a most serious offence. Children will not be very good citizens, if they regard the violation of laws as a trifling matter. They cannot avoid coming to this conclusion if a teacher has so many rules that he forgets to punish for neglecting them; or if they are of so unimportant a character as not to command the respect of the pupils.

There should be few cast-iron rules beginning with "Thou shalt," or "Thou shalt not." The rules should state general principles, and each one should cover a whole class of specific acts.

Rules in detail should not be formulated in a code either written or printed.

No rule should be issued until some wrongdoing makes it necessary. The very prohibition may suggest the wrong course to the pupils.

Pupils should learn rules, as they should learn everything else, by

experiencing the necessity for them, and by putting them in practice as they learn them. The rules that will be best learned and most consistently obeyed, are those that are not spoken or written or printed, but acted by the pupils under the guidance of the wise teacher. The pupils should have the reasons for rules explained to them so far as to enable them to see their justness; indeed judicious teachers may allow their scholars to assist them in framing rules.

While the teacher should place as few restraining rules as possible on his pupils, he must not neglect to define clearly their duties towards each other and to the school, nor to explain fully the nature of the offences which they commit.

IT IS A MISTAKE TO BE DEMONSTRATIVE IN MAINTAINING DISCIPLINE. Some machines make a perpetual jarring noise while running. So some schools are disciplined in such a way as to make them really disorderly. Teachers are often disorderly in attempting to secure order. They may succeed in obtaining a kind of discipline, but they lose much valuable time in getting it; and when secured it lacks many of the beneficial influences of good discipline in forming the characters of the pupils. Visitors at schools will frequently hear the teachers cannonading their pupils with such orders as these: "Take down your hand, sir;" "Turn around in your seat, James;" "Sit up, Mary;" "Attention, Susan;" &c. These are *commands*, and the wise teacher will never even make a *request*, when a *suggestion* will accomplish his purpose. There is one fact always noticeable in schools in which the teacher has to resort continually to the above method of controlling his class. His work is never done. The supply of disorder never runs out. In fact he does not notice and check in most cases one-half the wrongdoing that goes on, and at its best the order of the pupils is only indifferent. Even if the best of order on the part of the class could be secured by such means, the disorder of the teacher would neutralize its good effects.

There are some classes always in order, whose teachers do not appear to be controlling them at all. The teacher is teaching and the pupils attending in a quiet and respectful manner, when the visitor enters, and he leaves after a stay of a couple of hours without having heard a single child named in connection with the violation of a rule of any kind. The teacher was controlling the class, but neither class nor visitor was painfully conscious of the fact.

What causes the difference between the two classes? Is the noisy, restless, forgetful class to be blamed for its delinquencies? Certainly not. The teacher is responsible in every sense. Let the teachers exchange classes, and after a couple of months the classes will have altered their characteristics. One teacher strives for order merely for its own sake, the other maintains discipline that he may teach. One talks, preaches, and scolds about order, and demands it with threats of "impositions" or punishments in case of refusal or neglect by the pupils; the other secures "the silent co-operation of natural laws, by good organization, by careful forethought, and by quiet self-control."

It may be said by some, that the power of governing without apparent effort is a natural gift, possessed by few, and beyond the acquisition of those not so blest by nature. Undoubtedly some possess this power to a greater extent than others, but all may learn the principles that underlie good government; and no one should presume to teach, until he is able to practise those which are essential.

The methods of securing order on first taking charge of a class may vary, as they will depend to a considerable extent on circumstances, but good discipline can only be maintained by the most careful attention to the physical comfort, the instincts, and the mental characteristics of the children.

IT IS A MISTAKE TO SPEAK IN TOO HIGH A KEY. Probably no other error increases the labor of the teacher and the disorder of the class to so great an extent as this. Children soon cease to attend to a teacher with a loud voice pitched on a high key. It is not surprising that they do so. A loud voice soon becomes monotonous, and loses its influence in securing attention and order. It has, indeed, a positively injurious influence on a class in two respects:

1. It induces a corresponding loudness and harshness of tone on the part of the pupils, and leads them to speak and read in a forced, unnatural manner. In this way their voices lose all their sweetness and half their influence. "Loudness," says Emerson, "is always rude; quietness always genteel."

2. It produces an irritating effect on the nervous systems of children which prevents their being quiet and attentive.

The voice should be pitched rather *below* than *above* the natural key, and used with only moderate force in the school-room. It is much more impressive than a high, loud voice, and infinitely more effective in securing good discipline. Children will learn much more rapidly, too, if the teacher speaks in a quiet conversational tone.

It must be remembered, however, that weakness of voice must not be confounded with good modulation. Weakness of voice indicates some corresponding weakness in body or character. Proper modulation, on the contrary, conveys the impression that the speaker thoroughly understands himself and his surroundings, and has a large amount of reserve force ready for any emergency. *Decision* and *sternness* are not synonymous.

IT IS A MISTAKE TO TRY TO FORCE CHILDREN TO SIT STILL EVEN FOR HALF AN HOUR IN THE SAME POSITION. It is right to insist that all the pupils shall sit in a uniform position while engaged at the same lesson. It is wrong even to allow them to sit for a minute in *ungraceful* or *unhealthful* positions. The teacher cannot be too exacting in these particulars, but the same position should not be continued too long. This is especially true in the case of little children, whose bones are not hardened. The muscles will weary of sustaining the weight of the body in any position too long, and the weight being thrown on the flexible bones will bend them out of their proper shape.

The judicious teacher will not attempt to *restrain* the restlessness of junior children, but will give it a natural outlet. There is no other so good as light calisthenic exercises, accompanied by singing. These are exceedingly interesting to the pupils, and give the needed exercise and change to the muscles wearied in one position. If teachers would give their pupils two minutes restful exercise between each lesson, or at the close of each hour, the pupils would make more rapid progress in their studies, and the teacher's work in preserving order would be greatly lessened. "In the majority of cases they break artificial rules in obedience to powerful instincts, which the teacher has failed to press into service. They are largely under the influence of the instinct of activity, and unless some safe provision be made for satisfying this instinct, they will be irresistibly impelled to satisfy it in ways of their own. They will fidget when they are expected to keep still; they will grow weary of being treated as mere passive reservoirs into which knowledge is to be perpetually pumped, and will seek occupations, mental or bodily, for themselves; and in a variety of ways they will disobey the teacher who persists in this unwise defiance of natural laws. It is absurd to blame them for their disobedience. They cannot help it. They did not make themselves, and the laws of their being are only partially under their control."

IT IS A MISTAKE TO ALLOW PUPILS TO PLAY IN THE SCHOOL-ROOM. There are many stormy days, when no reasonable

teacher would compel his pupils to go out at recess. Instead of doing so, it is the custom in many schools to allow the pupils to have their recess and play in the school-room. It is desirable that a recess should be given for relaxation from study. The hygienic laws relating to both mind and body demand frequent rests from labor. If these were more frequent in schools, and of shorter duration, there would be more work, less scolding, and better order. Relaxation and unrestrained play are not synonymous, however, nor is the one the natural consequence of the other. If children play as they choose in a school-room they are certain to make too much noise, and endanger the safety of desks and other school property. The worst effect of such a license is the loss of proper feeling of respect for the school-room. While children should not regard the school-room as a place of solitary confinement or look upon the teacher with dread, they should feel that there are proprieties of conduct and manner inseparably connected with entering the outer door of a school building. They should never be allowed to play even in the halls of a school-house. They may be allowed to converse, or even to move around the room in a quiet and regular manner. There is no harm, for instance, in pupils of the same sex walking in couples around the outside aisles during the recess, provided they all walk in procession in the same direction, and with a slow, measured step. Pupils may very properly be taught to march by the teacher at these times, or they may perform calisthenic exercises in time with singing. Promiscuous playing around the school-room should be prohibited also on the part of those pupils who wish to remain in at noon, or who arrive too early in the morning. It is best, if possible, to have assembly-rooms in the basement of the building, but if these cannot be secured one room should be set apart for a lunch or assembly-room. A teacher should always have charge of it, and pupils should understand clearly that *good behaviour* is the one condition on which they are allowed to remain in it.

IT IS A MISTAKE TO GIVE AN ORDER WITHOUT HAVING IT OBEYED BY ALL TO WHOM IT IS GIVEN. A great deal of disorder exists in some schools, because the teacher while changing exercises, or dismissing his class, does not wait to have one order obeyed before giving another. Whether the signals be given by word of mouth, by numbers, by touching a bell, or otherwise, every pupil should have fully completed the motion indicated by "one" before "two" is given. If any other course be adopted, confusion and disorder are inevitable, and the pupils learn to pay little attention to the teacher's commands.

Obedience to an order and submission to a rule may be quite different. The one should be *prompt* and *decided*, the other should be *intelligent* and *voluntary*.

IT IS A MISTAKE TO TREAT PUPILS AS THOUGH THEY WERE ANXIOUS TO VIOLATE THE RULES OF THE SCHOOL. If a teacher does not respect his pupils they will not respect him. Confidence is necessary on the part of both teacher and pupils. A threat implies that the teacher does not trust his pupils, and prevents the class having sympathy with the teacher. "It is better to assume that your pupils will be eager to carry out your wishes, and so impose upon them the obligation of honor, than to take it for granted that the only motive which will deter them from disregarding your wishes will be the fear of a penalty." Blind confidence must, however, be distinguished from honest trust in those who have not proved unworthy.

IT IS A MISTAKE TO WHIP PUPILS IN A MERELY FORMAL MANNER. Some teachers hold that the disgrace of receiving punishment constitutes its chief restraining power. This is a grievous error. If the opinion were a correct one it would be one of the strongest reasons against corporal punishment. It is certainly not the teacher's aim to bring disgrace on his pupils. Boys laugh at the cre-

dulity of a master, who takes it for granted that they feel intensely humiliated by a whipping. Whip rarely, but severely. Whip only for serious or repeated offences, but let the whipping be of such a character that it will not need to be repeated often.

IT IS A MISTAKE TO RIDICULE A PUPIL. It is wrong to do so for bad conduct, neglect of lessons, or any breach of school discipline. The pupil so treated loses to a certain extent the respect of his classmates, and what is of more consequence to himself, he frequently sinks in his own estimation. Sarcasm inflicts a poisoned wound which does not heal. No personal or family weakness or peculiarity ought to be publicly referred to by the teacher. Hon. Mr. Wickersham, in his masterly work on School Economy, says: "Sarcastic remarks, or such names as numskull, blockhead, dunce, &c., &c., do not become a teacher in speaking either to or of his pupils." Do not make a pupil lose his own self-respect, or expose him to contemptuous remarks by his companions. To ridicule a feeble attempt, may prevent a stronger effort.

IT IS A MISTAKE TO PUNISH BY PULLING A CHILD'S EARS, SLAPPING HIS CHEEKS, &c., &c. Punishment should subdue. The horrible idea that the chief object of punishment is to cause pain is not accepted by modern teachers. The punishments referred to above always cause rebellious feelings, and nothing but the comparative weakness of the pupil ever prevents his prompt resentment of such an indignity by the personal chastisement of the teacher. Such punishments are improper:

1. Because they indicate haste, bad temper and inhumanity on the part of the teacher.

2. Because they are inflicted without any previous explanation of their necessity and justness to the pupils. Explanations should precede punishment.

No teacher should ever torture his pupils by pinching, &c., or by compelling them to keep the body long in unnatural positions.

## HOW TO STUDY A READING.

BY RICHARD LEWIS, TORONTO; AUTHOR OF "HOW TO READ," &c.

The claims of Reading as an art, and, like every true art, as one having a scientific basis, are making such progress and awakening such interest that we may be justified on entering into the discussion of some of the principles which entitle it to this distinction. It is no part of our business to vindicate its worth or necessity; but it is impossible to approve its present aspects or character. Whatever measures had been taken to improve reading as an art, there is little reason to believe that any marked excellence has yet followed those measures. It is more than probable that the demand is not so high as to give impulse to the supply; for the scholastic economy comes under the same law as the manufacturing. In this case the public is the purchaser, and its taste has to be almost created. It admires good reading, but is content to let the bad pass current. The public, however, is alive to the defects of speech on the platform and in the pulpit. Congregations can appreciate the Scriptural lesson or the Hymn read with expression; and audiences are liberal in their applause when a favorite reader or actor renders a passage of poetry with any approach to dramatic excellence. But Reading does not yet hold equal rank with Music or Painting. Some regard excellence in it as a gift of nature, and others consider its best and most gratifying displays as theatrical, and therefore doubtful and suspicious. Hence the earnest teacher, qualified to explain and illustrate its principles, is discouraged, and the study is only countenanced even in the highest quarters as an ornament and a luxury, which must by no means claim the same consideration as the other studies on the programme.

The art of reading in its highest sense embraces every subject connected with the study of the language. It is not pronunciation, articulation, modulation alone; it demands the fullest knowledge of the grammatical construction: the analysis of the sentence is one of the best keys to its just delivery, and often the most delicate shades of meaning attached to words, when wielded by the accomplished reader or speaker, give beauty and force and reality to the thought and conception which are utterly lost in common delivery. Expressive reading is a study embracing all other studies, and demanding such mental analysis as would in many respects constitute an education by itself.

Let us take the Temptation of Christ as an example. There are three modes of reading the passages of this event. We may read it as it is generally read, with perfect correctness as to pronunciation and articulation, but with no expression. The narrative and the dialogue are read alike, and with little regard to the emphasis of leading words. The *dramatic* is utterly neglected; and when so read the spiritual and the moral lessons of the Temptation fail in their solemn import. The reading is simply mechanical. The next method would be to read it with due attention to elocutionary rules, marking pauses, inflections and emphasis, and delivering the dialogue just according to the apparent value of the sentences. This also would be mechanical and utterly unimpressive, and would fail to convey the true purport and lesson of the narrative.

But let all these methods be combined and be made subject to the *spirit* of the narrative, and it becomes at once dramatic, commanding and impressive.

How shall this be done?—and the answer will convey some idea of the method to be adopted in the study of any passage for delivery.

We must first remember Who is tempted and Who tempts.

The strong probability is that Satan felt he was before one supremely powerful to create or to destroy. He knew that Christ could sweep him back into his native region of darkness and woe, and he therefore, we must suppose, approaches him with awe and reverence. "If Thou be the Son of God" is not uttered with any doubt of his divinity, and "Command that these stones be made bread" is not uttered in the manner of one who doubted or disbelieved the power of the Son to perform that miracle,—but with a faith in that power, yet a hope that Christ might be tempted to yield to the Satanic request. That yielding would have been an evidence of weakness, and Satan, with the cunning of supreme hypocrisy, would ask it with affected reverence for the Son's power. How, then, shall we read this passage? To read it fast would indicate defiance—express a challenge—be suggestive of scorn and contempt. When we challenge a boasting man to do impossibilities, we express ourselves in loud, boisterous, quick forms. But Satan believed, and trembled at the consequences of his audacity, and the expression of his request in that mental condition, would be marked by slow and reverential utterance. The same principle must guide us in the reading of the subsequent form of the temptation. We must conceive that Satan would quote Scripture in the 6th verse as if he believed that angels would bear Christ up. This can only be done by a solemn and slow reading; for to read it fast, as in the previous example, would be an expression of contempt for the promise, and of scorn for the tempted. The magnitude of the temptation, in the 9th verse, suggests the excitement inspired by ambition, and excitement suggests a quicker utterance. Then, supposing, as the text justifies us in that view, that Satan felt this magnificent temptation was irresistible, we may understand that he would utter the words, "All these things will I give thee if thou wilt fall down and worship me," with all dignity and apparent calmness, which would magnify his power on the one hand; and on the other, with the hesitancy and cautiousness

inspired by the dread of a refusal, and of the punishment his audacity was invoking.

Finally, the answer of Christ to the last temptation is a rebuke stern and indignant, when he says, "Get thee hence, Satan," and should, therefore, be uttered in quick and angry tones, while the delivery of the commandment must be marked by the solemn and slow delivery of dignified judgment.

Let us next pass under review the soliloquy of Hamlet. "To be or not to be." Here again the mental condition of the speaker must be fully understood by the reader who would realize the weight and nature of each utterance in this speech. Hamlet is overwhelmed and prostrated by difficulties which he can neither resist nor shun. His moral sense is confounded by the crimes which he has neither the fortitude to bear nor the energy to oppose. In this condition the only relief to his sufferings, the only solution for the problems of life to him at that moment, is death. Hence the first question suggested by doubt and despair is "To be or not to be."

"That" to him was the question, and none other. It can easily be seen, therefore, that in the utterance of these words *being* is contrasted with *not being*. To live or die—that was the question: and while the words must be spoken with solemn meditateness, the contrast must be expressed by giving emphasis to "be" in the first case, and "not" in the second. But the word "that" becomes a word of importance, because it is representative of all the subject of his meditation; and to give it due expression it demands slow delivery, a downward inflection, and a pause before the predicate. "Question" might be rendered with a rising or falling intonation. The falling would be expressive of calm consideration, as if Hamlet were a mere dialectician; but his condition is that of deep suffering, and under the excitement of despair he regards this as the grand question, and none other, and a rising intonation to "question" at once suggests the antithesis "and none other." The principal terms of the succeeding clauses are "to suffer" and "to take arms." In uttering the words,

*"The stings and arrows of outrageous fortune,  
Or to take arms against a sea of troubles,"*

the speaker, sympathizing with Hamlet in the perplexities which are unsettling his judgment and driving him into the reality of the madness that he only intended to affect, naturally gives to his delivery the tremulous tones of mournful feeling, but instantly changes the expression to one of mingled defiance and despair as he approaches the consideration of the dread alternative of suicide. For a moment faith is banished and the immortal destinies of the soul are disregarded. To end life and escape its woes—this is the relief the perplexed mind desires, and in that condition of thought Hamlet ponders the great problem "To die"—what is it? The problem is that of death, and as the mind regards it the words stand alone and take the falling intonation—always expressive of completeness—for that expression "to die" is simply the utterance of that single thought—Death. Then the answer which materialism suggests is, that death is sleep everlasting—annihilation, *nothing more*. Hence the "no more" is strongly negative, and for the moment satisfactory; and as it involves the possibility of antithesis it must take the rising intonation. The writer has had the privilege of hearing the greatest actors and readers of this age delivering this passage, and all excepting Fechter, about whose Hamlet the public formed the falsest views, have given it the intonation indicated in this description. The succeeding passages which form the commentary on this materialistic view of death, are delivered rapidly under the excitement inspired by the delusive relief which this view gives to the sufferer. But, then, Faith is not shattered,—only for a moment banished, and, with Reason,



she assumes her sway. He re-considers the momentous question. To die, to sleep, now become earnest questions, marked by the rising intonation of solemn inquiry, with a momentary pause, followed by the emphatic repetition of "to sleep," and completed by the answer which faith and reason supply, that death may be a sleep, but a sleep which is an everlasting dream, an immortal life with all its possibilities. Hence, while the utterances of "to die," "to sleep," are given with great slowness and pause between each thought, and the rising inflection expressive of earnest inquiry, "to dream," is delivered with arbitrary emphasis, the voice taking a higher pitch, and passing into the falling circumflex which expresses in the instance the satisfactory and final conviction.

The succeeding passages of the speech suggest, in the ideas they present, the nature of the expression :

"For who would bear the whips and scorns of time,  
The oppressor's wrong, the proud man's contumely,  
The pangs of despised love, the law's delay,  
The insolence of office, and the spurns  
That patient merit of the unworthy takes,  
When he himself might his quietus make  
With a bare bodkin?"

All this passage is given under the sense of indignation, and with therefore greater rapidity than the previous deliberate enquiry—with one exception, "the pangs of despised love," which, as the thought may be suggested by his own harsh treatment of the gentle Ophelia, whom he loves to the bitter end, must be uttered in tender and tremulous tones, and in striking contrast with the indignation expressed in the general passage.

But the momentary indignation passes, and gives place to the grander faith in immortality and the calmness which that faith induces. Hamlet (and the reader must aim at realizing that state of mind) is filled with a sentiment of solemnity and awe demanding in the utterance of his thoughts tones of the deepest reverence as he speaks of the "dread of something *after* death;" and the delivery of the passage, to its termination, must be marked by the loftiest conception, in sympathy with the momentous interests it contemplates.

The reader may regard this attempt at the analysis of the great soliloquy as unnecessarily elaborate. But the writer has no hesitation in saying that this is the kind of analysis which the great masters of histrionic delivery gave to their studies. It is only this elaborate examination of character and thought, whether in the study of Scripture or the creations of poetry, that can realize the true nature of the subject. The student must dissect and penetrate the inmost secrets of the character and the sentiment. He must himself become all that the genius of the writer has conceived and produced. The study itself, when it has for its subject the interpretation by the voice of the thoughts and conception of the inspired writings or of genius, is an education of the highest order, and inferior to nothing in science or philosophy in its influence upon the mental faculties; and while such elaborate examination and thoughtful rendering of human compositions of the highest order would advance the education in delivery, it would awaken an interest in the reading of the Holy Scriptures never realized, never experienced by the multitude, when they listen to the tame and utterly inexpressive delivery of a thousand pulpits and school rooms, where the Bible is read to listless and indifferent hearers. As no great actor ever thinks of assuming a dramatic creation and personifying its living passions, and interpreting its great thoughts, without the deepest study of every word and every thought, so no clergyman or teacher should dare to read the solemn inspirations of Holy Writ without first studying them for reading as the theologian studies them for his commentaries and exhortations.

## PRIMARY LESSON IN NUMBER.

BY MARY I. PETTINGILL, LEWISTON, MAINE.

### I.

*Note.*—In the number-lessons previously given, only objects and marks have been used. The necessity of such a lesson as the following will be apparent to every teacher who believes that no term should be given children until they have been made to see the need of something, in advance of what they know, and not until the idea has been developed which the term implies.

*Point.*—To develop the idea of necessity of, and give term, figures; also to teach the characters 1, 2, 3, 4, 5, 6, 7, 8, 9.

### METHOD.

Teacher calls attention of class, and tells several children to make nine marks on the board. Children do as told, and state what done. Teacher makes on the board several figures, as a square, triangle, and oblong.

"I want some one to make nine marks, just as large and nicely as you always have, in here (pointing to the square, etc.). Who wants to try?" Several children try and fail. "What have you done?" Children tell how many times they have made nine marks. "What did I tell you to do?" "Make nine marks five times." "What else?" "Make them just as large and nicely as we always have." "Why did you not do it?" "Did not have room enough." Similar questions several times.

"Who will try and remember what we have been talking about until I ask you again?" Children raise hands. "Who would like to go to the board and make nine marks as large and nicely as you always do, in a half of a minute?" Children raise hands; several try and fail. "What have you done?" Children tell how many times they have made nine marks. "What did I tell you to do?" "Make nine marks five times, as large as we always have." "What else?" "As good as we always have." "In how long a time?" "In half of a minute." "Yes, I told you to make nine marks five times, as large and nicely as you always have, in a half of a minute; how many think I did?" Children raise hands. "How many did it?" No hands raised. "Why not?" "Did not have time enough." "Why did you not make nine marks five times in these?" (pointing to the square, triangles, etc.) "Did not have room enough." "Why did you not make them in a half of a minute?" "Did not have time enough." Drill on these statements until they are understood by the class.

"How many would like to have me tell you something?" Children raise hands. "Now listen; I know something that we use which means just the same as nine marks, that you can make five times in each one of these, and can make five times in half of a minute,—who would like to see it?" Children raise hands. Teacher makes figure nine on the board. "What does this mean?—just the same as—?" "Nine marks." Teacher has several children make what means the same as nine marks; state what done, and the class decide each time. Teacher now erases marks from the square, triangle, etc., and, pointing to them, says, "Who wants to make what means nine marks in these?" Several children try and succeed; class decide each time. "Why could you not make the marks when you tried before?" "Did not have room enough." "Who wants to make what means nine marks, five times in a half of a minute?" Children raise hands; several try and succeed. "Why did you not make the marks when you tried before?" "Did not have time enough." Similar questions several times. Similar plan for teaching children to make 8, 7, 6, 5, 4, 3, and 2, though but little development will be needed for these.

Teacher tell children in regard to one, that people knew of no

easier way to make what means as many as one mark, and so used 1. Teacher has children make marks, and these they have learned about which mean the same as marks, telling each time that they use them to save time and room. Teacher erases all marks, leaving figures on the board. Teacher questions, and children give name of each. Teacher, pointing to each and all, "Who knows what we call all these that mean the same as marks, and which people use instead of marks, to save time and room?" Children or teacher give term, figures. Question children on what figures are. Teacher should have children make figures, state what called, what used instead of, and why used.

## FIRST STEPS IN WRITTEN LANGUAGE.

BY F. B. GREEN, A.M.

### I.

The growing interest in the methods of teaching language suggests the question,—“What is the real object of language-lessons? The ready answer is, “To impart a proper knowledge of the use of language.” No one will doubt the soundness of this theory, but there seems to be reason to question whether its purpose is fully carried out in the schools of to-day.

To use language is to speak, read, and write well. Do the scholars who leave our public schools fulfil these requirements? Whatever may be said of the speaking or reading, there is a lamentable deficiency in the writing. Little attention has been paid to writing language. There probably has been plenty of instruction in writing the letters, and combinations of them, but a knowledge of penmanship, however thorough, does not enable the pupil to write a good letter, or in any way to express his ideas with the pen.

By written language is meant all forms of language which appeal to the eye. Reading is therefore included in this classification, as well as writing itself. It should be an exercise in interpreting the thoughts of others, while writing should be the expression of one's own thoughts. When the child can read or write, unconscious of the characters which he sees or makes, with his attention occupied solely by the thought, then he is using language as it was intended to be used. To attain such a result should be the real aim of lessons in language.

To become acquainted with language, it is necessary that it be presented in a natural way, just as it is used. The child is ever ready to receive language in this way, but naturally rebels against an array of letters, sounds, principles, elements, and all the technicalities which render the school-room so distasteful to him. In other words, if he is to make a successful study of language, he must view it as the medium for expressing thought. The anatomy of language,—its grammatical relations, its orthography, the analysis of the letters used in writing it,—must be made subordinate to the main idea. In time all this may be investigated to advantage, but not at the outset. Neither should one phase of written language be developed to the neglect of the other. As reading and writing are the counterparts of one another, they should be developed together. Generally the scholar learns to read long before he learns to write. He should do both at once, and will learn to do each more rapidly by combining the two processes.

When this plan is faithfully followed, the teacher is rewarded by the most substantial results. The scholars may not be able to recite many abstract rules and definitions it is true, but they have acquired something far better,—a practical knowledge of what the rules mean. They can do what another class can only tell how to

do. They can read intelligently, not mechanically. They can spell correctly, for it is impossible to write without spelling. They use capitals and punctuation-marks properly, because they learned to speak; and in addition to all this, they are unconsciously gaining an acquaintance with many of those subtle constructions which it is so hard for the grammarian to define.

The greatest difficulty to be encountered in this method is at the start. If a teacher once begins right, the way will be clear. It will be the aim of succeeding articles to furnish such hints as may be of service in the school-room.

## THE RECITATION.

BY PROF. JOHN OGDEN, WORTHINGTON, O.

It would seem that this topic, which constitutes the chief staple of the school-house, should be well understood. But such is not always, nor even generally, the case. Like other duties of the school-room, it requires diligent study, and a careful adjustment of its inherent forces, in order to render it an efficient measure in education.

Notwithstanding the very great preponderance of the time and energies of teachers devoted to this one important duty, it does not rank as high, as an educational instrumentality, as study; and yet its chief object is to excite and direct the latter. Indeed, it fails in its most legitimate purposes, so far forth as it does not do this. Perhaps no exercise of the school is subject to as great abuse among teachers. No two of them will conduct a recitation in precisely the same manner. Indeed, in the smaller details this is not desirable. There should be a unity of principle and purpose, and a diversity of practice in detail. This gives just that variety necessary to make teaching lively, comprehensive, and efficient, adapting it to the wants of every individual capacity and want.

There are principles and laws regulating this exercise, not less than in other departments of labor and growth, and any departure from these laws or violation of their principles of action, whether from sheer ignorance or more culpable neglect, is as disastrous as in any other—nay, as much more so as the material upon which it operates is more precious and enduring than any other. So that it becomes a matter of very serious importance, that the teacher be both wise and well skilled in matters of recitation.

It is claimed for this exercise, as in all others relating to the management of schools and education, that its principles may be so classified and arranged, that they may be learned, and by right and necessity ought to be learned, at least theoretically, before the teacher is permitted any independent practice. A well-organized normal school will afford the requisite opportunities for this purpose. The practice here is not only guarded from any excesses or abuses, but is made to conform to true theory.

It can be conveniently studied under the following heads, viz., the objects of recitation, including the tests that may be employed for ascertaining the extent of preparation of lessons, and various other items under this head; the helps afforded in recitation, how, and by whom; and the applications, which should be made to cover, prospectively, the whole field of culture, business and progress. This not only invests the recitation with an air of importance, enhancing its value in the eyes of the pupil, but makes it a real living and vitalizing thing, instead of the tedious and unmeaning cramming process which, without this knowledge, it surely becomes.

It also looks after the necessities and conveniences for the recitation, in the way of room, seats, apparatus, etc., together with the methods, both general and special,—general as they relate to all the branches of learning, and special as they relate to the particular

branches of science; the latter dealing in a most philosophical way, with all the minor details of each.

Lastly, it considers the *specialities* of the recitation, as they relate to the conduct and management of the class, the art of *questioning*, that most difficult and dangerous part of the recitation, and the *answering*, both as to matter and manner, purging it from all impurities, judging not only of the accuracy of answers, in general scope and meaning, but ordering them, so that they become a means of culture, as detailed under the head of "*Specialities*," to which the learner's attention is particularly called.

This recitation becomes a power in the hands of the skilled workman; while in the hands of the novice, or the ignorant, it is, at best, an awkward, embarrassing and most perplexing duty, and to the child, not less a source of annoyance.

The whole scheme of recitation, therefore, is most earnestly commended to the careful study and patient practice of the teacher. Let him not say it is "impractical," or "that it may do for some schools, but not for mine." This, my dear fellow, is not so. *Truth alone is practical, error never, under any circumstances; truth under all.* I know there are difficulties in the way—were there not, these lines were unnecessary. But these difficulties will always remain just where they are, unless they are removed; and *truth and right* are the prime exterminators of all mischief from the land.

## Notes and News.

### ONTARIO.

Mr. Geo. Smith, B.A., has been appointed teacher of classics in Woodstock Canadian Institute.

Mr. W. E. Tilley leaves the mathematical mastership of the Bowmanville High School to take the head mastership of Lindsay High School, at a salary of \$1,200. His first assistant will be C. J. Logan, B.A., whose salary is to be \$1,000.

Mr. David Johnston, of Cobourg, has retired from the profession of teaching. He is a worthy veteran.

Mr. Crozier and Mr. Springer have been re-appointed head master and assistant in Listowel High School.

Mr. Wilkinson, Principal of Brantford Model School, received an address and a group photograph from the students at the close of the last session.

Mr. Brown, Head Master of Whitby Model School, received a valuable clock and inkstand from the students of that institution.

Mr. McFaul, Principal of the Lindsay Model School, was presented with an address and a token of esteem by the Model School students.

Mr. Wm. Alford, late Head Master of Morrisburg Model School, has been chosen Assistant for Orangeville High School.

Mr. J. T. Sproule, who passed first in the late primary examination at Osgoode Hall, was from Barrie High School. Mr. W. H. Hudson, who was first in the First Intermediate, was also a pupil of the same school.

Mr. Dewar, Public School Inspector for East Huron, was lately presented by his teachers with a magnificent gold watch and chain.

The following is a list of the number of candidates who successfully passed College and Teachers' Examinations from June to September, 1879, from Napanee High School: 5 Intermediate; 12 Third Class; 2 Medical Examination; 1 Cobourg, Arts; 1 Kingston, Arts; 1 McGill, Science.

The Oshawa School Board advertised for 12 teachers and received over 300 applicants.

The school attendance in Stratford is as follows: High School, 148; Public School, 1,205.

There are 1,285 pupils in attendance at the Guelph Schools.

The faculty of the Royal College of Physicians and Surgeons for Ontario, situated at Kingston, have decided to establish a course of lectures for women exclusively.

The West Bruce Teachers' Association passed at its last meeting a resolution in favor of allowing teachers the privilege of superannuation after teaching 25 years.

At the last meeting of the Teachers' Association for the First Division of Wellington, a motion was passed recommending the establishment of a Model School in the southern Inspectoral

Division of the County of Wellington, and a petition to that effect was signed by the teachers present and directed to be forwarded to the Hon. the Minister of Education.

A writer in *White and Blue*, the organ of the undergraduates of Toronto University, advocates the establishment of a chair of civil polity in that university.

A course of lectures is to be delivered on alternate Friday afternoons in Cobourg Collegiate Institute, instead of the last lesson of the day.

At the close of the Third Class professional examination in the County of Wellington, the County Board passed the following resolutions:—1. "That in view of the fact that there are so many unemployed teachers in the county of Wellington, no third class certificate granted in any other county be endorsed as valid in either division of this county." 2. "That at the next third-class non-professional examination, six marks shall be deducted for each mis-spelt word in dictation, two for each mistake in spelling or the use of capitals in other subjects; and two marks shall be deducted for each badly punctuated sentence." 3. "That at the third-class examination to be held in July, 1880, the minimum for passing shall be forty per cent. of the marks assigned the paper on Arithmetic, fifty per cent. of the marks on Grammar, and sixty per cent. of the aggregate value of all the papers."

The following remarks relating to competitive examinations are from the excellent report of Mr. Brown, P. S. Inspector, Dundas: "A feature of the past year in this County has been the inauguration of a system of Township Competitive Examinations, supplemented by a County one. One of the great hindrances to progress in the rural schools was a want of proper classification. This had been based to a great extent on proficiency in reading, and the result was, first, pupils reading perhaps with parrot-like fluency, in books beyond their understanding; and next, a multiplication of classes, both destructive to any real efficiency. These Competitive Examinations, at which the exercises in all but the Second Class were conducted in writing, and the questions covering all the subjects in each class as laid down by the authorized programme, and at which the pupils, limited as to age, were allowed to compete only in their registered classes, have done very much to remedy the evil referred to, and have been the means of infusing greater energy and enthusiasm into our school work. Teachers and pupils have alike been benefitted by these contests. The Councils of the Townships of Williamsburgh and Winchester and of Morrisburgh and Iroquois with praiseworthy public spirit contributed materially to the success of the scheme by grants of money for prizes to the competitors. A similar competition has been arranged for the present year, towards which the several municipalities have promised aid, while for the central one the Teachers' Association has made a grant, trusting that this Council will show its appreciation of their efforts by also contributing a sum towards expenses and procuring prizes."

J. Morrison, M.A., M.D., who has so successfully conducted the Newmarket High School for several years, has been appointed to the Walkerton School at a salary of \$1,200, with promise of increase. Dr. Morrison is well known as an able mathematician.

Mr. Jas. Miller, Mathematical Master of the Oshawa High School, has been appointed to succeed Mr. Tilley in Bowmanville. Mr. Miller is an excellent teacher of mathematics, and deserves his success.

The new High School building recently opened in Stratford, is one of the finest in Ontario; it cost about \$25,000. The venerable Dr. Ryerson, G. W. Ross, M.P., and Dr. McLellan delivered addresses to the immense audiences that attended the opening exercises.

The Bowmanville people think that their High School should be made a Collegiate Institute. We believe this school is second to none in the Province, and we hope that the just ambition of its supporters may be realized.

The Mount Forest High School is succeeding well under Mr. Reid; though it was opened but two years ago, it has already three masters, all graduates.

### QUEBEC.

The dead lock in the Government is now at an end. Matters will soon return to their normal state, and likely continue so for some time to come. The supplies have been voted, and soon the grants to Educational Institutions will be all apportioned and distributed. The uncertainty and inconvenience of the past four months in regard to all educational purposes, are now at an end, and it is confidently expected that the reduction made by the late Government in the grants for Normal Schools and school inspection will be made up by the present Government.

His Excellency the Governor General has kindly signified his intention of giving to McGill University, Montreal, annually during his term of office, a gold and silver medal. The gold medal will be awarded to the student who shows the greatest proficiency in modern languages in an honour course open to all matriculants. The silver medal will be open for competition to the students in the faculty of Applied Science. Charles S. Black Esq., late of Montreal, now of New Haven, has presented the University with his valuable astronomical instruments, including a telescope of six inches aperture equatorially mounted by Vitz of New York, a large transit instrument by Jones of London, and an astronomical clock by Howard of Boston. The transit is already mounted and in use. The telescope will be in its place in a few days.

The annual university lecture of the McGill University was given this year by the Venerable Archdeacon Leach, L.L.D. His subject was, "Lord Bacon a Poet." There was a very large attendance on the occasion, and much interest manifested in his learned discussions and *a priori* argument, the gist of which was—that there is a great discrepancy between the authentic facts of Shakespeare's life and the plays ascribed to him, and that Lord Bacon had the capacity to be the author of the plays in question, and that thus there was a possibility if not an absolute probability that he really was so.

Mr. C. Thomas has resigned the Principalship of the Waterloo Academy, and Mr. I. L. Walton, late of St. John's Academy, has been appointed to succeed him.

Bishop's College, Lennoxville, has commenced the session of 1879-80 with the largest attendance of students that it has had since its foundation. Twelve new students from the United States and Canada have entered the Arts course this year, and the institution is deservedly growing in public favor, numbers and efficiency. The Emperor of Russia has lately forwarded to it, through the Russian Ambassador at New York, a rare and most valuable gift, viz., a fac-simile copy of the famous Codex Sinaiticus in four large and handsome volumes. The Codex Sinaiticus is the only un mutilated manuscript of the New Testament known to exist, and was discovered by M. Tichendorf, in 1859, at St. Catharine's Convent, on Mount Sinai. It is indeed a princely gift, and Bishop's College may well feel proud of it.

At a meeting of the Protestant Committee of the Council of Protestant Instruction, recently held, the grants from the Fund for Superior Education, which should have been apportioned in September, but which were delayed in consequence of the refusal of the supplies, were made to the several institutions entitled to a share in them. The Committee unanimously adopted a resolution strongly supporting the recommendation of the Roman Catholic Committee, for the granting of the ordinary amount in full to Normal Schools, and for prizes and school inspection.

### NEW BRUNSWICK.

The Board of Education, on the 30th of October, made the anticipated Orders relative to Inspectors of Schools and Inspectoral Districts, of which the following is the substance, as abridged from the *Royal Gazette* :

The number of Inspectors is decreased to eight, and the Inspectoral Districts are revised and enlarged, so that there will henceforth be eight Inspectoral Districts, which are numbered and described as below :

*District No. 1.* The Counties of Restigouche and Northumberland, and the Parish of Beresford, in the County of Gloucester. *Inspector.*—Philip Cox, A.B., Newcastle, Northumberland Co.

*District No. 2.* The County of Gloucester (except the Parish of Beresford), the County of Kent, and the Parish of Shediac, in the County of Westmoreland. *Inspector.*—Valentin A. Landry, Richibucto.

*District No. 3.* The County of Westmorland (except the Parish of Shediac) and the County of Albert. *Inspector.*—Henry Powell, A.B., Sackville.

*District No. 4.* The County of Queen's, the County of King's (except the Parishes of Greenwich, Westfield, Rothesay, Upham and Hammond), and the Parish of Clarendon, in the County of Charlotte. *Inspector.*—D. P. Wetmore, Clifton, King's Co.

*District No. 5.* The City and County of St. John, and the above-named parishes in the County of King's. *Inspector.*—W. P. Dole, A.B., St. John.

*District No. 6.* The County of Charlotte (except the Parish of Clarendon) and the County of Sunbury. *Inspector.*—Ingram B. Oakes, A.B., St. Stephen.

*District No. 7.* The County of York, and the Parishes of Northampton, Brighton and Peel, in the County of Carleton. *Inspector.*—Eldon Mullin, Fredericton.

*District No. 8.* The County of Carleton (except the parishes just named) and the Counties of Victoria and Madawaska. *Inspector.*—W. G. Gaunce, A.B., Woodstock.

Any Border School District constitutes a part of the Inspectoral District in which the school-house is situated.

It is made a condition of holding the office of Inspector of Schools, that the person appointed thereto shall devote himself exclusively to the performance of the duties of the office.

By another order made about the same time, the Board of Education prescribed a course of instruction for the schools of New Brunswick, that is to say, for "primary and advanced schools in cities and towns, schools in villages, and ungraded schools in country districts." The course for high schools is to be issued hereafter.

In accordance with the provisions in Sec. 13 of the School Act (as amended in 1879), which is thus brought into operation throughout the Province, the provincial aid to teachers and assistants, properly qualified and employed, will henceforth be regulated in part according to the *quality of instruction* given in the school, as determined by the examination of pupils by an Inspector. And it is now ordered that, in determining the quality of instruction given in any school or department, the Inspector shall require an intelligent acquaintance with the subjects of the standards prescribed for the same in the course of instruction.

In reference to the superior allowance of \$7,000 for the whole Province, one-half to be paid to teachers and one-half to Boards of Trustees (Sec. 3, Amendment Act of 1879), it is ordered that schools or departments shall participate in this allowance (the school accommodation and appliances being sufficient in the judgment of the Inspector), according to the number of pupils annually certified by the Inspector as having satisfactorily completed the work embraced in Standard VIII of the course, for schools in cities, towns and villages; and for ungraded schools in country districts, the work embraced in Standard VI, as prescribed for a district having a teacher and a class-room assistant.

The pupils so certified shall be entitled to receive from the Chief Superintendent, through the Board of Trustees, a certificate of their attainments.

The above orders were declared to take effect on the 1st Nov. In consequence of the adoption of the course of instruction requiring readjustments of school programmes, and various other changes, several of the new Inspectors have summoned the teachers within their districts to meet them for the purpose of receiving instructions and advice in relation to the new order of things. In some cases, as at St. John on the 15th November, and in Fredericton on the 22nd, the Chief Superintendent has been able to meet with the teachers thus assembled, and to assist them and the Inspector by his wise counsels in surmounting the difficulties that seemed to present themselves.

The Portland Teachers' Association met Nov. 14th, and elected officers for the ensuing term, the President being Mr. W. H. Parless, and the Secretary-Treasurer Mr. A. D. Smith.

One of our N. B. exchanges mentions the burning of a school-house at Bartibogue, under circumstances that left no room for doubt that it was the work of an incendiary.

Mr. Gaunce, whose appointment as Inspector is mentioned above, has been succeeded in the Principalship of the York Street School, Fredericton, by Mr. L. E. Wortman, A.B., recently of Burlington, Iowa. Mr. Wortman is a graduate of the University of New Brunswick, and was a candidate for the Classical Professorship in that institution.

The Principalship of the Chatham Grammar School, vacated by Mr. Oakes' appointment as Inspector, has been given to Mr. G. D. Roberts, A.B. We trust he may achieve even a higher reputation as a successful teacher than he has gained as a rising poet.

Mr. S. J. Jenkins, A.B., lately of Grand Manon, succeeds Mr. Fulton as Principal of the Winter Street School, Portland, the latter having gone to study medicine, we understand, at Dalhousie College, Halifax.

Miss Lyle, of the Model School, Fredericton, having obtained leave of absence for six months for the benefit of her health, her place is now filled by Miss Julia R. Bateman, formerly on the St. Stephen staff.

At the recent terminal examination of the High School at Sussex, Kings Co., the Principal, Mr. S. F. Wilson, M.A., received very high commendation from several prominent gentlemen who

were present. Among the prizes given on the occasion was one for the best average work in mathematics, offered for competition by Mr. Geo. S. Carson, Mr. Wilson's predecessor as Principal, now studying at Dalhousie College.

A teacher who has taught for forty years in the same parish, and who retires from his position, and from the profession, with the respect of his scholars, deserves to be publicly mentioned. Such is the case with Mr. Geo. Stewart, who has been employed for fifteen years past at Central Margerville, Sunbury County, and who, on his retirement at the end of last term, received from his scholars a token of respect in the shape of a casket containing several useful articles in silver.

Mr. Oakes, on taking leave of his school at Chatham, was the recipient of an address from his pupils, accompanied with a handsome present, consisting of two silver ornaments for the table.

Not less favored was Miss Mary A. Gifford, of Ichibucto, who was presented with an address and an elegant gold chain, the gift of the townspeople, and also a gold ring from her pupils, placed on her finger by one of the number. Miss G. has, we are informed, done faithful service there for many years.

Another recipient of an address and a present from his pupils was Mr. Jas. McIntosh, of Chatham Head, who has removed to the Superior School at Clifton, Gloucester Co. And yet another was Miss Carrie Alexander, of St. Mary's, York Co.

The Provincial Normal School has a full complement of student-teachers the present session, numbering over 150, including five in the French Preparatory Department. That the entrance examinations at this institution are something more than a form is shown by the fact that of 163 candidates examined last month (Nov.), forty failed to come up to the standard and were not admitted. The actual number in attendance is made up of those then admitted and others who were entitled to admission without examination. At the formal opening of the school for the winter session, on Nov. 5th, addresses of a stimulating and instructive character were given by Principal Crocket, Dr. Rand, His Honor the Lieutenant-Governor, Dr. Jack, of the University, and Hon. Wm. Wedderburn, Provincial Secretary.

#### NOVA SCOTIA.

As stated in last month's notes, the Cumberland County Teachers' Association held its first session in Amherst on the 30th and 31st of October. W. L. McKenzie, Esq., the popular and efficient Inspector of Schools for the County, presided over the Association, with Mr. Richey Tuttle, A. B., as Vice-President, and Miss E. G. McNutt as Secretary-Treasurer. The opening address of the President was an energetic and graphic presentation of our educational needs. The speaker maintained a high view of the dignity of the teaching profession. Interesting remarks from A. H. Eaton, A. M., Principal of the Academy, and J. Albert Black, Esq., editor of the *Amherst Gazette*, were elicited by the address of the President. E. J. Torey followed with a paper on Geometry. The paper showed much thought, and was discussed at length by the Association. On Thursday afternoon Miss M. B. McKinnon gave a class lesson in arithmetic of an instructive character. During the session the Rev. Canon Townshend, the Superintendent of Education, the Principal of the Normal School, and other gentlemen were introduced to the Association and addressed it. A notable feature of the Association throughout was the large and continuous attendance of the outside friends of education. Miss Ellen L. Read, a graduate of the Boston School of Oratory, contributed an interesting paper on Elocution. Many important points were presented as worthy of notice by the teachers present. Miss Read gave appropriate and effective illustrations of her theoretical remarks. She received a warm vote of thanks for her contribution to the interest and profit of the Association. Principal Calkin made some useful suggestions growing out of hints contained in Miss Read's paper; and the Rev. Canon Townshend (for nearly 40 years Chairman of the Board of School Commissioners for the District of Cumberland) strongly emphasized the impossibility of reading well, unless the reader fully understands and sympathizes with the subject matter which he is reading. Then followed good papers on Geography and Spelling—the former by Miss A. E. Fitchet, the latter by Mr. W. B. F. Ward. Mr. Ward's views on the proper mode of teaching to spell correctly, which, by the way, were fresh and vigorously put, gave rise to an animated discussion in which much valuable thought was struck out. C. R. Smith, Esq., Barrister-at-Law, and a prominent member of the School Board of the Town of Amherst, the Superintendent of Education, Mr. D. B. McKenzie, Principals Eaton and

Calkin and Mr. E. J. Torey spoke to the question. On Thursday evening a large and intelligent audience gathered in the Music Hall to listen to educational addresses. Inspector McKenzie occupied the chair, and introduced the Superintendent of Education, who spoke for about an hour on the practical questions and pressing problems of the day. He expressed his gratification at finding that in so busy a town as Amherst the subject of Common School education was sufficiently attractive to draw together the influential audience he saw before him. Short and stirring addresses followed from Rev. Canon Townshend, Principal Calkin, and Mr. Eaton—the last named gentleman pronouncing his valedictory to the people of Amherst, as he was about leaving to assume his duties as Professor of Mathematics in the Normal School at Truro. Altogether the meeting was calculated to give an influence to the cause of education in Amherst and vicinity.—On Friday the first exercise was a paper on School Discipline by Miss Julia Phelan, which led to remarks from the Superintendent of Education and Mr. D. B. McKenzie. Then followed an address on Drawing in the Public Schools from Principal Eaton, with an illustrative lesson on the same subject by Miss McNutt. Mr. F. W. Goodwin clearly showed "How to make School Work interesting." The remaining exercises of the Association, which we regret our inability to specify in detail, are reported to have more than sustained its general tone and spirit.

The Convocation marking the beginning of the winter session of Dalhousie College was held in the Legislative Assembly room, Halifax, on the 4th of November. The *Dalhousie Gazette*, after enumerating the prominent gentlemen present on the occasion, states that "around the sides of the building and in the galleries all the beauty, seasoned with much of the learning of the city, looked with interest on the arena." The very Rev. Principal Ross delivered a comprehensive address, replete with information pertinent to the occasion, and particularly detailing encouraging facts in the recent history of the Institution. The formal inaugural oration was pronounced by Prof. Honeyman, of the Faculty of Science. Offhand addresses followed from the Hon. S. Creelman, Commissioner of Public Works, Sir William Young, Chief Justice, His Honor Lieutenant-Governor Archibald, and Dr. McGregor, the newly appointed Professor of Physics, on the "George Munro" foundation.

The number of candidates who received license at the last Annual Examination is as follows: Academic Class (Grade A) 14; First Class (Grade B) 41; Second Class (Grade C) 118; Third Class (Grade D) 132.

Mr. Nicholas Smith has resigned the Principalship of the Morris Street School, Halifax, to succeed Mr. Eaton as Principal of the County Academy, Amherst. Mr. Smith was very successful in his management of the County Academies of Queen's and Shelburne. Amherst is one of the most prosperous of our county towns, and should aim at occupying a corresponding position educationally. Mr. Torey, associated with Mr. Eaton as second teacher, takes charge of the Graded School at Hantsport, Hants Co., and is succeeded by Mr. F. W. Goodwin, prize-man of the Halifax University at the first B. A. examination of 1878. We believe that Amherst both loses and gains thoroughly good teachers.

D. H. Burbidge, A. M., has been appointed Principal of Morris Street School, Halifax, the position rendered vacant by the resignation of Mr. Nicholas Smith. Mr. Ralph Eaton succeeded Mr. Burbidge as second Master.

The forty-first session of the Provincial Normal School at Truro was opened with appropriate ceremonies on the 5th ult. The Principal delivered a formal address; the Superintendent of Education made a short speech of advice and encouragement to the pupil teachers; the new Professors spoke very appropriately in response to calls from the Principal; while a few words from the Mayor and the Rev. Dr. Cruikshanks, of Montreal, added to the interest of the occasion. Seventy students were in attendance—since increased to nearly a hundred.

#### MANITOBA.

The next general examination of teachers commences on Monday, December 29th, not on the second Tuesday in that month, as announced in the programme.

After December 31st, Beatty's Headline Copy Books will be the authorized copy books for the Protestant Public Schools.

During the half year ending July 31st, there were ninety-five schools in operation under the jurisdiction of the Protestant Section of the Board of Education, viz.: sixty English and thirty-five Mennonite schools.

On Monday, Nov. 3rd, a school was opened in the Little Mountain District. There is an attendance of fifteen scholars; the teacher is Miss C. Robinson.

At a recent meeting of the Protestant Board of School Trustees for the City of Winnipeg, the following amongst other resolutions were adopted:—

Moved by Mr. Briggs, seconded by Mr. McNea, that the Inspector, Chairman of the Board and Chairman of the School Management Committee, be a Committee to report on the efficiency of the teaching in the different departments of the Public Schools, and that they report to this Board.—Carried.

Moved by Mr. Luxton, seconded by Mr. Campbell, that the promotion examinations in the public schools be held during the three days preceding Christmas, and that the Inspector and two of the School Management Committee be a Committee to conduct such examination.—Carried.

The Rev. W. Cyprian Pinkham, Superintendent of Education, has been unanimously elected to represent the Protestant Section of the Board of Education, on the Council of the University of Manitoba.

Mrs. A. E. Cowley, Principal of the St. John's College Ladies' School, has resigned her position.

The annual concert at St. John's College, to commemorate its opening under the present Bishop of Rupert's Land, took place on 31st Oct. It was a very successful affair.

#### ST. BONIFACE COLLEGE.

The commencement of this establishment can be traced back to 1818; for a school was founded then by Rev. J. N. Provencher in his own residence at St. Boniface, and was incorporated as a college in 1871. Rev. J. N. Provencher, who became the first bishop of St. Boniface, was the first that opened a regular school in the country. Having hardly room for himself in his small house, he, nevertheless, gathered half-breed children and taught them reading and writing. Some of his scholars were even taught classics, and with such success that Rev. S. J. N. Dumoulin, in a letter dated March 10th, 1824, and lately republished, could state that "several children were already advanced in Humanities."

The present buildings have been erected by His Grace the Most Rev. Alexander Taché, Archbishop of St. Boniface, about twenty-five years ago, and now a new, fine, substantial college building is in course of erection, and will be ready for occupancy in September, 1880.

The St. Boniface College is affiliated with the University of Manitoba.

There are three distinct courses of studies established in the College, the Theological, Classical and Commercial, besides a Preparatory Department.

The Theological course embraces Dogmatics and Moral Theology, Sacred Scriptures, Canon Law, Ecclesiastical History and Liturgy. This course is completed in four years.

The Classical or Collegiate course embraces English and French Languages and Literature (Poetry and Rhetoric), History, Geography, Chemistry, Natural Philosophy, Latin and Greek, Astronomy, Geology, Botany and Zoology, Mental and Moral Science and Political Economy.—In Mathematics, Algebra, Geometry, Solid and Spherical Trigonometry, Conic Sections, Differential and Integral Calculus—Music, Drawing and Religious Instruction. This course is completed in six years.

The Commercial course embraces the English and French Languages, Arithmetic, Penmanship, Book-keeping, Epistolary Correspondence, English and French Composition, Elements of Natural Philosophy, History, Geography, Geometry, Algebra, Mensuration, Music, Drawing, Telegraphy, and Religious Instruction. Also Lectures on Commercial Law. This course is completed in three years.

The Preparatory course embraces Spelling, Reading and Writing in English and French, Geography, History, English Grammar, French Grammar, Arithmetic, Intellectual and Practical, Familiar Science of common things, and Religious Instruction. This course is not completed in less than four years.

The Faculty of the College is presently composed of eleven Professors; and the Corporation is composed of His Grace the Archbishop of St. Boniface, of the President of the College, the Parish Priest of St. Boniface, and some other members.

*New Discovery in Photography.*—A German paper states that a German named Karl Steinback has made an important discovery in photography, in which a mirror image of a person is fixed, in the natural colors of nature. Possibly this statement will be accepted *cum grano salis*.

## Official Department.

### CIRCULAR FROM THE MINISTER OF EDUCATION TO COUNTY INSPECTORS, RURAL SCHOOL TRUSTEES, AND RATEPAYERS IN RURAL SCHOOL SECTIONS, ON THE SUBJECT OF THE FORMATION OF TOWNSHIP BOARDS FOR PUBLIC SCHOOL PURPOSES.

1. Amongst the improvements in our Educational System advocated by Dr. Ryerson in 1870 and carried into effect by the legislation of 1871, was the giving of facilities for the establishment of Township School Boards. In his report for 1870 he gives an elaborate statement of the reasons for further extending facilities for forming such Boards. Subsequent experience has fully confirmed their force; and in the School Act of 1877 I introduced provisions to facilitate their formation and working, and also for withdrawal and re-formation into sections in case the Board system should be found unsatisfactory.

One provision of the Act of 1877 is that at the annual meeting in any year of the School Sections in a Township the question of forming a Township Board may be submitted in each section for the decision of the meeting, and whenever, in any township, at any such annual meeting, two-thirds in number of the School Sections so decide, the Council of such Township shall thereupon pass a By-law to abolish the division of the Township into sections and establish a Public School Board accordingly.

In advocating this and other changes, Dr. Ryerson well observes that those who have carefully studied the subject of popular education in all its bearings, and have looked closely into the educational history and the progress and failures of other countries, know full well that our school system would fall behind that of other countries, and become stationary, unless it embodied within itself from time to time the true elements of progress and provided fully, on an efficient scale, for the educational wants of the youth of the country.

In this consideration the question of the area of the School District is an essential one, materially affecting the satisfactory and beneficial working of the schools.

The origin of School Sections is to be found in the Law passed by the State of Massachusetts in 1787, which authorized the division of townships into Sections for school purposes.

After 50 years of experience, in 1869 this same State passed a Law abolishing the system of Sections and making the area of the School District continuous with that of the Township. Their experience had demonstrated the mischief occasioned by this system, which, as described by Horace Mann, was "the most unfortunate Law on the subject of Common Schools ever enacted by that State."

The original model set up in Massachusetts was followed by all of the New England States and several States in the North and North-west, and by us in the Province of Ontario. The Township was, however, adopted as the area of the School District in the more newly settled States, such as Illinois, Indiana, Iowa, Ohio and Missouri; but after an extended trial of the Section system many of the older States have reorganized with the Township as the School District. Dr. Fraser, Bishop of Manchester in his review, of the American system in his report of 1867, states that "the original object of the law as to School Sections was innocent and praiseworthy, but that the result has shown that it creates a most powerful impediment to the satisfactory and efficient working of the system."

The Reports of this Department from 1863 to the present furnish abundant evidence not only of the disadvantages of the Section system, but of its injurious effects, which could have no place under a Township Board. Thus in the Report for 1871 Dr. Ryerson summarizes the following disadvantages of the Section System, and the advantages of the Township Board:—

#### "1. THE DISADVANTAGES.

"The following enumeration of some of the prominent obstacles which are in the way of the greater efficiency of our schools under the Section system is worthy of attentive studying. They are a summary of what has been stated at length in the preceding pages:—

The evils are:—

1. Total lack of efficient supervision.
2. Constant change in the schools as supervised.
3. Very many badly qualified teachers.
4. Constant change of teachers.
5. Lack of interest in schools on the part of teachers and trustees.
6. Employment of relatives and favorites, often without any regard to proper qualifications.
7. Too small schools in many sections.
8. Too short schools in small sections.
9. Employment of immature and incompetent teachers in small sections.
10. Miserable school-houses in many sections.
11. Irregular attendance of pupils.
12. General lack of facilities to aid the teachers.
13. No schools in many sections.

14. Lack of proper qualifications, such as would be required in a uniform township school.

15. Total disregard to the programme, pupils often studying what they choose and not what they ought.

These twice seven and one plagues of our public school system will be recognized by every one who has had any experience in connection with our public schools.

#### " 2. THE ADVANTAGES OF A TOWNSHIP SYSTEM.

"The following are given as some of the desirable results to be realized by abandoning the Section system, and placing the schools under the care of a Township Board:—

1. It would secure just as many schools as the necessities of the community demand, each being an integral part of one central organization, and adapted to the wants of individuals.

2. It would dispense with a large number of trustees, collectors, &c.

3. It would establish a uniform rate of taxation.

4. It would furnish more uniform and equal advantages and privileges to every resident.

5. It would allow the child to attend school where his own interests would be best conserved.

6. It would prevent endless difficulties and strife about school section boundaries.

7. It would diminish the aggregate expenditure for schools.

8. It would secure a more efficient system of school inspection and supervision.

9. It would secure a permanency of the advantages of supervision.

10. It would secure greater permanency of teachers.

11. It would secure a better class of teachers.

12. It would secure better compensation to competent teachers, and less employment for incompetent ones.

13. It will secure better school-houses.

14. It will secure greater facilities to teachers for reference and illustration.

15. It will enable townships to establish graded schools.

16. It will secure uniformity of text-books in the township.

17. It will result in more uniform methods of teaching.

18. It will secure the establishment of a course of study, and will tend to keep pupils onger in school.

19. It will secure to the Education Department more reliable statistics.

20. It will insure schools in every section of the township, and prevent a bare majority from depriving a respectable minority of school privileges.

21. It will tend to diminish neighbourhood quarrels.

22. It will ensure the employment of fewer nephews and nieces, sisters and sisters-in-law.

23. It would ensure a larger aggregate of interest on the part of the community in each school.

24. It would render possible competitive examinations.

"There is no gainsaying the force of the argument presented by the above points, all of which are susceptible of the clearest proof and demonstration. Nothing but apathy and prejudice can prevent a reasonable person from seeing that they are conclusive in favor of a change. Are those persons who cling to the school system aware of the following fact? That of those townships in Massachusetts and other States which have abandoned the district system, it is very rare that one, after a fair trial, has any inclination to return to that system. The advantages of the township system are too apparent and too important to be lost when they have been once attained and enjoyed."

Again to refer to recent experience, I may quote from the Reports of several of the Public School Inspectors for the year 1878. Their opinions are as follows:

#### INSPECTOR McDIARNID, COUNTY OF GLENGARRY.

"The difficulties which small, weak and struggling sections have, of keeping their schools open during the whole year, would be removed were all the schools in the township in charge of one Board of Trustees. A serious hindrance to the progress of education lies in the number of small school sections. When the townships were first divided into school sections, the school-houses were built in the settled portions, but when the whole township was occupied, attempts made to change the site to a central locality led to disputes and the formation of new, small and irregularly bounded sections."

#### INSPECTOR McNAUGHTON, COUNTY OF STORMONT.

"One of the greatest hindrances to the permanent improvement of the schools is the frequent change of teachers. This is an evil which will always impede the progress of our rural schools as long as the school section method of management continues. Under the Township Board system the evils complained of would be rendered less injurious, and reduced to comparatively small proportions.

"The present method of apportioning the Public School Grants to the several sections of a township by the County Inspector I consider to be unfair to the weaker section. The schools which are situated in poor and thinly settled localities receive the smallest sums in aid of local effort, while the large and wealthy sections, which are comparatively independent of external aid, receive by far the largest share. The trus-

tees of those poor sections are compelled to employ legally qualified teachers as well as those more favorably situated, and in order to do so they must tax their constituents at a rate double, and in some instances treble, that imposed on those residing in more wealthy sections, and yet they can only secure the services of the cheapest class of teachers. The Township Board system would provide a remedy for this evil; but as the introduction of that system seems to be indefinitely postponed, I think in the meantime some other remedy should be sought for, and I am persuaded that the desired remedy can be found in a partial change in the method of apportioning the school funds."

#### INSPECTOR GARRETT, COUNTY OF RUSSELL.

"I repent my assertion of last year, that the sooner our schools are governed by Township School Boards, the quicker will the rising generation reap the benefits of that sound and liberal education otherwise provided for."

#### INSPECTOR SLACK, COUNTY OF LANARK.

"In some of our municipalities we have too many sections, in some the division lines are not so equitably arranged as they should be, while in others, owing chiefly to the broken condition of the country, by lakes and streams, the school-house either is not or cannot be located at a point accessible to all. In no case have the people availed themselves of the privilege of 'Township Boards,' and the abolition of 'sectional boundaries.' To remove the common complaint above alluded to, and numerous other irregularities and incongruities, I would welcome the trial, in at least one of our townships, of the Township Board system, feeling satisfied that the reform would soon become general. If we would establish a uniform rate of taxation; if we would furnish equal advantages and privileges to all; if we would put an end to all difficulties and quarrels respecting section lines; if we would diminish the aggregate expenditure for schools, and secure better schools, better teachers, more permanent teachers, more uniform work, and I may add more reliable school returns, then let us adopt the 'Township Board System.'"

Township Boards are to be found in successful operation in Ennis-killen, Tuckersmith and Macaulay.

Having regard therefore to the importance of this question in securing further efficiency combined with greater economy in the working of the rural Public Schools of the Province, it is my duty to call your attention to the provisions of the law under which it is competent for the rate-payers in every School Section, at their next annual meeting, which takes place on Wednesday, the 31st December next, to discuss and consider this question in all its bearings, and if such discussion should result, the object of this circular will be attained.

ADAM CROOKS,

Minister of Education.

Toronto, November 13th, 1879.

#### MEMORANDUM OF THE MINISTER OF EDUCATION AS TO THE EFFECT OF THE INCORPORATION OF A VILLAGE OR A TOWN UPON RURAL SCHOOL SECTIONS.

1. Several cases have occurred which make it desirable that this question should be considered, and my opinion expressed thereon.

2. The Villages of Parkdale and Waterdown are illustrations of the difficulty which arises when a village is incorporated out of portions of the township without the township having taken the proper preliminary step of arranging the boundaries of the school section in that event, while the incorporation of the Village of Harriston into the Town of Harriston presents a similar question.

3. It is upon the proper interpretation of the effect of the 83rd section of the Public Schools Act that the conclusion depends. The Court of Common Pleas, in giving judgment in the case of "Re Minister of Education and Macaulay," in Easter Term, 41 Vic., 1878, Vol. 29, Common Pleas Reports, p. 122, had this section under consideration.

4. This 83rd section of the Revised Act is the same as sec. 74 of the Act 37 Vic., Chap 28; and Mr. Justice Gwynne states that it enacts in effect that where a part only of a rural section becomes incorporated as a village or town, the part not so incorporated becomes nevertheless part of the village or town for school purposes, and the whole of the former rural school section becomes in effect and is designated the school division of the village or town, and is under the exclusive control of the Public School Board of the village or town, "until the boundaries of such school section or division should be altered under the provisions of the Act;" and in this view he decides that the Village of Bracebridge was incorporated in January, 1875, the whole of school section No. 1 of the Township of Macaulay, out of a portion of which the village was formed, ceased wholly to be a school section of the township and became wholly the school section or division of the Village of Bracebridge.

5. This, then, being the immediate effect of the incorporation of the village, or the extension of the limits of the village on its being incorporated into a town, it would follow that, in order to alter this result action should be taken by by-laws of the Councils respectively of the village or town (as the case may be), and of the township in which the section affected was situate. Such by-laws, under Sec. 84 of the Revised Public Schools Act, are required to be passed not later than the 1st of

May in any year, and cannot take effect before the 25th day of December in such year.

6. It does not appear that such a school district as results from the effect of the operation of Sec. 83 of the Public Schools Act comes within the provisions of Sec. 137 to 150 of that Act, and consequently the machinery provided in these sections for settling any disagreement would not apply to a case of this kind.

For all school purposes, the portion of the rural school section outside of the limits of the village or town (as the case may be) is included within the jurisdiction of the village Assessor, Clerk, and Collector.

8. This conclusion does not depend upon the situation of the school-house, for under the 139th section of the Public Schools Act, or of section 16 of the Public Schools Act of 1879, the distinction to be observed is between a school district under the operation of section 83 and a union school section, properly so called, under the other sections of the Act referred to.

ADAM CROOKS, *Minister of Education.*

EDUCATION DEPARTMENT (ONTARIO), Toronto, October 14th, 1879.

#### A CIRCULAR FOR THE INFORMATION OF PUBLIC SCHOOL INSPECTORS AS TO THE COLLECTION OF SCHOOL RATES IN UNION SCHOOL SECTIONS.

Having regard to Sections 78 and 79 of the Public Schools Act, and to Section 11 of the School Act of 1879, all Public School rates are required to be levied through the Municipal officers, so that the Assessor, Clerk and Collectors are required to discharge the like duties in the collection of Public School rates, as of other rates having regard to their respective municipalities. Section 16 of the Amended Act of 1879 expressly provides that in case of a union school section, the area of the section shall be considered for all purposes of taxation, and for all school purposes, as within the particular Municipality of which the school-house of the union is situate; and in case of unions formed after the 2nd March, 1877, and in all cases after 1st January, 1880, the contribution of each part of the union is to be levied according to the assessed value of the property of each ratepayer therein, and not upon assumed equalization of the assessments of the parts united. It follows, therefore, that the Trustees of a union school section have the legal right, by requisition, showing clearly the objects for current maintenance, to require the Municipal Council in which the school-house is situate, through its officials, to levy and collect the amounts required; but inasmuch as the amount payable by each ratepayer depends upon the assessed value of his property, that can only be ascertained by the Clerk of the Municipality in which the school-house is situate, obtaining from the Clerk of the Municipality in which the other portion is situate, the assessment of such properties as are comprised therein, and which form part of the school section, when he can place such properties upon the Collector's Roll of his Municipality, and thus secure the collection of all the school rates of the union school section.

Equalization is only necessary in case of union school sections formed before the 2nd March, 1877, and this will cease to be necessary after the 1st day of January next.

ADAM CROOKS, *Minister of Education.*

EDUCATION DEPARTMENT (ONTARIO), Toronto, Oct. 14th, 1879.

### Readings and Recitations.

#### THE WOMAN AND THE BIRD.

I'll tell you a story, children,  
A story you've never heard.—  
Of a woman who lived in a hovel,  
Whose life was saved by a bird;—  
A woman so poor and lonely,  
With nothing to make life sweet,  
Working and toiling, and striving,  
With barely enough to eat.  
Walking for work to the village,  
And wearily home again,  
She saw a wicked boy-robber  
Putting a bird to pain.  
She had but a little sixpence  
To get her dinner that day;  
But she saved the bird from the robber,  
And gave her one sixpence away.

And she made the bird her darling—  
She was so poor and lone,  
That she thought it a lovely wonder  
To have a bird of her own.  
She hung the cage in her hovel,  
And tended the bird with care;  
And often when she was hungry,  
The bird had enough and to spare.

The bird sang out sweet and eager,  
Whenever he saw her come,  
A beautiful song of welcome,  
Making the hovel a home!  
It flew around and about her;  
It sang what it could not speak;  
It perched on her head and shoulder,  
Or laid on her lips its beak.

And once she was faint with hunger,  
Weary, and wasted, and ill,  
And lay on the floor of her hovel,  
Clay-cold, and white, and still,  
And the bird was singing about her,  
And flying about and around,  
And perching on head and shoulder,  
And hearing no loving sound;—

O bird, of what are you thinking?  
O bird, shall we never know?  
You fluttered your wings in terror!  
Your pretty eyes glittered so!  
You fluttered and ruffled your feathers,  
And sang with a frightened cry,  
And then you rushed through the window  
Away between earth and sky.

And every creature that met you,  
You called with a piercing call,  
And ruffled and fluttered your feathers  
And tried to appeal to them all.  
But never a one would heed you,  
For how could they guess or know  
That a bird was asking their succour  
For the woman who loved it so?

Back flew the bird in its terror,  
Back to the hovel again;  
And 'tis asking all whom it passes,  
And asking them all in vain;  
Till near the hovel there met her,  
A girl with innocent grace,  
And a hand that was always ready,  
And a sweet little pitying face.

And it fluttered and flew about her,  
And cried a despairing cry,  
And flew away to the hovel,  
And back to the girl did fly.  
And the girl looked up with wonder,  
But able to understand,  
For the quick perceptive spirit  
Still goes with the comforting hand.

So the two went into the hovel,  
And life went in with them there;  
For death could not hold the creature  
Of whom a bird took such care.  
And all who heard the sweet story  
Did comfort and aid impart,  
With work for the willing fingers  
And love for the kindly heart.

[Those of our readers who have tried their hand at Latin hexameters will appreciate the following translation—now published for the first time—of a well-known and beautiful hymn. The translation of "Rock of Ages" by the same hand received high commendation from Mr. Gladstone.]

#### MECUM HABITATO.

"ABIDE WITH ME, PAST FALLS THE EVENTIDE."

*Translated by Rev. Silas T. Rand.*

Mecum habita, Domine! ultima labitur hora diei:  
Quam tenebrae condensantur! O mecum habitato!  
Deficiunt adjutores, atque omnia grata;  
Tu qui non spernes inopes, O mecum habitato!

Ad metam tenuis vitam, properat rapidae horae;  
Blanditiam pereunt, et transit gloria mundi;  
Omnia mutari, corrumpique, undique vidi;  
Tu qui immutatus remanes, O mecum habitato.

Te, Domine, est mihi nunc opus, omni hora fugienti:  
Tu solus valeas hostes mihi vincere saevos:



Tu solus firmum me, et saluum ducere possis :  
In tranquillo, in turbibus, Tu, O mecum habitato.

Hostes non timeo, quum Tu stas praesto beare ;  
Adversi casus faciles sunt, et absque dolore ;  
Terroris mortis, stimulis, et victoria, desunt ;  
Laetatusque exsultabo, nam mecum habitabis.

Mi juvenescenti, blandus Tu nemp, favisti,  
Ah me ! quam brutus ! quam perversusque remansi !  
Non discessisti a me, saepe ut deserui Te :  
G Domine, usque et ad extremum, Tu mecum habitato.

Ad oculos crucem dormitanti mihi monstra :  
Illustra tenebras, et me erigo visero coelos :  
En, umbrae fugiunt ! et mane rubescere coepit !  
In vita, in morte, O Domine, O Tu mecum habitato.

## Teachers' Associations.

The publishers of the JOURNAL will be obliged to Inspectors and Secretaries of Teachers' Associations if they will send for publication programmes of meetings to be held, and brief accounts of meetings held.

**BRANT.**—Friday and Saturday, 28th and 29th of November, 1879. Programme of Exercises—Friday, 28th November, 10 to 10:30 a.m. On Music in School, Mr. J. White; Critics, Mr. J. J. Sims and Mr. Petch. 10:30 to 11 a.m. Grammar with Junior Class, Mr. D. Bappte. Critics, Mr. Jno. McLean and Agnes Purvis. 11 to 11:30 a.m. Grammar with Advanced Class, Mr. J. Petch, B.A.; Critics, Mr. Bradley and Mr. Narraway. Intermission 2 to 2:45 p.m. County Model School Work, Mr. W. Wilkinson, M.A. Critics, Messrs. Kennedy & McIvride. 2:45 to 3:30 p.m. Geography to a Third Class, Mr. A. E. Kennedy; Critics, Messrs. J. J. Rapp and A. T. Watson. 3:30 to 4:30 p.m. Essay, "Personal Power of Teacher," Rev. R. Cameron, M.A. Saturday, 29th November—10 to 10:30, Elementary Arithmetic, Mr. A. Bridge; Critics, Messrs. D. Reid and Mr. Bourke. 10:30 to 11, Teaching, Drawing, Miss Ross (Collegiate Institute). 11 to 11:45, Methods of Teaching History, M. J. Kelly, M.D. Critic, Mr. Rothwell. 11:45 to 12:15, How to make Vulgar Fractions Respectable, Mr. P. A. Whitney; Critics Messrs. A. McIntosh and C. Chasgrain. 12:15 to 1 Lesson on Reading, Mr. A. T. Watson, Critics, Messrs. Settell and Bradley. Dr. McLellan Senior High School Inspector, will treat, after a new method, about factoring in Algebra, Theory of Division, &c., on the forenoon of Saturday. Dr. McLellan will deliver a lecture in the Hall of the Collegiate Institute on Friday evening, commencing at 8 o'clock. The Collegiate Institute Glee Club will contribute the music for the occasion.  
M. J. KELLY, LL.B., President. W. ROTHWELL, Secretary.

**TOWN AND COUNTY PETERBOROUGH.**—Collegiate Institute Buildings, Peterborough, on Friday and Saturday, 5th and 6th December, 1879. Friday, at 10 a.m. Music, Mr. I. J. Metcalfe, English, Mr. B. Earl, Algebra, Mr. Dickson, Natural Philosophy, Mr. C. Fraser; Reading Lesson, Mr. A. Shearer. Kindergarten (Public Lecture at 4 p.m.), Mr. J. Hughes. Saturday, at 9 a.m. Mistakes in Teaching, Mr. J. Hughes, Map Geography, Mr. Hallett; Symbolic Exercises, Mr. J. C. Brown; Composition, Mr. J. H. Knight. The teachers of the town and county are expected to be present. Trustees and friends of education generally are invited. Mr. James Hughes, P.S. Inspector for the city of Toronto, and Mr. J. H. Knight, P.S. Inspector for East Victoria, are to be present and take part in the proceedings of the association. Teachers will please bring their note-books with them.  
JAMES C. BROWN, President. J. J. WRIGHT, Secretary.

**WELLAND.**—The convention will be held in the High School, Thorold, on Friday, 28th, and Saturday, 29th November, 1879. Programme—Friday, 9 to 12, The forenoon will be occupied by G. W. Ross, Esq., M.P., Model School Inspector, subject, "School Management, &c., and Teaching Junior Classes." Afternoon, 2 to 5—English Grammar, advanced; Question Drawer: Mathematical Question Drawer, Canadian History, School Discipline, a paper; Business. Evening, 7:30—Odd Fellows' Hall, Lecture by J. Hughes, Esq., Inspector Public Schools, Toronto, subject, "Kindergarten." Saturday, 9 to 12, Reading Lesson Subject Matter, Spelling, J. B. Somers, Esq., County Inspector, Lincoln; Mistakes in Teaching, Mr. Hughes; Algebra, Factoring; History, Mr. Hughes. Afternoon, 2 to 4—Object Lesson, Reading, R. Lewis, Esq., Elocutionist, Toronto. Temporary homes will be provided by the teachers of Thorold for all teachers attending. All questions for the Question Drawer are to be addressed to Box 27, Thorold.  
J. H. BALL, County Inspector.

**NEWMARKET, ONT.**—The regular half-yearly meeting of the North York Teachers' Association was held in the Public School, Newmarket, on the 10th and 11th Nov.; about fifty-five teachers present, besides the members of the Model Class. The meeting was very interesting throughout. Dr. McLellan was present on both days, taking up "Algebraic Factoring" and Arithmetic. On Friday evening he delivered a lecture, "This Canada of Ours" to a full and enthusiastic house. The next meeting of the Association will be held in May, 1880, when the Secretary is instructed to try to procure the assistance of Mr. Scott, H. M. Model School, Toronto, during one of the days of the meeting.  
WM. RANNIE, Secretary.

**KINGSTON.**—The half-yearly meeting of County Frontenac Teachers' Association was held at the Court House, Kingston, on Thursday and Friday, Nov. 6th and 7th, 1879. Papers were given as follows: "How to Teach History," Mr. Summerby; "A Few Plain Facts," Mr. Bole; "Contractions in Arithmetical Operations," Professor Dupuis; "Education in Ontario," Miss Woollard; "Some Subjects Discussed at the Last Meeting of the O. T. A.," Mr. Henstridge; "Composition," Mr. Metcalfe, M.P.P.; "English Grammar"—"English Literature," Mr.

Buchan, High School Inspector. A Question Drawer was opened on the first day. A public lecture was given on the evening of the first day by J. M. Buchan, Esq., H. S. Inspector, on "Poetry and Politics." At the close of the regular business the following resolution was passed: "That as it has pleased Divine Providence in its inscrutable wisdom to call from our midst, since our last meeting, one of the most useful and respected members of this Association, the late Mr. John O'Brien, be it resolved, that we, the members of this Association, desire to express our heartfelt sympathy with his family in their sad bereavement; and that the Secretary be instructed to forward a copy of this resolution to our lamented friend's widow." The Association then adjourned, to meet on the second Thursday and Friday in May.  
N. F. DUPUIS, M. A., President. J. W. HENSTRIDGE, Secretary.

**NORTHUMBERLAND COUNTY TEACHERS' INSTITUTE, NEW BRUNSWICK.**—The third annual meeting of this Institute was held in the Harkin's Seminary, Newcastle, during the 2nd and 3rd of October. About fifty teachers were present. The President, Inspector Ramsay, in a terse speech opened the meeting and introduced Wm. Crockett, Esq., M.A., to the Institute. The business of the meeting was then proceeded with, and the following officers elected for ensuing year: President—Inspector Ramsay; Vice-President—Mr. C. M. Hutchinson; Sec.-Treas.—Mr. J. B. Oakes, B.A.; Assist.-Sec.—Mr. F. A. McCully, B.A. The officers elected and Mr. Donald McIntosh compose the Committee of Management. Following are the subjects upon which papers were read and discussions onlisted: "Reduction of Denominate Numbers," by Miss Kate Williston; following which Miss Minnie Harlane practically exemplified Miss Williston's theory. "Wormell's Geometry, Chap. III," was treated orally by Mr. D. McIntosh; "Physical Geography," paper prepared by Mr. Robt. Moir, read by Mr. Oakes, owing to Mr. Moir's absence; "Penmanship and How to Teach it," by Mr. C. M. Hutchinson—Miss Alexander taught a class in Form; "Elementary Algebra," by Mr. F. A. McCully, B.A.—followed by Mr. Warthen upon same subject; "Elementary Philosophy," by Mr. J. B. Oakes, B.A.—Mr. Oakes exemplified his paper by experiments; "Gravity," by Mr. Donald McIntosh. On the evening of 2nd October, Wm Crockett, Esq., M.A., of the Provincial Normal School, favoured the Institute and the people of Newcastle with a lecture upon "Popular Education," which was very instructive and interesting.  
F. A. McCULLY, Sec.-Assist.

**RUSSELL.**—The semi-annual meeting of the Russell Teachers Association was held at the North Plantagenet School House, on Friday and Saturday, the 3rd and 4th of Oct., 1879. The attendance was large, and great interest was manifested by the teachers present. Educationists from Ottawa filled the Institute with the life, energy, and instruction characteristic of the good teacher. The President lectured to the teachers on the benefits of the Institute with his usual earnestness; and the following subjects were then introduced: "Fair Play at the Board," by Rev. Thos. Garrett, B.A., "How to Teach the Map of Canada," by Wm. McCutcheon; "Reading" and an "Object Lesson," by Miss Annie MacLardy, of C. S. West, Ottawa; and the "Use of the Globe," by A. Smirle, Prin. C. S. E., Ottawa. The subjects were discussed by Miss MacLardy, Messrs. Garrett, May, Smirle, Hill, Duford, Pilon, LeCompt, Ross, and others. On Friday evening, Rev. John May, I. P. S., Carleton Co., delivered a practical common-sense lecture; taking his seat amid applause, being specially requested to visit North Plantagenet again.

**SOUTH HASTINGS TEACHERS' INSTITUTE.**—The semi-annual meeting of this Institute was held in the Central School buildings, Belleville, on Friday and Saturday, 14th and 15th of November. Notwithstanding the inclemency of the weather, a large number of teachers were in attendance. Jas. Hughes, Esq., I. P. S., Toronto, was present, and contributed very much to the success of the Institute. On the first day the programme followed was: "Algebra," by Prof. Dawson, B.A., T.C.D., Head Master Belleville High School; "Mistakes in Teaching," by Mr. Hughes, and "Elementary Arithmetic," by Mr. Osborne, Shannonville. In the evening, Mr. Hughes delivered an address to a crowded house on "The Kindergarten." On Saturday, "Phonic System of Reading," by Mr. Hughes, was the first subject, followed by "History, What it is, and How to Teach it," by Dr. Wright, Albert University; after which Mr. Hughes explained his method of teaching Industrial Drawing. The following resolution was carried unanimously: "Resolved,—That in the opinion of this Institute, it would be to the interest of education in Ontario if the Minister would authorize Kirkland and Scott's Elementary Arithmetic for the use of Public Schools."

**ONTARIO.**—This Association held its half-yearly meeting in the Ontario Hall, Uxbridge, on Friday and Saturday, October 17th and 18th. There was a fair attendance of teachers and others, and much interest was evinced throughout the whole proceedings, which were very instructive as well as practical. The following subjects were taken up: "Notation and Numeration," by Miss Jackson, Uxbridge; "School Discipline," by Mr. W. W. Jardine, Uxbridge; "Algebra, Arithmetic, and Reading," by Dr. McLellan, H. S. Inspector; "Natural Philosophy," by Mr. J. J.

Magee, B.A., Uxbridge; "The Use of History," by Mr. C. S. Pedley, B.A., Port Perry; "Elementary Arithmetic," by Mr. A. G. Henderson, Ashburn, and "English Literature," by Mr. G. H. Robinson, M.A., Whitby. On Friday evening, Dr. McLellan delivered a lecture on "This Canada of Ours," to a large and interested audience. The following officers were elected for the ensuing year: James McBrien, P. S. I., President; G. F. Robinson, M. A., Whitby H. School, Vice-President; James Brown, Whitby Mod. School, Sec.-Treas.; and Messrs. McBride, Tamlyn, Henderson, and Langdon, and Miss Hickey, Managing Committee. The next meeting is to be held at Oshawa. JAS. BROWN, Sec.-Treas.

GRENVILLE COUNTY ASSOCIATION.—A meeting of this association was held at Kempville High School on Thursday and Friday, October 30th and 31st. The President, Rev. George Blair, M.A., gave the opening address. Mr. W. H. Charlton introduced the subject of "Elementary Arithmetic." Mr. R. W. Hicks gave a practical illustration of a method of teaching notation, numeration, the simple rules, and tables by means of the bead-frame. J. A. Carmall, M.A., read an essay on "High School Entrance Examinations," in which he claimed for them the merit of having caused a great improvement in the method of teaching in the Public Schools, and advised the teachers to give special attention to mental arithmetic. In the discussion on "The Qualification of Second Class Teachers," Mr. Blair recommended that the study of the group "Natural Philosophy, Chemistry and Book-keeping," be made compulsory, because it is of more use than Latin in the active work of teaching. The discussion of the next subject, "Model Schools," was introduced by Mr. R. W. Hicks, who gave some account of their introduction and organization. Mr. D. Halfpenny, formerly a student at the Normal School, who has since had some experience in teaching, said that he found it impossible to carry on in a rural school the methods in use at the Model School, because the Model School was graded and the rural schools were not. Other members drew attention to the same fact. On Tuesday evening a very interesting lecture was delivered in the Town Hall to the teachers, and public generally, by Mr. Francis Jones. The subject was "A Refutation of the Newtonian System," and it was very ably treated by the lecturer, who had evidently given it careful study. The sum of \$75 was appropriated to the purchase of a professional library, and a committee was appointed to select the books and prepare a plan for their care and distribution. It was arranged that the lady teachers should take the lead in the discussions on Grammar and Geography at the next meeting, which will be held in May, 1880.

NORTH ESSEX TEACHERS' ASSOCIATION.—A convention of the teachers of North Essex was held at Sandwich on Thursday and Friday, the 13th and 14th ult. Mr. Girardot, the Inspector of the North Riding and President of the Association, called the Convention to order. The forenoon of the first day was devoted to the French exercises. After a few general remarks by the President, the roll was called. Mr. Bourret spoke on the "Introduction of Grammar to the Third Class." After five minutes' recess, Irene Girardot took up "Parsing and Analysis." The President complimented Mr. Girardot on his system. He insisted on teachers compelling their pupils to learn to form sentences. He also desired to have more attention given to spelling. Reading was improving rapidly, mental arithmetic had also been introduced all over with success. Practical arithmetic was not sufficiently explained, therefore many pupils are behind in that branch. He advised all who held 3rd class certificates to work for a higher grade. The afternoon session commenced with the address of the President. He complimented the teachers on their prompt and ready attendance. The class book and monthly reports he said were essential, and should be well kept and always ready to be exhibited. The teachers' library was now ready, and he hoped it would be well patronized. He intended next year, beginning with January, 1880, to require his teachers to send him copies of the questions set for monthly examinations by each teacher, with the result of each monthly examination. The competitive examinations will be continued in June next; also he should expect teachers to teach calisthenics, and at his spring visits he would require it. Professor J. F. Nichols, Principal of the Cass Union School, of Detroit, was then introduced and lectured on the subject, "A Teacher's Qualifications." The professor is a pleasant and fluent speaker. His address was listened to with the greatest attention, and at its close was loudly applauded. Albert Bondy addressed the convention on "The faults of teaching part No. 1." R. Thomas dealt with "Literature for second class examinations." At the evening session, Professor Meeker was introduced, and gave a very interesting lecture on the "Advantages of Elocution." He also gave several very excellent recitations. At the conclusion of Prof. Meeker's entertainment the teachers took part in an excellent festival.

## REVIEWS.

AN INTRODUCTION TO THE STUDY OF HEAT. By J. Hamblin Smith. Rivingtons. This little work treats of the elementary principles of

heat, and contains all that is required for the ordinary B.A. degree in the University of Cambridge, with an appendix containing some additional matter. It contains many solutions and exercises in illustration of the principles of what it treats. It contains all that is necessary for our teachers' examinations (First Class C), and is in all respects an admirable elementary text-book.

KING LEAR, JULIUS CÆSAR, MERCHANT OF VENICE. Edited by J. M. D. Merklejohn, M.A. W. & R. Chambers. These are capital school editions by one who is a distinguished English scholar, and one of the foremost educators of the day. They contain notes, examination papers, and plan of preparation. The notes are, in our judgment, just what they ought to be—clear, well arranged, explanatory of what needs explanation, and especially excellent in English derivations. The "Plan of Study" and examination papers will prove suggestive to both teacher and student. The volumes are published at the remarkably low price of one shilling each.

SELECTIONS FROM THE GREEK LYRIC POETS, with an historical introduction and explanatory notes. By Henry M. Tyler, Professor of Greek and Latin in Smith College, Northampton, Mass. Boston: Ginn & Heath, 1849. The title page of this work very accurately describes its contents. It only remains for us to say the book is well printed, the selections judicious, the notes good, and the other explanatory matter interesting and valuable. Greek lyric poetry is a subject of which few, even of those who have charge of the Greek classes in our schools, have much knowledge, and the work is well calculated to be useful to that class of teachers.

JULIUS CÆSAR, by Henry N. Hudson; and by the same talented and judicious author are numbers in the series of annotated and illustrated plays by Shakespeare, issued by Ginn and Heath, of Boston. We can but do as we have done before add our highest commendation to those of the best qualified judges of literature on the continent.

THE LITERARY READER. Iveson, Blakeman, Taylor & Co., New York. By George R. Cathcart. This work is not designed to be a compendium of English Literature, but gives in chronological order selections from the best English and American authors. The selections are most carefully made, and the judgment of the author is excellent. The book is suitable for an advanced reader in High Schools.

LECTURES ON THE HISTORY OF ENGLAND. Toronto: McMillan & Co., Messrs. Willing & Williamson. By M. J. Guest. Mr. Guest is a practical teacher, and found, as many others have done, that the School Histories were "too full or too trivial" for the purpose. He therefore prepared a series of lesson lectures for his pupils, and these are now published. They are simple, clear and comprehensive, and would form admirable models for teachers of advanced classes. Every teacher of English history to any grade of pupils would be benefitted by a careful reading of the work.

LOVELL'S INTERMEDIATE GEOGRAPHY. For many years Canada has been behind in the publication of School Geographies. Those in the hands of pupils, so far as mechanical execution, printing, binding, maps, &c., was concerned, were simply a discredit to the system under which they were allowed to be authorized. In these particulars the new edition issued by Mr. Lovell is in all respects splendid. Several new and desirable maps have been introduced. This book is now one of the finest, if not the best authorized for use in schools in Ontario. We cannot help regretting that the "question and answer" method is still adhered to.

A SHORT GERMAN GRAMMAR FOR HIGH SCHOOLS AND COLLEGES. Boston. Ginn & Heath. By E. S. Sheldon, Tutor in German in Harvard University, pp. 103. Mr. Sheldon holds the opinion, in which we concur, that "the ability to read German is of far more importance than the ability to speak it." He has accordingly prepared this little work with the view of assisting beginners to gain such a knowledge of that language as to be able to translate from it with readiness; and he has succeeded in giving in plain language, within very narrow limits, what is most necessary for that purpose. The matter is well arranged, and the exercises calculated to be useful in impressing principles on the mind. The typography is excellent.

THE CONTEMPORARY REVIEW, for November contains the following articles: *On Freedom*, by Max Muller, Gladstone, The Ancient Regime and The Revolution in France; What is the Actual Condition of Ireland? The Doluge; Its Traditions in Ancient Nations; Suspended Annihilation, by R. A. Proctor; John Stuart Mill's Philosophy Tested, by Prof. Stanley Jevons. The title of the article on Freedom might prove misleading, it is not political freedom that is treated of, it is really an article on *education*—elementary, secondary and academical—and may be read with interest and profit by all interested in the work. The two studies on Gladstone are acute and really interesting—presenting the character of the great orator from two opposite points of view. The article on the Actual Condition of Ireland is very interesting in the present state of affairs in that country; the writer proves that—except during the last two years of unnatural depression—the condition of the Irish people has vastly improved during the thirty years from 1846 to 1876. The other articles are also able and very interesting. Altogether the number is of the best that we have ever read of one of the foremost periodicals of the time.

BLACKWOOD for November contains a continuation of the entertaining story, *Reata*, and the conclusion of the very interesting article on Syria; An American Princess; Whig Reviewers as Painted by Themselves; A Poor Devil; Among the Afghans, and Political Reflections on the Recess.

THE NORTH AMERICAN REVIEW for December is an excellent number. It contains seven articles, all of high literary merit. Romanism and The Irish Race in the United States, Part I., by J. A. Froude; Young Men in Politics, by G. S. Boutwell; The Religion of To-day; Is Political Economy a Science? by Prof. Bonamy Price; English and American Physique, by Geo. M. Beard; The Performance of Political Forces, Part I., by Cuthbert Mills; Recent Literature, by J. G. Hassard. Published by D. Appleton & Co., 551 Broadway, New York.

THE GENTLEMAN'S MAGAZINE for November contains *Under Which Lord*, a continuation of a popular story by Lynn Linton; Her Majesty's Next Ministers; Recent French Poets, Part II., Best-Day Memories; American Storm Warnings, C. H. Thompson; A Pilgrimage to Glastonbury, by Edward Walford; The Carol of the Swallow; and Table Talk. Published by Catto & Windus, Piccadilly, London, Eng.

Every teacher ought to take some of the above periodicals. We do not see how a teacher can develop a taste for literature in his pupils unless he is himself possessed of literary tastes; nor how he can better acquire such tastes than by habitual perusal of articles written by the foremost *litterati* of the day. These periodicals, or most of them, should also be found in the "Reading Room" of every High School Literary Society.

THE ATLANTIC MONTHLY for December contains the first part of "Thirty Seven Hundred and Fifty-Eight," a tale in which the state of the world eighteen hundred and seventy-nine years hence is described; a good poem, entitled "A Wall Between," "Kansas Farmers and Illinois Dairy-men," a series of notes on the poverty of Western farmers; "Some of Us—A Southwestern Sketch," very amusing; "The National Board of Health;" "Three Interviews with Old John Brown," "The Conductor and Rosamond," a capital story; "The Greatest Novelist's Work for Freedom," which is an account of the life of Ivan Turganoff, the famous Russian author; "Reminiscences of George Grote;" "English Grammar," an article by Richard Grant White, a relation of ex-President Grant, and well known as a writer on the English language; "The Man who was to have Assassinated Napoleon," "The Education of the Hand in Public Schools" which is a plea for instructing boys in the use of the saw, the axe, the file, and the plane at the expense of the State, in order that they may learn the grammar of the manual arts and "the meaning of their hands;" and the usual amount of matter under the headings "Contributors' Club" and "Recent Literature." The publishers announce that a new serial story, "The Undiscovered Country," by W. D. Howells, the editor of the magazine, will begin in the January number.

The Christmas number of *St. Nicholas* is probably the grandest child's magazine ever issued. It contains stories, fairy tales, adventures, descriptions of wonderful things, biography, games, charades, rebuses, etc., illustrated by over ninety pictures. The boy or girl who receives it for a Christmas-box will not care to explore the stockings to the toes. Alfred Tennyson has written two pieces specially for the January number. Any parent who can afford \$3.00 per annum for it, ought to subscribe for *St. Nicholas*.

SCIENCE'S MONTHLY.—Among the many admirable articles in the December number, we would specially call the attention of teachers to "Two Visits to Victor Hugo," in which the great Frenchman is seen in the light of his home; "The John Hopkins University;" "Coffee Culture in Brazil;" "Success with Small Fruits," by E. P. Roe, the novel writer, who explains how to be successful in growing strawberries. The conclusion of the sketch of Bayard Taylor's career is given, "Nature and the Poets" and "Oddities of Paris" are capital articles, and the editorial on "Teachers and Task-masters" is timely, and gives the profession sound advice.

THE POPULAR SCIENCE MONTHLY.—Science is the grandest agency of amelioration and improvement that is at work in civilization. It is constantly enlarging our knowledge of Nature by new discoveries; it is perfecting all the arts by the application of new facts, principles, and processes, and in its progressive course it has reached and is profoundly affecting all the higher questions of human interest—the problems of statesmen, jurists, financiers, divines, artists, historians, moralists, educators, philanthropists, and social reformers.

The *Popular Science Monthly* is the only periodical devoted to the science of all these great subjects, and it treats them in a manner suited to the wants of intelligent non-scientific people. It represents the most valuable thought of the most advanced scientific men of the age in all countries. Its articles and abstracts of articles, original, selected, and illustrated, will be found to reflect comprehensively and faithfully the general progress of scientific ideas in all departments of popular interest.

## Gleanings.

### FROM A TEACHER'S DIARY.

He who speaks too much tires himself and his scholars. Not what we say, but what the children learn, shows the worth of the school work.

If we could always feel ourselves the wants and the ability of the child, many a random shot would not be made. An independent opinion, a free and full rendering of what was taught by the teacher, is worth more than a tubful of mechanically memorized things; but certain things must be absolutely and firmly entrusted to the memory, to serve as material to reason upon—we cannot cipher with *noughts only*.

The greatest gain in instruction is obtained, if the children become *desirous* of learning.

Not the sum of things learned, but the mental facility manifested by the scholars in thought, speech and writing, is the true criterion of the school's standing.

The question, "Why?" is the spade wherewith we dig the earth and uncover its hidden treasures.

The scholar's final aim is not what he can *do*, but what he shall *grow to be*.

Morality has for its foundation, firm habit, religious warmth of the heart, and clear thought.—V. Scheer.

—Within a few years quite a number of infant schools have been established in Switzerland, and they are increasing rapidly there; while at Paris, also, such institutions are being organized with a view of powerfully aiding in the regeneration of the system of primary education. The Canton of Neuchâtel has already been mentioned in these columns as one of the most advanced in Switzerland in respect to instruction and educational improvement, and these schools for very young children are quite numerous there. The following remarks from the report of an inspector of the Canton are interesting as showing the appreciative criticism of the public officer, and as pointing out an error to be guarded against elsewhere. He says: "The teachers do not come down to the level of the child; they speak a language too elevated, which he cannot understand; he is not taught to observe, nor to think, nor to express himself. Our teachers are not lacking in zeal, but their activity is not always intelligent. Yet they are well prepared, and even learned; but *beginners* go quickly and headlong into things. We are persuaded that, with instruction more methodical, less tied down and superficial, one would succeed better and more easily." The remarks of the Swiss inspector may be read with profit in our own country, for no doubt the same error prevails here, and it is one that needs revision. An idea frequently prevails that young children may safely be entrusted to young and inexperienced teachers, and it is the cause of much mischief. Teachers of experience and judgment are particularly needed here, because the impression, made at that early age are of so much consequence to the future career of the scholar, and the evil effects of erroneous or ill-judged instruction are not easily eradicated.—*New England Journal of Education*.

BUSINESS EDUCATION.—We wish to call attention to the advertisement of the "British American Business College." This institution takes a high rank in the Chain of 'Bryant & Stratton Business Colleges' on this Continent, and is decidedly the leading Commercial School in the Dominion. We would strongly recommend Teachers, who do not intend following their present profession, to fit themselves for an active business life, and any young man or woman who wishes to acquire a sound business education, will do well to attend this school. We can give you no better guarantee that your best interests will be served than is afforded by a perusal of the names of the staff of teachers and lecturers set forth in its annual announcement. Business is now improving, and the demand for young men of thorough training will be greatly in excess of former years.