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MISSING

The Educational Review.

Devoted to Advanced Methods of Education and General Culture.

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EDITORIAL NOTES.

It is not very long since we had the pleasure of noting the election of our astronomer to the *Astronomical Society of the Pacific*, connected with the famous Lick Observatory, for interesting astronomical information published. Lately Principal Cameron published, we learn from one of our exchanges, some interesting observations on Venus. The same subject was simultaneously exciting discussion among European astronomers, and not long ago President Brugiere, of *La Société Scientifique Flammarion de Marseilles*, presented his views before the Society in an address which led to the same conclusions as Mr. Cameron's observations published six weeks earlier. When this was brought to the knowledge of M. Brugiere, who is president of one of the foremost scientific societies of France, he sent a flattering note to Mr. Cameron, with an invitation to allow his name to appear as a member *La Société Scientifique Flammarion de Marseilles*. For many years we know of Principal Cameron's devotion to the obtruse mysteries of the higher mathematics and his successful applications of it to astronomy; and we are not at all surprised to

find him honored when he comes into touch with astronomical savants. And then, best of all for us, Mr. Cameron is one of our public school teachers.

In P. E. Island over four-fifths of the total salaries of the teachers is paid directly by the Province. This is a larger proportion than is paid by any other Province in the Dominion, and is almost on a par with the direct aid given in Australia. Notwithstanding this generous aid the teachers in P. E. Island receive lower salaries than those in New Brunswick and Nova Scotia.

MR. E. B. BIGGAR, editor of the *Montreal Journal of Fabrics*, will shortly publish a book containing incidents of the life of Sir John A. Macdonald. Mr. Biggar has had exceptional opportunities during several years for collecting and arranging fragments and sketches which will make the book he proposes to publish a very interesting one. Before going to press Mr. Biggar will be glad to receive any authentic anecdotes or reminiscences on the subject that have not yet appeared in print.

PROF. W. K. HATT, who succeeds Prof. Strong in the chair of civil engineering, at the N. B. University, comes with very flattering testimonials from men who have had a chance to judge of his merits. Mr. Fuertes, civil engineer of Cornell University, writes of him:

During his connection with this University, Mr. Hatt has made a brilliant record as a man of great ability, honesty, high aims and untiring industry. He has been honored by his classmates by the unanimous election as chief engineer of the surveys of this University, and by his conduct as a student, a man and a gentleman, Mr. Hatt has earned the respect and confidence of the faculty and all persons with whom he has been associated.

AN Alumnae Society in connection with the Girls' High School of St. John has been formed. The meeting was presided over by Mr. G. U. Hay, principal, who gave an address. An excellent musical programme was carried out, after which addresses were made by Inspector Carter, Senator Boyd, Prof. Duff and Miss Bryson, of Montreal. Ice cream and refreshments were passed around during the evening.

WE hope as many teachers as possible will attend the Summer School of Science at Antigonish. It would be a graceful act on the part of the Board of Education of New Brunswick to lengthen the holidays of those teachers who attend its sessions.

BE sure, in case of removal, to send the change of address to the REVIEW, and if you are in arrears for the past year attend to the circular sent in this number. Notice the change in the business management of the REVIEW for Nova Scotia which appears.

THE CHIEF SUPERINTENDENT.

The dismissal of Mr. Crocket from the office of Chief Superintendent of Education in New Brunswick has called forth expressions of the keenest sympathy for that gentleman. Viewed from an educational standpoint there seems no cause for the dismissal. Mr. Crocket, it is believed, accepted the office with reluctance. That he discharged the duties faithfully and efficiently cannot be gainsaid. Coming from the ranks of teachers he had always their interests at heart and strove to the best of his ability to discharge his onerous duties impartially.

From a political standpoint there seems to have been no occasion for the dismissal. Granted that the opposition of Mr. Crocket's family to the government produced strained relations between the members of the government and the superintendent. It would have been magnanimous on the part of a leader like Mr. Blair had he risen above the circumstances of the situation in which he was placed and retained in office a man who himself had shown no political bias and with whose administration of educational affairs no serious complaint could be found.

It is a serious matter to dismiss from office the head of such an important department as education except for good and sufficient causes. The whole service suffers; and the teachers of the Province cannot be expected tamely to submit to an act of injustice to one of their number. It produces a feeling of unrest, want of confidence, and grave fears for the future of education when its head may be removed on political grounds.

Jas. R. Inch, LL. D., the new Superintendent of Education for New Brunswick, entered upon his duties on the first of July. He has long been connected with educational work in this Province, first as a teacher in the common schools and afterwards in the educational institutions at Sackville. As President of Mt. Allison University, Dr. Inch has shown himself a progressive educationist, and the history of

that institution during his management has been one of continued success. Ample opportunity has been given for the display of his executive ability and tact in the arduous task of conducting an educational establishment like that at Sackville. Dr. Inch is not unknown to the teachers of the Province, having always taken a lively interest in the proceedings of the Educational Institute.

CHIEF SUPERINTENDENT'S SALARY.

It is reported, we hope on good authority, that the salary of the Chief Superintendent of Education is to be increased. This should have been done long ago. Education is the most important department in the public service, and the salary of the Chief should be in accordance not only with dignity and responsibility of the position, but with the labor attached to it as well.

No Province in the Dominion, except, perhaps, P. E. Island, has so poorly paid its Chief Superintendent as New Brunswick, and none makes greater demands upon his tact and ability. If the service is starved at the top it will extend downward, and this has been true, to some extent, in this Province.

Salaries should be sufficient, not only to attract good men to the service but to keep them. Some of our high schools pay salaries equal to that now received by the Chief Superintendent and much more than those given the inspectors. The salaries paid by the schools are not too high, but the others are too low.

SUPPLEMENTARY READERS.

The introduction of additional reading books into the schools with the object of training the pupil to put his newly acquired powers to effective use at once is becoming very general in the United States. These readers should be an introduction to important elementary knowledge. The pupil might here have the science of common things displayed in an inviting manner, history, travel and biography utilized, temperance and the science of health illustrated in plain and striking lines. The objection is the cost. But what is the advantage of the art of reading if the proper material is not read? And what is the use of the expense of teaching reading if the smaller expense of getting good material to read be not superadded. That is a case of saving the salt and spoiling the meat. Good supplementary reading will enable the pupil to thoroughly master the understanding of written language from the interest developed in it; and it is the most promising way to lay a foundation for the permanent desire for good literature. It is training him to use the power given him; and power without the knowledge of its proper use may be even worse than blank ignorance.

SCHOOL CONTRACTS.

Much misconception exists among teachers and trustees regarding that clause in the teachers' contract relating to the time of notification and much trouble often arises in consequence. The dispute usually arises over the clause, "and it is mutually agreed that this contract shall continue from school year to school year (Dec. 31 ends) unless notice in writing of an intention to terminate the same shall be given by either of the parties hereto one month before the date specified in the foregoing clause. Second, or failing such notice, then one month before the time to which the same is continued by this clause."

Suppose a teacher hires for six months on July 1st and is not notified at the end of the term. She continues to teach until the end of the follow June. Can she be legally notified to leave at that time? Certainly not. Her contract is valid until Dec. 31st following, and she can only be legally notified one month before that time, so long as the same agreement exists.

Much carelessness is displayed in not having the agreements sealed. Unless this is done the contract will not stand law.

We would warn teachers again who hire after the beginning of the term not to hire by the month. If they make the calculation they will find that four months salary, from Sept. 1st say, would be only two-thirds of the term's pay, while counting by days it would be about four-fifths of a term's salary; *e. g.*, suppose there are 100 days in the term and twenty teaching days in each month, reckoning this way the teacher should get four-fifths of a term's pay. This is the way trustees are paid by government and is the way they should pay their teachers.

TONIC SOL-FA IN NOVA SCOTIA.

No act of the Council of Public Instruction has apparently laid the foundation of such great results from a small outlay as the flying mission of Mr. Anderson through the counties of Nova Scotia, to introduce the new musical notation to the attention of the leading teachers in the Province. We find fault with only one feature in the arrangement. Instead of half a year, Mr. Anderson should have been kept at work for a whole year at the very least. In Pictou County, for instance, there was no time to go to New Glasgow—a larger community than most of our county towns, as are also the neighboring towns, Stellarton and Westville. These, with River John and other populous centres, would take as much time and give as great results as the county towns in

two or three other counties. And what applies to Pictou County applies to several other centres of population in the Province. Mr. Anderson should be employed for another year, and local institutes called for a portion of a week in every important quarter of each county to give every teacher an opportunity of receiving practical instruction in this simple notation; and the following year the law should require instruction to be given in music in every school and a definite amount should be prescribed for each grade. At the end of the common school course easy music should be sung off at sight—as a newspaper can be read at sight. Music, when properly taught, does not add burdens to the schoolroom labor. On the contrary, it tends to relieve the ordinary tension and gives an invaluable form of physical exercise. We have much pleasure in giving here a list of Tonic Sol-fa Elementary and Intermediate certificates since November, 1890 in Nova Scotia.

LIST OF TONIC SOL-FA ELEMENTARY AND INTERMEDIATE CERTIFICATES.

Miss E. W. Poole,	Truro,	El.
Prin. H. S. Freeman,	Amherst,	"
Miss Ada Travis,	"	Int.
Prin. A. McArthur,	Pictou,	"
Prin. P. Fraser,	"	"
Miss Sarah Logan,	"	"
Miss Lena Zuline Pugh,	Springhill,	"
Miss Maggie Dimock,	Lunenburg,	"
Miss Nellie Mattson,	"	"
Miss Mary G. Vans,	Bridgewater,	Int.
Miss Annie Crouse,	"	Int.
Miss Ada Jean,	"	"
Miss Aggie M. Hamilton,	"	"
Miss Mary Bowers,	"	"
Mr. J. D. Sprague,	Liverpool,	"
Miss E. P. Phelan,	"	"
Miss Jennie E. Mullins,	"	"
Miss Teresa Daniels,	"	"
Miss Mille King,	"	"
Miss Annie Hemeon,	"	"
Miss Blanche Harrington,	"	"
Miss Fanny Dunlap,	"	"
Prin. Fred. S. L. Ford,	Milton, Queens,	"
Miss M. J. Freeman,	"	Int.
Miss Maggie Smith,	"	"
Miss Ethel V. McAlpine,	Lockport,	"
Miss Maude Churchill,	"	"
Prin. C. S. Brace,	Shelburne,	"
Miss Emma McAlpine,	"	"
Miss Abis Ellis,	"	"
Miss Belle Martin,	"	"
Miss Gertie Brown,	"	"
Miss Jessie Purney,	"	"
Miss Maggie Burns,	"	"
Miss Amy B. Hilton,	Yarmouth,	Int.
Mr. S. A. Starrat,	"	"
Miss A. Forbes,	"	"
Miss Maggie Archibald,	"	"

		Int.	El.
Miss Bertie B. Brown,	Yarmouth.		
Miss Clara Hilton,	"		
Miss Jessie Crosby,	"		
Miss Lizzie Hibbert,	"		
Miss Ruth Rogers,	"		
Miss S. P. S. Delamere,	"		
Mr. C. B. Barr,	Digby,		
Mr. James Richan,	"		
Mr. Guy R. Viets,	"		
Miss Minnie Cowan,	"		
Miss Alma McCulloch,	Annapolis,	Int.	
Miss Francis Harrington,	"		
Miss Orilla E. Hindon,	"		
Miss Oressa N. Hindon,	"		
Prin. Alf. D. Brown,	Bridgetown,		
Miss Bertha Ruggles,	"		
Miss Iola Bishop,	"		
Miss Bessie G. M. Ervin,	"		
Miss S. A. Ervin,	"		
Miss Mary A. Young,	"		
Miss Isabel Ince Landres,	Kentville,		
Miss Emma I. West,	"		
Miss Amanda Gould,	"		
Miss Rena Magee,	"		
Miss Georgie Begg,	"		
Miss Susie B. West,	Wolfville,		
Miss Lily A. Scott,	"		
Miss Irene McCulloch,	Hantsport,		
Miss Annie M. Andrews,	"		
Miss N. A. Burgoyne,	Windsor,		
Miss Alice M. Freeman,	"		
Mrs. J. S. Archibald,	"		
Prin. J. M. Longley,	Guysboro,	Int.	
Prin. D. F. Campbell,	Port Hawksb'y,	Int.	
Miss Ora Lamey,	"		
Miss Mary J. Skinner,	Port Hastings,		
Prin. Ed. T. McKeen,	Sydney,		
Miss B. M. Ormond,	"	Int.	
Miss H. L. Muggah,	"		
Sister Bernadette,	North Sydney,		
Prin. Wm. A. Chisholm,	Antigonish,	Int.	
Mr. S. C. Newcome,	"		
Miss L. C. Tupper,	"		
Miss Mary McNeil,	"		
Mr. John James McNeil,	"		
Mr. John S. Thompson,	"		

The total number who passed examinations for certificates was 194. Of these

184	"	"	"	Elementary Certificate.
13	"	"	"	Intermediate Certificate.

281 certificates in all were granted.

A few of the remarks made by leading teachers in the Province, as to the results promised by the first attempts, will be valuable by way of stirring up attention.

CUMBERLAND Co.—"All the teachers in the Academy, except one, are teaching the Tonic Sol-fa to their schools to some extent. * * Every school had singing at the public examination this spring for the first time (in four years at least). It has worked wonders for us."

PRIN. H. S. FREEMAN.

LUNENBURG Co.—"The teachers of the lower grades seem to be doing very well with the Tonic Sol-fa.

PRIN. B. MCKETTRICK.

QUEENS Co.—"We have singing in all the departments but my own. The school Inspector told me he was very much pleased indeed with the singing."

PRIN. N. SMITH.

SHELburne Co.—"The children are much interested in it (Tonic Sol-fa) and are able to do well with almost any easy piece. Since your visit, introducing the Tonic Sol-fa system, I have been able to carry out what I had been previously unsuccessful in doing, viz: the introduction of singing into the schools of which I have charge, more especially did I desire to have singing taught in the elementary room * * *Canada's National Song*, re-written in Tonic Sol-fa, has been learned by all the pupils without the least difficulty. I consider the system excellent for the masses.

PRIN. J. RUGGLES.

YARMOUTH Co.—Tonic Sol-fa taught in four departments. One of these reports: "More interest and better singing." Two others report better tones.

PRIN. A. CAMERON.

Those who have adopted it (T. S. F.) speak in the highest terms of it as a school exercise. I hope to see it (or something like it) introduced into our schools very soon by the proper authority.

PRIN. W. F. KEMPTON.

Three of the teachers have so far made a beginning in the Sol-fa notation for use in their schools.

PRIN. BENJ. ROGERS.

DIGBY Co.—Three of the teachers have worked away every day at Tonic Sol-fa and generally the pupils are getting so they can read quite correctly.

PRIN. J. T. GODFREY.

COLCHESTER Co.—I am pleased to say that I like the teaching of the Tonic Sol-fa notation very much, and I think the scholars like the system too.

PRIN. D. F. CAMPBELL.

PROOF OF THE EARTH'S MOTION.

A correspondent very properly takes exception to a "popular" cutting from the *St. Louis Republic*, under the above caption, on page fifteen of our last number; he says:

1. This is really an imitation of Foucault's Pendulum experiment, *mutatis mutandis*. Though the experiment ought theoretically to hold, I doubt if anyone has succeeded. I do not know, but Foucault's has sometimes failed, the plane of the pendulum going the *wrong way*. Yet I do not doubt that with such precautions, etc., as he took it, would succeed.

2. The writer of the paragraph evidently does not understand what he is undertaking to explain. He says (error 1) the plane, or whatever he may mean, moves from "east to west." The correct statement would be, the plane moves in the direction from N. to E. through S. to W., etc., in the direction of the hands of a watch geographically interposed.

3. He (the writer) says the water and the vessel swing round and leave Lycopodium powder or, etc., at rest. This is entirely wrong. If the water "moved" in the sense we are speaking, the fluff on the surface would move with it. It is the vessel alone that moves—if we suppose water *frictionless*, which it is not quite—the water and the fluff tending as far as may be to retain their position. But they can't do so quite as they are truly on the surface of revolving sphere and to be judged with reference to a certain cone.

The derivation of the black mark from apparently its original position, of course, varies as *sin, lat.*

CIRCULAR TO BOTANISTS.

To all interested in Botany in New Brunswick and Nova Scotia :

During the recent meeting of the Royal Society of Canada, in Montreal, the Botanical Club of Canada was formed, the object of which is to stimulate plant study; to encourage observers to keep accurate records of what plants are found in certain localities; whether they are rare or common; time of flowering; noting points of difference in plants from the descriptions of them in manuals, what plants are certainly perennial, etc.

Clergymen, teachers, college and high school students, and others who have a taste for natural science should enrol themselves as members of this Club and aid in every way to carry out its objects. If in ten years the plants of every district in New Brunswick and Nova Scotia shall have been examined and records made, it will be a great advance to our knowledge of the botany of these Provinces.

To do this needs only a body of earnest and active workers possessed of intelligence and patience. Those in a county or parish who have some knowledge of plants should begin collecting and examining plants at once and encourage others to begin. Those having little or no knowledge of botany may begin collecting, preserve specimens of what they collect according to the directions given below, and at the end of the season forward them to Secretaries for each county, whose names will be published hereafter. It is suggested that those who have some experience in plant study give special attention to some particular group of plants in their locality (trees, climbing plants, water plants, sea-shore plants, ferns, mosses, lichens, or others).

Any one may become a member of the Club by the payment of twenty-five cents annually, and may retain membership by collecting and preserving at least forty plants each season until the total reaches 50 per cent. of the recorded plants of the Province, or 75 per cent. of those of the particular group selected.

DIRECTIONS FOR PRESERVING PLANTS.

To collect plants one should have a note-book and a tin box (that in the form of a cylinder is the most convenient), eighteen inches long and six inches deep, with a strap fastened to each end, for carrying over the shoulder. To examine and identify plants a pocket magnifying glass is needed (one costing from twenty-five to fifty cents is sufficient), and a Gray's Manual and Lessons, which costs about two dollars. Be sure to get the revised edition of 1890. A trowel for digging up plants, a sharp pocket knife, a needle fitted in a wooden handle for separating the

parts of plants are necessary. To dry plants a press and abundance of paper to absorb moisture are required. For the former, two smooth boards that will not warp, 20x14 inches, with a flat stone or other weight of twenty-five or thirty pounds will serve all purposes. Old newspapers, uncut, and folded in quarto form will do for dryers. That completes the outfit.

Now for an excursion: Collect at least five plants of each species — three to preserve and two to study and identify if possible. Collect only good specimens, and be sure you have root, stem, leaves and flowers. If a tree, a part of the branch with leaves and flowers should be secured. If the plant is over fifteen or sixteen inches long, bend it before putting in the tin box or press so that one length shall be about fifteen inches. (Fruiting specimens of each plant should be secured later in the season). Returning from the excursion study the plants with a view of finding out their names. (It is a good plan to do this on the ground with the manual if there is leisure). Then put the plants in press. On one of the boards place two newspapers (eight thicknesses). On this place a plant, or several if the size will permit, arranging as naturally as possible, and showing both under and upper surfaces of leaves and flowers. Cover with a newspaper (four thicknesses, or eight if the plant is thick and juicy).

Put a label (in the form given below) with each species and proceed thus until all the day's collection is enclosed. Then place on top the second board with the weight and put it in a spot where it will receive plenty of sun and air. Change the drying papers every twelve hours for a day or two, every twenty-four hours for a few following days, and every forty-eight hours after, until the plants are completely dried, which process will take from ten to twelve days. (The process of drying may be hastened by placing the plant between several thicknesses of paper and applying for some time a hot iron, but this plan is not to be recommended).

RECORDING OBSERVATIONS AND DETAILS.

A label filled out in the following form should be placed with each layer of plants in the press:

Botanical name.....
Eocal name.....
Habitat.....
Locality.....
Date of collecting.....
Abundant or rare.....
Remarks.....
.....



In the note-book may be kept fuller particulars of the excursions, with facts about the plants, indicated at the beginning of this article.

The following gentlemen have consented to act as secretaries for their respective counties in New Brunswick:

J. Vroom, St. Stephen, Charlotte Co.	
W. S. Butler, Grand Lake, Queens Co.	
J. Brittain, Normal School,	} Fredericton, York Co.
Principal Inch, York St. School,	
H. F. Perkins, Fairville,	} St. John Co.
Austin C. Stead, St. John,	

All communications regarding botanical work in these counties may be addressed as above. All other communications for the present may be addressed to

G. U. HAY, St. John,
Secretary for New Brunswick.

The following have been invited to act as Secretaries for their respective counties in Nova Scotia:

Miss Antoinette Forbes, B. A., Yarmouth, Yarmouth Co.
Prof. Coldwell, Wolfville, Kings Co.
Prof. Kennedy, Windsor, Hants Co.
Principal N. D. McTavish, Springhill, Cumberland Co.
Miss Ida Creighton, Halifax, Halifax Co.

E. J. LAY, Amherst,
Secretary for Nova Scotia.

Astronomical Notes.

SUMMER AND MIDSUMMER.

"A student" is puzzled because his almanac says (1) that summer commences on June 22, and (2) that June 24 is midsummer; also because (he says) Dowden says in his Shakespeare Primer that the 'midsummer night' of the 'Dream' was the night of May 1.

The summer that begins on June 21—not June 22—is the astronomical summer, the second quarter of the tropical year. It is not the summer of nature, the summer that poets warble about, and that the man in the street and the man in the field talks about. This summer is a somewhat indefinite season, and it would be rather a difficult matter to say just when it begins, or when it ends. But science does not like indefinite notions; it prefers something clean-cut and precise, something whose beginning and whose ending can be exactly defined. When it does not find such a thing ready-made in nature it is apt to make one, or to feign one, for its own convenience.

Modern astronomy considers the summer to begin at the moment when the sun reaches its greatest distance north of the equator, and to continue until the moment when the sun's centre is on the equator. The former event happened this year on June 21 at 1h. 32m. 9s., p. m. (60° time), the latter will happen on September 23 at 4h. 13m. 25s. These, then, are the limits of the astronomical summer for the present year. There are various ways of stating those limits. One has been given already. Another is to say that

the astronomical summer runs from the time the sun enters the sign Cancer to the time he enters the sign Libra. Another, from the time the sun's right ascension is 6h. until it is 12h. Another, from the time the sun's longitude is 90° until it is 180°. Another, from the summer solstice to the autumnal equinox. But all these various forms of statement refer to the same two astronomical facts. The facts of general interest associated with these are that at and about the solstice we have our longest days, and at and about the equinox our days and nights are of equal length.

In the olden time the solstice was considered midsummer instead of the beginning of summer, both by astronomers and by the people generally; and June 24 was celebrated as Midsummer Day. How the day was celebrated may be read in many old books. A very full account of the sports and ceremonies is given in Chambers' Book of Days. But why the 24th? The solstice falls on the 21st, sometimes on the 20th, never as late as the 24th—nowadays. But it used to fall on the 24th and that is when it happened at the time when Julius Cæsar reformed the calendar. By his calendar the solstice was fixed to that date, and, according to the custom then and for long after prevailing, that was held to be the midsummer. Although the day is no longer kept as one of nature's festivals, our almanacs still preserve the remembrance of its by-gone glory by making it as Midsummer Day.

It will be not interesting to my star-gazing readers to notice how Cæsar dated the beginning and the ending of summer. According to his calendar, it began when the Pleiades could first be seen in the morning sky, and it ended when Vega set at sunrise. The dates of these events for the latitude of Rome and the time of Cæsar were May 9 and August 11. It is too late this year to seek for the date of the earlier event for this age and this latitude, but the date of Vega's sunrise setting might be determined by some early riser between the middle and the end of August.

As to Shakespeare's *Midsummer Night's Dream*, it ought to be remembered that that is a poem and a *dream*—such a dream as a poet might have on a midsummer night. In a dream, time and place count for nothing; but, even were this not so, there is no need to insist that the time of the dream is the same as the time of the actions that occur in the dream.

What Prof. Dowden says is: "The action of the play is comprised within three days, ending at twelve o'clock on the night of May-day. The notes of time given in the opening lines of the play are inconsistent with this statement, but the inconsistency is Shakespeare's own." Any one who reads the play carefully will see that the Professor's statements are quite correct.

A. CAMERON.

Yarmouth, N. S., June 26th, 1891.

TOPICS OF INTEREST.

Hon. J. J. Abbott has been chosen to lead the Dominion government. Mr. Abbott is a native of Ontario and is one of the senators of Canada. He is about seventy years of age and has been long in politics. Sir Hector Langevin leads the government in the Commons. How is the premier chosen? What are the names of the men who fill the other portfolios in the present cabinet?

Part of the papers relating to the proposition of Canada for reciprocity with the United States have been laid before Parliament. What is meant by the term Reciprocity?

The war in Chili seems to be going against the insurgents. Tell what you know of Chili? Who colonized it? What are its products? What is the cause of the present war? Which is the most progressive state in South America?

During the past month there have been serious riots in China, directed against foreigners and many houses have been sacked and burned, and in some cases the troops sent by the Chinese government to quell them have joined the rioters. Several of the European nations and the United States have sent ships of war to the scene. What do you know of the people and productions of China? Why are its people excluded from the United States? Are the Chinese desirable settlers for any country? If not, why not?

Hayti is again in a disturbed state, and it is said that the relations between it and the United States are strained, owing to the refusal of Hayti to cede Mole St. Nicholas to the United States. Why does the United States want this port? Who is the President of Hayti? What is the character of its people?

The Russian government is still enforcing its edict concerning the expulsion of the Jews, and thousands of these are seeking asylums in other countries. Many of them are coming to the United States. Who are the Jews? Why have they suffered so many persecutions in all ages? What is the nature of the Russian government? Why is it banishing the Jews?

A revolt recently took place in Manipur, India, during which, by the treachery of the natives, British Commissioner Quinton and five others were treacherously murdered. The rest of the expedition, consisting of 500 men, then retreated, and of these only 100 succeeded in reaching a place of safety. The British government has severely punished the leaders of the revolt. What do you know of the climate, productions and people of India? Tell what you know of former Indian mutinies? Who was instrumental in conquering India for the British? In whose reign?

The latest news of Heligoland tends to show that it is gradually becoming more and more German, and such remnants of such English habits as it lately possessed are going to the wall. Thus English is no longer being taught in the schools, and although the inhabitants are not yet reconciled to the change, it is scarcely probable that they will be able to resist for any length of time the strenuous efforts which are being made to render them un-English. When did Heligoland cease to be a British possession and under what circumstances?

The great Siberian Railway, which will more closely connect Europe with the teeming millions of China, Japan and

Eastern Asia has been commenced. The total length of the line will be 4,810 miles and the cost about thirty-two millions sterling. In case permanent bridges are built over the immense rivers Obi, Yenesei, Lena, etc., the outlay will be still greater. How will this line compare with the Canadian Pacific in length?

CANADIANS AT HARVARD.

Among the scorers of '91 men who blossomed forth yesterday with A. B.'s were E. J. Burkitt, T. H. Currie, E. Fulton and A. W. Macleod. W. H. Macdonald has the title of M. D., and C. M. Noble and J. T. Paul became full-fledged doctors of divinity.

There is nothing startling in the names, to be sure, but it is a curious fact that all these young men are of Canadian birth, and have paid Harvard the compliment of acknowledging her to be the leading university in this country.

The Canadian Club of the university, founded in 1890, is in a flourishing condition. It is composed of such officers, graduates and undergraduates of the university as are of Canadian birth or have resided or taken an interest in the Dominion.

In all departments of the university Canadians have a strong hold. Prof. Macvane of the history department is on the club's rolls, and Prof. F. C. de Sumichrast of the language department is proud of the success of the Canadians. One of the most genial men in old University Hall, who watches with careful eyes all the undergraduates, is Mr. M. Chamberlain. He says the Canadians here are more like the Edinburgh students than those of any other college. Mr. Chamberlain is not a university man himself, but he was undoubtedly selected by President Eliot on account of his rare business ability.

The club has a library and reading room with the Union Club on Main street in Cambridge, and the list of its members now numbers nearly a half-hundred names. Among the subjects recently discussed at its monthly meetings have been: "Higher Education in Canada; Its Present Extent and Needs," and "Comparative Educational Sources of the Different Canadian Provinces." Last year there was an illustrated lecture on the "Trees of Canada."—*Boston Herald*.

In addition to other losses in its teaching staff, St. John is about to lose three of its best primary teachers, Misses O'Sullivan, White and Robertson. All three possess special aptitude for the work they were engaged in and it will be most difficult to replace them.

Quite a number of ladies and gentlemen from St. John and Fredericton and other centres have left to attend the National Educational Convention at Toronto.

Opportunities of Country Teachers.

One of the advantages of the position of a country teacher lies in her opportunity to be a central light in her little town. In an esthetic sense the little school-house by the road-side may be an illumination. The teacher here, ever so young or timid, has a halo of admiration surrounding her, in the eyes of the young people of the neighborhood at least, which is not discoverable in the atmosphere of the city teacher. This brings an obligation with it, and the influence of this teacher may extend over the whole locality. A single picture of good quality in her school-room will slowly educate the tastes of the children and visitors, till cheap, poor prints that have been an admiration are finally seen in their true light. The eye once trained to see true beauty in art or nature will never again return to a low standard. A striking illustration of the power of a silent influence on a community is found in that of a young Southern girl of wealthy parents, "before the war," who found herself in a little shanty on a broken down plantation with a few children, as their teacher. With no training or experience her case seemed hopeless. But she did the best thing she could have done, which was to induce the children to improve the school-house and the yard. Whitewash soon covered the bare planks, rose bushes and vines were brought for decoration, a few books and pictures saved from her old home were placed about the school-room, and the simplest drapery found its way to the two or three little windows. With the best helps she had, she began her work, keeping up the idea of beauty and adornment everywhere. The children's clothes began to improve, and with it their manners; and a growing love of school began to appear. Parents came to see what the children talked about, and finding a bower of roses and tasteful things everywhere, went home to begin an improvement.

Some Northern capitalists found the spot after a year or two, and judging that the indications of pride and thrift seen in many directions would be a good foundation to build upon, began operations for new industries; and to-day a large and flourishing business centre is in the place of the little hovel where the young girl built up character, by planting a love of the beautiful when she planted her roses.

Is there a country teacher, no matter how far away from other teachers or teaching helps she may be, who cannot do as much as her Southern sister? Beginning with the first thing nearest that can be improved by cleanliness or taste within limited means, the way to larger opportunities opens step by step and a desert place can be transformed to a garden of beauty, where

children involuntarily come a little cleaner, a little better, and with a different look upon their faces. Tasteful surroundings go a long way to bring about the refinement of dress and person that is sure to be the beginning of a higher ideal of character and life. Children in isolated districts see little that is best in art, and having no trained eyes to see the phenomena of nature all about them are sadly in need of this kind of teaching.—*N. Y. School Journal*.

Next

What would some teachers do if this word were blotted from their vocabularies?

In the spelling class we hear it from first to last—next, next, next.

During the recitation in reading, it is used wherever a pupil has blundered through a stanza or paragraph, next.

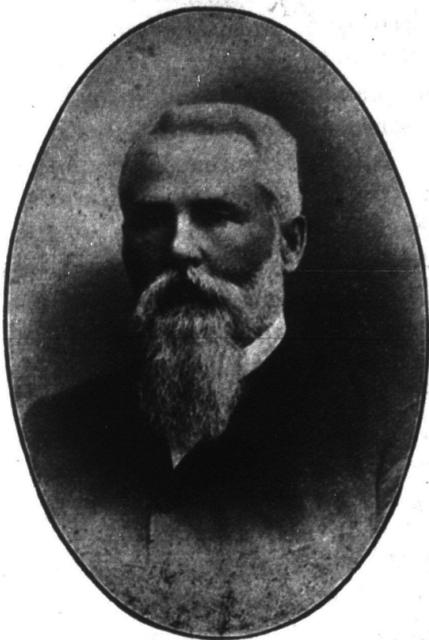
If in grammar Mary fails to define or analyze correctly, the teacher resorts to the inevitable, next. And so it is from morning till night—next, next, next, till it seems to echo from the very walls and is visibly stamped all over the face of the teacher. We heard of one young lady who was so thoroughly impressed with this great educational (?) principle that when a young gentleman invited her to an oyster supper she very promptly and enthusiastically replied, next!

The fact is, that the best teachers do not have the word in their professional vocabularies. There is no call for its use in the school-room. It is the subterfuge of poor teachers to avoid the trouble of giving instruction. It accounts for the fact that so many pupils learn nothing—they get nothing from their teacher but that monotonous, next, next.

Reader, does this hit you? If so, just drop the word entirely and when it comes into your mind in recitation choke it back and in place of using it give your pupils a little instruction. It will be vastly better for them and more professional in you. NEXT.—*N. W. Journal of Education*.

The common schools are full of these "outline-cranks" who have got a glimpse of the idea which the device embodies, either at his school or at second hand, and are using outlines to teach from. We are glad to have the father of the outlining device come to our assistance in condemning this abominable practice, and sincerely hope that superintendents will interfere, and stop the murder of the innocents that is now going on in many of their schools.—*Public School Journal*.

WE hope at the next meeting of the Board of Education for New Brunswick the question of longer holidays will be brought up.



CHIEF SUPERINTENDENT INCH.

James R. Inch was born in Queens County, N. B., in 1835, and received his early education at the common schools and at the Madras school in Gagetown, then taught by Mr. Joseph L. Mullin, father of the present principal of the Normal School. In 1849 he attended the training school at St. John, then under the charge of the late E. H. Duval, Esq. Mr. Inch was licensed to teach in 1850, after examination by Dr. Patterson, of the St. John Grammar School, and commenced his life work in January of that year at Greenwich, Kings Co. In 1851 he removed to Keswick, York Co., where he taught for three years. The present Provincial Secretary was one of his pupils at that time. From Keswick he went to the Mount Allison Institutions at Sackville. He taught ten years in the Boys' Academy, then held the principalship of the Ladies' Academy for fourteen years, and has now completed his thirteenth year as President of the University of Mt. Allison. Mr. Inch has been engaged, without the interruption of a single term, for over forty-one years in the work of teaching, a record that few in the Province can boast of.

Mr. Inch took his B. A. degree in 1764 and M. A. three years later. In 1878 he received from his *Alma Mater* the honorary degree of LL. D. In 1876 he was appointed by the government of the Province of Nova Scotia to a fellowship in the University of Halifax, and as a member of the senate and examiner in mental science and logic, aided in the organization and management of that institution during the four years of its existence.

In the discharge of his duties at Mount Allison, he has been called upon at various periods to instruct in almost all the subjects, both of the academic and collegiate courses, from the elementary English branches to the higher studies in the honor curricula. He has given special attention to English, French and German literature, to political science, and to logic and philosophy. For several years he has been a member and vice-president for the Province of New Brunswick of the American Institute of Christian Philosophy—an organization including in its membership many of the leading educationists of America.

In addition to his professional duties at Mount Allison, Dr. Inch has been called upon to take charge of the financial interests of the university, including the management of its Endowment Fund. During the thirteen years of his incumbency the value of the property has been increased by over \$40,000 and the invested funds by nearly \$60,000.

For the REVIEW.]

Notes for Teaching Music by the Tonic Sol-fa Notation.

TWELFTH PAPER.

I am sorry other engagements have hindered me from finishing this article for an earlier number of the EDUCATIONAL REVIEW.

During this month of July the Tonic Sol-faists will be making preparations for and carrying through great jubilee celebrations, and congratulations will be pouring in upon them from their brethren in all parts of the world. Among these celebrations may be mentioned a service in St. Paul's cathedral (a great triumph), a children's concert with 5,000 voices, a concert of Metropolitan Sol-faists, 5,000 voices; a concert of Provincial Sol-faists, 5,000 voices; an open air concert of 20,000 voices; all certificated singers. I wish, therefore, in this article to give some historical notes on the system, which, I trust, will interest Tonic Sol-fa friends who may read them. The syllables "sol fa" are the Italian names for the fifth and fourth notes of the scale, and bring before us the fact that in this system the Italian names of the note are sung and that the initial letters of these syllables are used as the written signs of the notes. "Tonic" brings a little more strongly forward the fact that the relationship of the notes to the Tonic or Key note, and the resulting character of these notes, is a fundamental principle in this system. This tone relationship of notes is acknowledged in the English Psalters of the old black letter Bibles of 1629. In these the initial letters of the Sol-fa syllables are printed by the side of the notes, with this explanation: "Thus when you see any letter joined by the

note you may easily call him by his right name." Morley, the earliest English writer on music, in his "Hexachordal System" (1597), recognizes this tone relationship. He measures intervals always from the key note. But we are taught this key relationship by a much earlier writer. In the little town of Arezzo, Italy, a few years ago, there was an elaborate ceremonial in connection with the unveiling of a statue in honor of a monk who was born there in the end of the tenth century—Guido, called "the Father of modern music." In the refectory of the monastery of Avellana there is a portrait with the inscription: "Beatus Guido, Inventor Musicae." This monk first brought into use the lines and spaces of the musical staff and also the F clef. But he did more for music. From the initial syllables of six cadences in a hymn to St. John the Baptist,

{	Utquant laxis	{	resonare fibris
{	Mira gestorum	{	famuli tuorum
{	Solve polluti	{	labii reatum.

he gave names to the first, third, fifth, second, fourth and sixth notes of the scale. In later times the seventh note was named *Si*, and the *ut* was changed to *do*. The nature of their notation has required the Tonic Sol-faists to use *Te* instead of *Si*.

About 1812 a young teacher in Norwich came to Miss Glover, the daughter of an English clergyman, asking her help to enable him to teach some children to sing. She pasted the last twelve letters of the alphabet upon the keys of the piano and then wrote out the corresponding letters indicating the keys that should be struck for the playing of the tune, thus, O Q R S, etc. It was asked, Why not use the Sol-fa names of the notes? When Miss Glover found that the letters were disregarded and only these added syllables were looked at, the letters were left out and so she had the most important part of our Tonic Sol-fa Notation of Music.

About 1838 Mrs. Reed, of Hackney, lent to Rev. John Curwen Miss Glover's "Manual of the Tetra-chordal System." He was deeply interested in Sabbath schools and education generally, and in music as a powerful instrument in schools and churches; but up to this time it was the height of his musical ambition to be able to "make out" a psalm tune and to pitch it himself. He had employed a private tutor, but had not been able to climb to this height. He glanced through the book and said, "Well, if the old notation is puzzling, I am sure this is more puzzling by far," and so he laid aside the book. Afterwards, on looking more carefully into the book, he found that Miss Glover's plan was to teach first the simple and beautiful thing,

music, and to delay the introduction of the ordinary mode of writing it until the pupil had obtained a mastery of the thing itself. He tried the system upon himself and a little child in the house with him, and to his astonishment he soon found he had attained to what was formerly the height of his musical ambition. He next visited Miss Glover's schools and was surprised and delighted with what he saw and heard. And now having received such impetus from this visit he began the great work of his life, lecturing, teaching and writing for the diffusion of the musical system he had taken up so enthusiastically. He soon felt that the notation required modifying and additions, and with the aid of those associated with him in the course of years the notation and the modes of teaching the system have been brought very near perfection for all vocal purposes.

In 1841 Mr. Curwen published his "Little Tune Book Harmonized;" in 1843, "Singing for Schools and Congregations;" in 1848, an enlarged edition of the same, named "Grammar of Vocal Music." The year 1850 saw the first gathering of Tonic Sol-faists, a small but enthusiastic meeting, to which Mr. Curwen showed the women's part of the "People's Service of Song," which was considered a wonder of cheapness. In 1851 Mr. Curwen issued the first number of "The Tonic Sol-fa Reporter." In 1855 this became a monthly publication, and up to the present it has continued to be the organ of the system—giving intelligent lessons and music. About two years ago the name was changed to "The Musical Herald." The second gathering of Tonic Sol-faists was held in 1852, and the presence of Rev. A. Lowrie, of East Calder, near Edinburgh, was felt to be an omen for good. In this year an Oratorio chorus from Handel was published in this notation and the Tonic Sol-fa certificates began to be issued. Though the requirements for the earliest of these certificates required much individual study, in a few weeks 115 pupils took the certificate. Next year, 1853, a band of friends united to form the Tonic Sol-fa Association, in London, and made possession of the certificate a condition of membership. This year Dr. Lowell Mason visited England, and there, after easy, tuneful compositions appearing in this notation, made the names of the American composers, Mason, Root and Bradbury, household words in Britain.

The Society of Arts held an exhibition of educational appliances in 1854. Mr. Curwen exhibited his modulator and other Tonic Sol-fa apparatus, and by invitation gave a lecture on the subject. Also 100 young pupils from the London schools passed well a severe sight-singing test from the old notation, and delighted the audience by their rapid and accurate

following of Mr. Read's pointing on the modulator.

In 1855 the publication of Romberg's difficult music to Schiller's "Song of the Bell," demonstrated how admirably adapted this notation is for intricate music, especially in the "Fire Chorus," where the changes of key are so rapid that the staff notation almost feels it impossible to follow unless he sings by absolute pitch. In this notation the good old seven notes are always appearing clearly in each new key. A great victory was won for the system in 1857, when 3,000 children sung in Sydenham Crystal Palace to 30,000—all that were able to gather by road or rail on that wet day of September 2nd. One of the papers wrote, "It was left for an almost unknown institution to draw a larger concourse of persons than has ever been attracted in this country to listen to a musical performance." Miss Glover was present and afterwards wrote of "the elasticity and precision and the exquisite pianos of the flexible well-tuned young voices."

This day lifted the movement to a national importance. No praise seemed too great for the young singers, and Mr. Curwen says that nearly every paper of the time printed in the English language had some reference to the singing of the 3,000 children.

JAMES ANDERSON.

(To be continued).

For the REVIEW.]

From a Lady Teacher.

Some time ago I sent to the REVIEW a protest in the name of the Lady Teachers of New Brunswick against the proposed removal by the government of the Chief Superintendent of Education, with the request that it might be published if the situation seemed so to require. As the protest never appeared I came to the conclusion that the proposed removal was merely a rumor.

The rumor has become an accomplished fact and Mr. Blair has dismissed from office, *without cause*, a man whom it would be impossible to overrate as a scholar, a teacher and a Christian gentleman. What part the other members of the government played in this shameful transaction will doubtless remain a secret. They seem to have been clay in the hands of the potter.

There is satisfaction in the thought that they have struck at themselves a political death-blow.

LADY TEACHER.

Northumberland Co., July 21st, 1891.

I like the REVIEW and trust you may receive the encouragement necessary to make it just what is needed by the teachers of our Provinces.
D. H.
Gloucester, N. B.

Dismissal of Mr. Crocket.

To the Editor EDUCATIONAL REVIEW:

SIR,—I hope you will allow me, as a former resident of New Brunswick, to express my great astonishment and regret at the dismissal of the Chief Superintendent of Education. In doing so I am sure I do not speak for myself alone, but also for many educationists generally, and for pupils of that distinguished gentleman who have made their homes outside of their native province and have carried with them grateful and indelible recollections of the beloved teacher of their youth.

I write wholly without political bias, and indeed it is impossible that political partizanship, even when it is strongly manifested in other matters, can rightly be of influence in judging of this question, but may indeed be justified in presuming that every self-respecting New Brunswicker, without respect to present party affiliation, resents Mr. Crocket's discharge, and the indignation and disgust awakened by the dismissal must be heightened by the reflection that the whole thing is a tremendous miscalculation—that whatever may be the effect upon the party to which some of Mr. Crocket's friends have attached themselves—it is the cause of education which is sure to suffer most. If the office of Chief Superintendent is to be anything like what its name implies, the incumbency must have, as far as possible, the character of permanence. The conditions of things may indeed require that such an officer should be nominally at least the appointee of the government, but not even the most unscrupulous of opportunists would venture to maintain that he should be removable by the same or any subsequent government except for causes that imply mental or moral unfitness for the duties of his office. On the other hand, it is difficult to see how any department, especially one of such extensive, complicated and delicate administration as that of education in a province where weighty and difficult problems present themselves for solution can fail to suffer from the sudden removal of its chief in the fulness of his powers; and the situation becomes grave when the case involves not only the official censure but the removal from his sphere of beneficent labor of such a rare man as the outgoing Superintendent with such a rare experience as his. This can be said confidently, without flattery on the one side and without offence on the other. Mr. Crocket is no *doctrinaire*, no mere theoretical pedagogist; nor is he a mechanical follower of routine precedents, an enslaver of the faculties of youth. To say even this is no slight encomium when one sees and reads of the injustice so often committed against the young minds

of this and other countries in the name of philosophical theory or scientific method. But the champions of Mr. Crocket (and, to judge from a few symptoms, they are a mighty host) have something more than a mere negative testimonial to give him. He has gone through all the grades of promotion and had experience of teaching children and youth of all ages in all steps of advancement in all branches of education. From the day when he began his first school work in Campbellton, thirty years ago, to the present time, when he resigns the highest position in his adopted country to which he has given unstinted the single-hearted services of his life, his course has been an unbroken series of educational triumphs absolutely unique. And he has returned every commission put into his hands, as he now surrenders the last and highest, without stain, or rather with lustre added to each office he has adorned. He came to our shores a classical scholar of Aberdeen University of unsurpassed taste and accuracy, and immediately he put himself in touch with the most elementary needs of the most ignorant child, organized schools of an indefinite range of branches of instruction, making each study a delight, being equally ready with his stores of linguistic and historical knowledge and the explanation of the simplest problem of arithmetic. In these things I speak of what I know, both because I was, to an unknown degree, the beneficiary of his skill and care, and because my admiration of what he achieved in those early days has been heightened year by year by comparison with what I have observed since of much more pretentious teaching in various countries of America and Europe. I would feel myself to be an ingrate if I did not stand up to say a word in the hour of his trial for a man who, while weighted with long hours of tuition and the care of four-score pupils, robbed himself voluntarily of one-half the noon recess of one hour to take me through the *Ars Poetica* as an extra study not required for college preparation. But I claim I am to be entitled to speak with some justifiable enthusiasm of the educationist who in the simplest, directest, swiftest way could convey the facts of geography, history, the English Bible, to the minds of large classes in such a way as to make their reception pleasant and their retention easy, and handicapped as he was by multiplicity of subjects and the impossibility of properly grading his pupils reached results which are rarely attained by pedagogic specialists with a vast parade of method and much waste of time. Here the real greatness of the man^a and the teacher was first conspicuously shown, here he rightly bore the good old name of "master." And he has shown himself truly a master ever since. A teacher of teachers,

equal to all occasions and winning confidence as well as respect from all who have taken him as their guide.

The deposition of such a man, with his work in the past as his foundation and stimulus, with his work in the present well in hand, and his influence for the future secured, as it seemed, by the destination of Providence and the approbations of the people, was not simply a mistake but a crime. And the feeling that leaps forth from the hearts of the people in answer to it is not merely resentment at cruel injury done to their friend and to the friend of their children, it is the solemn sense that the foul transaction is a public misfortune and a national disgrace.

University of Toronto, June 29th, 1891.

J. F. McCURDY.

For the REVIEW.]

Notes From Economy, N. S.

The institution for the purpose of instructing the teachers of our common schools more fully in the several subjects of a common school course was held in the school-house at this place last week, commencing on Monday morning and closing on Friday at noon. Mr. Inspector Lay and fifteen teachers were present, besides pupils from our schools and citizens of the place. The subjects taken up each day were botany, mineralogy, entomology and general discussions on all subjects of study in common schools, and the best method of teaching pointed out and walks taken to procure the necessary plants, rocks and insects for examination. The interest manifested by the rate-payers and others interested in education, who were in attendance during the sessions of this meeting, clearly indicates that they are strongly and favorably impressed with its value to the teachers in further qualifying them for the better discharge of the duties of their arduous profession, and also in bringing the Inspector into more immediate contact with the pupils, which in this section has always had a very beneficial effect.

At a public meeting in the interests of education, held in Athena Hall on Thursday evening of the same week, Mr. Inspector Lay gave quite a lengthy talk about educational matters in general, brought to the notice of the meeting the cheapness of education under the present system, in comparison with the old way, and repudiated the idea that farmers did not want any considerable amount of education. He considered the farmer should be as well educated as persons in the other vocations of life. Referred to the rise and progress of the present school system, and was strong in his opinion, if the institute should become established, it would be a most valuable appendage to the means clearly established for the spread of education in our Province.

FOLLY VILLAGE

On Monday, 15th ult., about thirty teachers assembled in the school-house at the above place to hold the second of the institutes lately organized by Inspector Lay. The meetings lasted three days, in which time eight sessions were held. By this it is seen that the object in view is not to pass time and lighten labor, but to accomplish better work in our schools. More particular attention was paid to scientific study in the departments of botany, etymology and mineralogy. The Tonic Sol-fa method of singing was taught by Miss McCart, of Acadia Mines. Too much praise cannot be given her for her untiring efforts and the success obtained. The result is that probably this system will be introduced in every school represented. That of itself makes the institute a success. But this is not all. Better methods of teaching were discussed, difficulties of the profession talked over and many useful suggestions given. There is no doubt but a marked improvement in the school work of the district will follow these meetings.

The institute was a decided success. Inspector Lay's plan is to be commended. The teachers came away full of enthusiasm and with an increased interest in their work. We sincerely hope that the Council of Public Instruction may allow these meetings to be continued, for, as one of the speakers said, they work an important step in the educational matters of this district.

For the REVIEW.]

One Teacher's Way.

It was a beautiful morning in the latter part of June. Flowers, shrubs and trees were instinct with a new life, and seemed to rejoice that summer, bright, glorious summer, had returned. A gentle breeze swayed the branches of the trees, making the leaves say "Good morning" to each other in the most affectionate way. The dandelion-starred fields gleamed in the morning sun, and blue and white violets peeped up between the blades of grass as if determined to catch a glimpse of that larger blue—the dome of heaven—with those white, fleecy clouds, half concealing and half revealing the azure sky, flitting over it.

Who could walk out on such a morn as this without feeling that nature is indeed alive? Who could doubt that here in "God's first temple" the Father does speak to His children, if they will but listen?

Certainly, Margaret Ainsling, who, with satchel and books in hand, was hastening to her school-room, never doubted it.

Things had not gone right with Margaret the day before. It had been such a day as every teacher is familiar with, when the burden of care and responsibility rests heavily upon her shoulders, and her pupils' conduct adds to its weight.

This morning she had given a little sigh as she started for school, thinking wearily of the previous day and its petty annoyances.

But the magic spell of nature was not to be resisted. Hope and courage, which all the morning had been struggling for

life in her bosom, now became the dominant feelings. Life opened before her broader and grander than ever before; she saw more clearly the possibilities for usefulness in the profession she had chosen, and she murmured softly to herself, "I will not be discouraged, I will try harder than ever. Could I but carry some of this beauty into my school-room, I am sure the children would be more susceptible to good than they are at present. But though I cannot take fields and sky and waving branches within doors, I can carry sunshine in my heart, and perhaps my heart will speak to theirs. And see," she continued, "I will pluck some of these lovely roses and violets and arrange them in the school-room. They will rob it of some of its sombreness."

Quickly gathering the delicate flowers, she hastened onward to the school-house, anxious to be there to greet the first comer with a pleasant word and smile.

Glancing at her watch as she entered the house, she saw that she was somewhat later than usual, though she had yet forty minutes before nine o'clock.

Moving swiftly about the room, she arranged the flowers as best she could in the only available holders—which were none of the best—for, though this little country school-house was neat and clean, it could boast of few articles which were not absolutely necessary. This done, she went on with the regular morning work and soon the blackboards were covered with exercises for the day.

At nine o'clock the bell was rung. After devotional exercises were over, the children, at Miss Ainsling's bidding, repeated in concert those beautiful words of Carlyle:

"Out of eternity this new day was born,
Into eternity at night 'twill return.
Behold it aforesaid, no eyes ever did,
Soon it forever from all eyes is hid;
Lo! here hath been dawning
Another blue day,
Think! Wilt thou let it slip useless away?"

Then Miss Ainsling said: "Boys and girls, this is indeed a beautiful morning. Another new day is given us. Let us try to make it more beautiful than any we have yet spent. Let us live it, so that to-night we can say it has not slipped useless away. This we can do by being as kind and industrious as is possible. Who will promise to try faithfully to do his best to-day? And when another to-day is here it will be all the easier to do right."

Bright, happy faces reflected the teacher's smile, and after a moment's pause every hand was raised. Yet no, not every hand. At the back of the room sat a boy who had remained sullen and silent since school was opened. This boy was Charlie Burns—he who had given the most trouble on the previous day. At that moment Miss Ainsling caught sight of his face and also noticed that he had not responded to her appeal. The smile faded from her lips and an expression of sorrow for an instant flitted across her face. But soon the smile returned, and taking no further notice of Charlie's conduct she went on with her work.

Soon all were intent upon lessons and the school was quiet and orderly. Even Charlie appeared industrious, though his face was still cloudy.

All went well until the sixth grade reading class was requested to read simultaneously. Then Charlie stood sullen and defiant. Several times the lesson was read but Charlie's voice was not once heard.

Neither by word nor deed did Miss Ainsling show that she noticed his conduct, though she knew the other members of the class had observed it and were surprised that he received

no reproof. When the recitation was finished she dismissed the class with words of praise for their excellent rendering of the poem.

The morning passed pleasantly away. When recess time came Miss Ainling requested Charlie to keep his seat.

As soon as the room was emptied of all, save herself and the boy, she went to him and enquired the cause of his disobedience.

He was silent for some moments. At length he said: "I didn't want to read and I don't care whether I behave or not."

Miss Ainling was astonished. She had never heard him speak in this way before, and had hoped that his misconduct had been due rather to thoughtlessness than wilful disobedience. Now, however, there was no mistaking the boy's defiance. What should she do?

Margaret Ainling was one who always strove to awaken and strengthen what was good in her pupils by letting them see, by her words and actions, the beauty of goodness. She studied the dispositions of the children entrusted to her care and endeavored to so govern her school that only the best in her pupils would be brought into action and thus grow, while the evil passions of their natures were weakened for lack of food and exercise.

After a moment's silence Miss Ainling said: "Charlie, I am deeply grieved at your conduct. I wish I could lead you to see it in its true light; but I do not desire to keep you in the house now. Take your hat and walk down the secluded path leading to Mr. Jackson's maple grove. Hold no communication with your school-fellows, and when you hear the school-bell, return. I shall trust you to do this, Charles. You will not disappoint me?"

"No, Miss Ainling," he replied, and in another moment was gone.

Margaret stood looking thoughtfully after him. "I can trust him to do as he has promised," she said, "for Charlie Burns has never told me an untruth. But how it will end I do not yet know. But if this plan does not succeed, what will? Can he not be conquered by kindness? Oh, God speak to him out there in the beauty and stillness."

As Charles took his seat when school was again called Miss Ainling noticed that the gloomy look had vanished. Going swiftly to his side she bent over him and in a low, pleasant tone, said: "You may take paper and pencil and tell me what you think of your morning's work and raise your hand when you have finished." Then she left him.

Perhaps it was a half hour later that a hand was timidly raised in that back seat, and two dark eyes, full of unshed tears, looked up pleadingly into Miss Ainling's face.

She went to him at once, and as she read his confession her own eyes became dim with tears. The boy had not only expressed sorrow for his disobedience, but had asked that he might be allowed to read the lesson at once with the class. Miss Ainling gave him a swift, glad look, and went back to her desk.

Summoning the class she told the members that Charlie was sorry for not having read with them in the morning and wishes to read now. Then the lesson was read, all the voices blending clearly and harmoniously.

When the school-bell again pealed out its welcome sound, and the children walked out to dinner, Charlie remained behind.

When he and Miss Ainling were quite alone, he went up to her and asked: "Oh! Miss Ainling, will you forgive me? I am indeed very sorry. Your kind words this morning touched my heart and made me sorry for yesterday's conduct. But I was too proud to confess it, and stifled those bitter feelings with the determination to act worse than ever to day. Then your goodness in class and at recess surprised me, for I thought you would lose your patience and get angry. When I went out there in the woods alone everything seemed to reproach me. The flowers looked sorrowful, the sun mocked

me, and even the blue birds which I love so much seemed to be singing. 'O, Charlie Burns, Charlie Burns, how wicked you have been.' If you will but forgive me this time, Miss Ainling, I will try to be a help to you in the future."

Miss Ainling's heart was full. "My dear boy, I do indeed forgive you with all my heart," she said. "Words cannot tell how your frank, manly confession has pleased me. I think there will be no misunderstanding between us in the future." Then they went home.

And that was one teacher's way.

A. F.

FOR THE REVIEW]

Save Your Eyes.

All diseases have a preventative. There may be some incurable diseases, but there are none that cannot be avoided. When the eye grows dim, the most convenient, if not the only help is the convex eyeglass. There is no good work in the world that cannot be engaged in with impunity. Reading (of the proper kind) is good, necessary to the self-educator, pleasing and ennobling; yet the eye fails with the reading of a lifetime, and why? It is evident that, in reading a page in the ordinarily printed book, the retina of the eye performs three times the labor that it would be obliged to do if the page were printed in some other way. The question naturally suggested here is, what is the other way? Suppose that, in the ordinarily printed book, one quarter of the page is black and the remainder white. When the eye rests on the printed page, the impression of the white, not the black is thrown upon the retina, leaving the shape of the black letters unimpressed by the light reflected from the page. A black surface is located only by its surroundings; hence the paradox, we look at a black object and describe it, declaring we see it, and yet, it is something we do not see. The reason of this is, that black surfaces reflect none of the colours of the rainbow, while a white surface reflects them all. If, instead of a black letter on a white page, we had a white letter on a black page, how much less work the eye would have to do, to accomplish the same amount of reading. We have a case of white letters on black groundwork, in the common school blackboard, which clearly shows the advantage over the reverse; because a fine white line on a black surface can be seen at a greater distance than a black one on a white surface. God has not given man an eye incapable of receiving as much as the brain can elaborate, any more than He has given him a stomach capable of digesting more than the teeth can chew. Then why should the scholar's eye grow dim in the prime of life when it could be prevented by a slight change in the process of printing.

The manufacture of books, with white printed letters on a black groundwork, is simply a matter of mechanical construction, which would by no means weigh against the boon given to readers thereby. And may the day hasten, when the spectacle maker shall be no longer needed, and the fop find his single eyeglass an unnecessary burden for his slender frame.

Cambridge, Mass., June 25th, '91.

CLARKE GORMLEY.

PERSONAL.

W. R. Fraser, Esq., B. A. (Dal.), late classical master in the Pictou Academy, has been appointed to an assistant professorship in Nebraska University.

Edward Fulton, Esq., B. A. (Dal.), has been awarded a Townshend scholarship of \$250 at Harvard.

Supervisor McKay, of Halifax, has returned from a tour of inspection of manual training schools in Boston, New York, Philadelphia and intermediate localities.

Principal Oakes is studying the introduction of a Manual Training Department in connection with the Horton Academy.

Professor Coldwell, of Acadia, is expected to be able to take charge of geology at the Summer School of Science at Antigonish.

We are glad to notice from our exchanges that Frank H. Eaton has been offered a mathematical mastership in the Boston Latin school, where we have no doubt he will do credit to his country.

Mr. James Barry, of St. Malachi's, St. John, will spend a part of his vacation in New York, and Mr. Thos. Stothart goes to Portland, Me., for a couple of weeks.

Mr. Richard F. Quigley, LL. B., of St. John, has been created a Doctor of Philosophy by Pope Leo XIII. on account of eminent attainments in religious and philosophical learning, based upon Mr. Quigley's work, "Ipse, Ipsa, Ipsum." The honor is the highest that can be conferred on a laymen by the Pope, and Dr. Quigley is to be congratulated on the fact that he is the first laymen in America to receive such a distinction.

Principal Good, of St. Mary's has resigned, to be succeeded by Mr. Blakeney. Mr. Good was presented, on retiring, with a handsome gentleman's companion.

A very graceful recognition of the esteem in which Mr. S. F. McLeod is held in Sussex was manifested in a double presentation to him on his giving up his school. The teachers and pupils presented a cane, and Hon. A. S. White, on behalf of the citizens, presented an elegant gold watch and chain. Mr. McLeod's retirement is a loss to the profession.

Dr. Lawson, of Dalhousie College, very worthily represented Canadian botanists at the recent anniversary and banquet of the Shaw School of Botany, at St. Louis.

Miss Rideout, of St. Stephen, has resigned.

The Misses Hanson, of Milltown, who propose taking a year's rest in California, are to be temporarily succeeded by Miss M. J. Kerr, of Beaver Harbor, and Miss Alice Black, of Petitcodiac.

D. D. Hugh, B. A. (Dal.), and Governor General's silver medallist, has been awarded a Price-Greenleaf scholarship at Harvard.

Miss Mary K. Tibbets has been engaged by the Milltown Board.

Inspector Smith proposes attending the Educational convention at Toronto.

Mr. G. W. Dill, Principal of the Indiantown, St. John, schools, has had the degree of Bachelor of Philosophy (Ph. B.) conferred upon him by the Senate of the Wesleyan University, Bloomington, Ill., after a non-resident course, extending over five years, during which Mr. Dill underwent half-yearly examinations in more than twenty subjects, embracing ancient languages, English, mathematics, natural science and philosophy.

Rev. A. Sutherland, D. D., has been chosen to succeed Dr. Inch as President of Mt. Allison University, Sackville.

Mr. A. E. Pearson, Principal of the Havelock, N. B., Superior School, has tendered his resignation.

Mr. Louis d'Ornano, B. Sc., late of the Collegiate School, Windsor, has been appointed Professor of French at the Mt. Allison Institutions, Sackville.

AMONG THE SCHOOLS AND COLLEGES.

The University of London has established a colonial station at Halifax, N. S. Two candidates presented themselves for examination last month. H. K. Fitzpatrick, Esq., M. A. (Dal.), and F. I. Stewart, Esq., B. A. (Dal.)

Harvard has decided to count work done in the summer schools as regular term work for the A. B. degree. This makes the summer schools an integral part of the university. This concession makes it easier to get a degree in three years.

The school attendance in the neighboring State of Maine fell off last year.

The Lehigh University, Pennsylvania, held a local examination at the Halifax County Academy last month.

The New Brunswick Alumni Association of Dalhousie College and University was organized in St. John, June 28th. After adopting a constitution the following officers were elected for the ensuing year: President, A. I. Trueman, M. A., B. C. L., St. John; Vice-Presidents, Hon. M. C. Atkinson, M. P. P., Woodstock; J. Roy Campbell, LL. B., St. John; W. O. Carter, LL. B., Richibucto; D. Murray, M. D., Campbellton; Rev. J. M. Robinson, B. A., Moncton; Secretary-Treasurer, J. Montgomery, B. A., Dalhousie. The officers and the following will form the Executive Committee: A. W. Macrae, M. A. St. John; R. J. K. Bearisto, Glassville; C. L. Moore, B. A., Salisbury; D. M. Robinson, Sussex; E. W. Lewis, B. A., Moncton. The Association adjourned till 15th July, when it will meet and bring forward some measures to prove to the board of governors and other friends of the institution that it intends to take an active interest in all that pertains to Dalhousie's welfare.

At the Baptist Conference, Acadia College and its work evoked great enthusiasm. The raising of money for extending the work of the institution in the direction of scientific manual training would appear to be comparatively easy. The energy with which Acadia College is supported is one of the most beautiful features of denominationalism in education—one which can do injury to no interest and will do good to all.

Professor Andrews appears to be the spirit of the age in Mount Allison. At the Methodist Conference his eloquent appeal for funds for scientific and manual training extension of the work of the college was enthusiastically received and seconded. An attempt is being made to raise a fund of \$100,000 for the purpose.

Mr. Rupert Hanson, teacher of the Petitcodiac Superior School, has resigned. It is not yet known who will succeed him.

Five new school-houses are being erected by the trustees of Otter Lake, Red Head and Hanford Brook, St. John Co., and at Rolling Dam and Bocabec, Charlotte Co.,

No better school buildings and appliances are to be found anywhere in the Province than on the islands of Grand Manan and Campobello, and nowhere is the attendance at school more irregular.

There are at present eight teachers employed on Deer Island, of which five are male teachers, four of them hailing from Queens Co.

The schools of St. George planted over sixty trees on Arbor Day. If these thrive St. George will, in a few years, have one of the most attractive of the school-grounds of the Province. St. George is also not to be behind its neighbors in St. Andrews, St. Stephen and Milltown in the matter of patriotism, and is about to procure a school flag.

W. C. McDonald, Esq., of Montreal, has given \$10,000 to McGill College for a chair of electrical engineering. This brings Mr. McDonald's donations up to \$1,000,000 in the past year.

There were fourteen graduates at the Fredericton Collegiate School this year. The Douglas silver medal was won by Miss Mattie McIntosh, and the Old Boys prizes by Annie Tibbets and William Roberts. The university has withdrawn the \$1,000 annually given to this school heretofore, it being needed to meet additional expenses.

The Dominion pennant given by Mr. J. N. McCready for the best attendance in Fredericton schools was won by St. Dunstan's school. The average for the school was 84.19.

Another very successful school entertainment has been held by Miss Fanjoy, of Nerepis Station, Kings Co., in aid of her school library.

The Misses Hanson and Miss Golmour, of Milltown, on their leaving, were each presented with a ten dollar gold piece by some of the ladies of the town.

On Dominion day there was a flag raising by the schools of St. Stephen. The different schools assembled and sang several patriotic selections. Speeches were made by Mr. Jas. Vroom, Hon. Jas. Mitchell and Mr. P. G. McFarlane. The members of the Methodist Conference and many citizens were present at the ceremony. We understand that the flag was donated by Messrs. E. Vroom and Gilbert Ganong. St. Stephen is never behind.

The old established Ontario Business College, Belleville, Ont. (now in its twenty-third year), is an institution largely patronized by young men from all the Maritime Provinces, also from all sections of the continent and the West Indies. Those desiring to attend a high grade business college should send to Messrs. Robinson & Johnson, Belleville, Ont., for the college circular. The principals advertise their celebrated text-book, "The Canadian Accountant," in this issue. The Ontario Business College stands in the front rank of such institutions.

President MacKintosh, President of the S. P. C. A. of Nova Scotia, addressed a meeting of the Halifax teachers in the County Academy building, July 2nd, on the principles of the association and of the Bands of Mercy. The schools of Halifax will be a unit in their influence. The 250 students in the County Academy unanimously adopted the principles and will be influential in advancing them in the community.

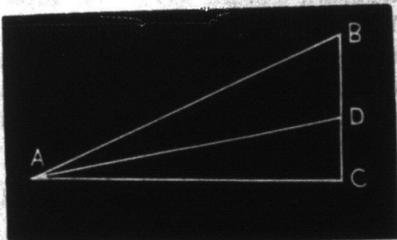
Halifax: Very successful and interesting closing exercises took place before vacation in some of the public schools according to press notices. St. Mary's and St. Patrick's were conspicuous, and the County Academy, in which the occasion has annually been associated with the graduation exercises.

A very handsome high school building is nearing completion at St. Martins, the plans of which were furnished by the education department.

QUESTION DEPARTMENT.

A. S.—Please prove Ex. 6 and 7, page 75, Hamblin Smith's Geometry, in the July Review.

Ex. 6.—Let ABC be a triangle right angled at C. Let D be a point in BC. Join AD. To prove that $AD^2 + BC^2 = AB^2 + DC^2$.

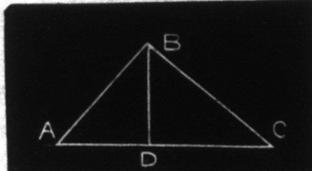


Proof. $BC^2 + AD^2 = BC^2 + AC^2 + CD^2$. (Euc. I. 47).
 $= AB^2 + CD^2$. Euc. I. 47).
 Q. E. D.

Ex 7. Let ABC be a triangle right angled at B. From B draw BD perpendicular to the base at D.

To prove that $AB^2 - BC^2 = AD^2 - DC^2$.

Proof. $AB^2 - BC^2 = AD^2 + DB^2 - (DC^2 + DB^2)$ (Euc. I. 47).



$= AD^2 - DC^2$. (Euc. I. Ax. 3).
 Q. E. D.

CONSTANT READER.—(1) Will the method of proof given a short time ago in the REVIEW, relating to the second Book of Euclid, be accepted at the examination for teachers' license?

That would be best assured by asking the examiner. The "straight line" method is considered by all modern geometers to require a fuller grasp of geometrical truth while the presentation is much less cumbersome. Change the algebraic notation of our demonstrations to the geometrical and the proof is in

every respect rigidly geometrical. For instance, prove Euc. II. 4.



Particular enunciation. Let the line AB be divided in C, then $AB^2 = AC^2 + CB^2 + 2 AC CB$.

Proof. $AB^2 = AB \cdot AC + AB \cdot CB$. (Euc. II. 2) = $AC^2 + AC \cdot CB + CB^2 + AC \cdot CB$. (Euc. II, 3.) = $AC^2 + CB^2 + 2 AC \cdot CB$. Q. E. D.

(2) Do exercise 9, page 24, Hamblin Smith's Geometry.

The number of directions in any given case depends on the construction of Euc. I. 2, adopted and the sides on which you construct the equilateral triangle. For instance, joining AC, the triangle can be described on one side or the other, which will give two directions for AE. Joining A and D another two directions can be had; and four others by joining BC and BD to describe the equilateral triangles upon.

SUBSCRIBER, Antigonish.—In the next issue of your valuable paper will you please *punctuate, analyze generally and in detail* (6) and (1) under "Punctuation of Compound Sentences." Dalgleish's Elementary Composition.

(6) Not only through the lenient air this change
 Delicious breathes: the penetrative sun,
 His force deep-darting to the dark retreat
 Of vegetation, sets the steaming power
 At large, to wander o'er the verdant earth
 In various hues, but chiefly thee, gay green,
 Thou smiling nature's universal robe,
 United light and shade, where the sight dwells
 With growing strength and ever-new delight.

(A) *Prin. Sen.*: "Change," *subj.*; "this delicious," *enl.*; "breathes," *pred.*; "not only through the lenient air," *extens. place.* "Nor" = "and not;" "and," *conn.*

(B) *Prin. Sen.* "The sun," *subj.*; "penetrating his force deep-darting to the dark retreat of vegetation," *enl.*; "sets at large," *pred.*; "the steaming power," *obj.*; "to wander o'er the verdant earth in various hues, but chiefly (in) thee, gay green, thou smiling nature's universal robe, united light and shade," *extens. of cause, purpose.*

1 b¹ *Sub. Adj.*, *lim.* "green." "The sight," *subj.*; "dwells," *pred.*; "with, etc.," *extens. manner simply*; "where," *extens. place, rest in.*

(1) It may seem a little extraordinary, that notwithstanding his cruelty, his extortion, his violence, his arbitrary administration, this prince not only acquired the regard of his subjects, but never was the object of their hatred; he seems, even in some degree, to have possessed to the last their love and affection.

(a) *Prin. Sen.*: "It," *subj.*; "may seem a little extraordinary," *pred.*

(b) Sub. noun sent. in opposition to "it" in (a). "That," connective; "this prince, notwithstanding, etc.," enlarged subj.; "acquired," pred.: "not only the regard of his subjects," enl. obj.; "not only ... but," connecting the co-ordinate sent.

(c) Subordinate to (a), co-ordinate with (b), "was never the object of their hatred." Predicate of (c) (or other parts implied not expressed).

(d) INDEPENDENT SENT. "He," subj.; "seems, etc.," pred., etc.

2. And solve question 32 of Examples XXV., Todhunter's Elementary Algebra.

Let x and y feet per second be their respective rates, \therefore relative velocity of trains when going opposite directions $(x+y)$ feet per second when going in the same direction $(x-y)$ feet. The passing space = sine of length of two trains, $92+84$ feet = 176 feet. Time of passing = space divided by rate.

$$\therefore \frac{176}{x+y} = 1\frac{1}{2} \text{ seconds.} \quad (1)$$

$$\text{and} \quad \frac{176}{x-y} = 6 \text{ seconds.} \quad (2)$$

$$(1) \text{ Cleared of fractions, } \times 4(x+y), 704 = 6x \times 6y \quad (3)$$

$$(2) \text{ " " } \times (x-y), 176 = 6x - 6y \quad (4)$$

$$(3) \times (4), \quad 880 = 12x \quad (5)$$

$$(5) \div 12, \quad \frac{880}{12} = x \quad (6)$$

That is $x = \frac{220}{3}$ feet per second.

$$= \frac{220 \times 60 \times 60}{3 \times 5280} \text{ miles per hour.}$$

$$= \frac{22 \times 20 \times 60}{528} = \frac{2 \times 20 \times 60}{48} = \frac{2 \times 20 \times 5}{4}$$

$$= 2 \times 5 \times 5 = 50 \text{ miles per hour.}$$

$$(3) - (4), \quad 628 = 12y \quad (7)$$

$$(7) \div 12, \quad 44 = y \quad (8)$$

That is $y = 44$ feet per second.

$$= \frac{44 \times 60 \times 60}{5280} \text{ miles per hour.}$$

$$= \frac{44 \times 15}{22} = 30 \text{ miles per hour.}$$

(To reduce a rate expressed in feet and seconds to one in miles and hours, multiply by $\frac{15}{22}$ 22 feet in 15 seconds is the same rates as one mile per hour).

An autograph letter of Abraham Lincoln to a friend is said to contain the following advice: "Do not worry. Eat three square meals a day. Say your prayers. Think of your wife. Be courteous to your creditors. Keep your digestion good. Steer clear of biliousness. Exercise. Go slow and go easy. May be there are other things that your especial case requires to make you happy, but, my friend, these I reckon, will give you a good lift."

BOOK REVIEWS.

COLOMBA, par Prosper Mérimée, with introduction and notes by J. A. Fontaine, Ph. D., Professor of modern languages in the State University of Mississippi. pp. vii. + 187, 7 in. x 4½ broad. Boston, Mass., U. S. A., D. C. Heath & Co., 1891. This is one of the latest of Heath's modern language series. *Colomba*, the Corsican heroine, in the classic land of bloody vendettas, is considered to be Mérimée's masterpiece. It is extremely interesting as a piece of literature and the typography is superior.

APPERCEPTION, or the essential mental operation in the art of learning—an essay on "A Pot of Green Feathers," by T. G. Rooper, Esq., M. A., H. M. I. Cloth, pp. 52, 5x7 inches; 50 cents. Syracuse, New York, C. W. Bardeen, 1891. A most valuable essay for the educator. The publishers have given full justice in splendid print and binding.

OUTLINES OF HISTORY OF EDUCATION, with chronological tables, suggestions and text questions. By J. A. Reinhart, Ph. D. Teachers' Professional Library. New York and Chicago: E. L. Kellogg & Co. 77 pages; 25 cents. A thorough study of this book will be a good foundation for a more detailed study of the subject.

OUTLINE OF THE PRINCIPLES OF EDUCATION. By J. A. Reinhart, Ph. D. Teachers' Professional Library. New York and Chicago: E. L. Kellogg & Co. 68 pages; 25 cents. The first two chapters give a general view of the subject, and the other chapters treat of the intuitive, imaginative and logical stages of education and the principles of moral education.

PESTALOZZI: HIS EDUCATIONAL WORK AND PRINCIPLES. By Amos M. Kellogg, editor of *The School Journal*. Teachers' Manuals, No. 15. New York and Chicago: E. L. Kellogg & Co. 29 pages; 15 cents. The main facts in Pestalozzi's life are given, and his foundation principles presented clearly and briefly. The thorough understanding of these are of incalculable benefit to the teacher. This little book makes a valuable pocket companion.

MACMILLAN'S SCHOOL SERIES: *Précieuses Ridicules*, par Molière, with introduction and notes by G. Eugene Fasnacht, price 1s. 3d.; *French Readings for Children*, by G. Eugene Fasnacht, price 1s. 3d.; *Virgil's Bucolics*, with vocabulary, edited by T. E. Page, M. A.; price 1s. 6d.: These are fine specimens of the bookmaker's art, neatly printed and bound, every attention paid to ensure accuracy of detail and abundant notes and vocabulary for the beginner. London: MacMillan & Co., and New York.

MACMILLAN'S SHAKESPEARE: *Antony and Cleopatra*, price 2s. 6d.; *King Lear*, price 1s. 9d.; edited by K. Deighton, with introduction and notes. This edition of Shakespeare's plays, the numbers of which are being brought out in rapid succession, is distinguished for its convenient form, cheapness, abundant and clear notes, the admirable explanatory introduction to each play and the clearness and beauty of the mechanical execution. London: MacMillan & Co., and New York.

HEATH'S MODERN LANGUAGE SERIES: *Materials for French Composition*, for pupils in their second year's study of French, price fifteen cents; *Hillern's Höher Als Die Kirche*, edited with notes by S. Willard Clary, price fifteen cents; well adapted for German students.

ON SELF CULTURE, by John Stuart Blackie, a cheap and excellent brochure, containing good reading for the holidays. Published by E. L. Kellogg & Co., New York.

The Essential Uses of the Moods in Greek and Latin, set forth in parallel arrangement, by Robt. P. Keep; an admirable condensation of the more important points in Greek and Latin grammar. Publishers, Ginn & Co., Boston.

PRUSSIAN SCHOOLS THROUGH AMERICAN EYES, by Jas. Russell Parsons, jr., late United States consul at Aix-la-Chapelle (Aachen.) Price \$1.00. C. W. Bardeen, publisher, Syracuse, N. Y. An exceedingly clear and readable statement of the Prussian schools, what they are doing, and how they are doing it.

Current Periodicals.

The *American Naturalist* for May has had a number of interesting original articles, and its general notes on every department of natural history is a mine of endless interest. . . . *Science*, June 19, has a generally interesting article on "Locusts in Algeria," and an abstract of a paper by Professor Milton Whitney, of the Maryland Agricultural Experiment Station, on the "Structure and Physical Properties of Soils." . . . *The Microscope* has been missing of late . . . *The Presbyterian Witness* has been so ably edited that a very strong inducement had been held out to its editor to assume charge of an important publication abroad. We congratulate the Atlantic Provinces on still maintaining the *status quo*. . . . We compliment the *Critic* on its colored cover. Why should we not indulge in color a little more than we do? . . . *The Colonial Standard*, like the *Phoenix*, has at length arisen from its ashes. . . . *The Pictou News* has consolidated with the *Trades Journal*. . . . We welcome the *Berwick Register*. . . . Mrs. Mary Hartwell Catherwood's new serial, "The Lady of Fort St. John," begins in the July number of the *Atlantic Monthly*. It is a story of one of the Lords of Acadia, Charles de la Tour. After a prelude, "At the Head of the Bay of Fundy," the novel opens in a fortress at the mouth of the river St. John. Within the walls of this fortress, over which Madame de la Tour, the lady of Fort St. John, presides, is gathered a curious family,—a noblewoman formerly of the English court, a Swiss lieutenant, a dwarf witch-woman, a Dutch gentlewoman and two Jesuit priests. There is a good deal of dramatic interest in the first instalment. It cannot fail to interest Canadian readers. . . . *The Century* for July has a portrait of Horace Greeley and an unpublished address by Greeley on President Lincoln. The article on Paris, the typical modern city, abounds in instructive points. . . . *The New England Magazine* for July contains a variety of good things and serves up a larger portion of fiction than usual for holiday readers. An article that will attract considerable attention in Canada is, "A Brief for Continental Unity," by W. Blackburn Harte. The article is an interesting one, but

when Mr. Harte predicts that the opening of the dawning century will see the stars and stripes flying over seven new great states, and that the United States will extend to Hudson's Bay, the great majority of Canadian readers will not give him much credit for his reading of the future. . . . *St. Nicholas* for July is indeed a charming number from title page to the end. . . . *Littell's Living Age* for the week ending July 4th is a more than usually interesting number. Contents: From Bannockburn to Poitiers, A Chemist in the Suburbs, Geological Reminiscences, The Centenary of Boswell, A Modern High School Girl (a delicious satire), Thackeray and his Biographers, and other interesting articles. . . . *Garden and Forest* of July 1st denies the assertion that New Englanders do not love flowers, and declares, "Like all the sentiments of its people, the love of flowers is there not paraded, but profoundly cherished." . . . *Canada*, the new magazine published by Matthew R. Knight, at Benton, New Brunswick, is meeting with deserved success. It aims to furnish pure, high-class, patriotic Canadian literature monthly at the lowest possible price. With the June number it is enlarged to sixteen quarto pages and cover, beautifully printed on a superior quality of paper. . . . Two instalments of Gladstone's discussion with Huxley over Christ's sending the devils into the herd of swine will be printed in the August *Popular Science Monthly*. The title of Mr. Gladstone's paper is *Professor Huxley and the Swine-Miracle*, and that of the rejoinder *Illustrations of Mr. Gladstone's Controversial Method*. . . . *Goldthwaite's Geographical Magazine* is an admirably conducted magazine, in its first year. The volume for June is interesting and readable, and teachers will find it especially valuable. The subscription price is only \$2.00 a year. Published by the Knickerbocker Printing and Publishing Company, New York.

Examinations for License N. B. Normal School, June, 1891.

GEOGRAPHY.

- PART I. 1. *Circles on the Globe.* (1) Name the imaginary circles on the globe, and state the use of each. (2) Make a drawing on your paper representing these circles.
2. *Mankind:* (1) Give the usual classification of mankind according to distinctions of form, colour, &c. (2) Name the several nations of the Earth included in each of these classes.
3. *Problems on the Globe.* State how to find (1) the altitude of the sun at noon at a given place on a given day; (2) how long the sun shines at any place in the North Frigid Zone without setting, and how long he is below the horizon without rising.
4. *The Dominion.* Its chief physical features. Its mode of Government. The several Provinces of which it is composed, with the area and population of each.
5. *British Possessions.* The chief Possessions in (1) America; (2) Asia; (3) Africa; (4) Oceania.

PART II. Draw an outline map of Africa, indicating and naming the chief mountain ranges and rivers.

N. B.—The Examiner will allow 70 marks for Part I. and 30 for Part II.

CANADIAN HISTORY.

- Describe two of the following events:—Battle of Cheseapeake; Siege of Ticonderoga; Battle of New Orleans; Discovery of the Great Lakes.
- What steps were taken by Mr. Pitt, between the years 1758 and 1760, to break the power of France in America? What results followed upon these steps?

3. What changes have taken place in the seat of Government of Canada, and for what reasons? Mention facts of interest in connection with these changes.

4. Explain the significance of the following terms:—Executive, Legislative Council, Cabinet, Prime Minister, Civil List, Reciprocity Treaty, Governor in Council.

5. Give some idea of the gradual development of the means of internal communication in Canada.

6. Summarize the condition of Canada during the second period of its history, 1600—1760.

7. State what you know of the earliest settlement of New Brunswick. When was it first made a distinct Province? Who was its first Governor, and when was Fredericton made its Capital?

8. Explain the connection of the following prominent personages with Canadian history:—Cartier, Pontiac, Argall, Lord Elgin, Bigot, General Arnold, La Tour, Montcalm.

N. B.—Six Questions make a full paper.

ARITHMETIC.

Exhibit the work.

1. Let I —interest, P —principal, r —rate per unit, and t —time in years, then $I=Pr t$. From this equation deduce the formulæ by means of which may be solved all the possible cases that can arise in Simple Interest.

2. Frame and solve suitable examples to illustrate three of the cases referred to above.

3. (1) Give the formula for finding the amount of sum placed at compound interest for any number of years. (2) Find the amount of \$12,000 for 16 years, compound interest, at 5 per cent. per annum. (Use contracted method).

4. Show by means of an example the difference between true and bank discount.

5. A man devotes 12 of his income to charitable purpose, 25 for the education of his children, 45 for household expenses, and saves the remainder, which is \$350.50; what is his income?

6. Remitted \$1,500 to my agent, with instructions to deduct his commission at 2 per cent., and invest the balance in flour. What is his commission, and how many bbls. of flour will he purchase at \$6.50 per bbl.?

7. Extract the cube root of 36 to three places of decimals.

8. (1) What is the primary unit in the metric system? (2) Name the other primary units based upon it. (3) Find the cost of polishing a surface 3 metres, 6 decimetres long, and 2 metres, 6 decimetres wide, at \$2.50 per sq. metre.

COMPOSITION.

1. Express in as fitting words as you can the thought in the following passage:—

In the woods,
A lone enthusiast, and among the fields,
Itinerant in his labour, he had passed
The better portion of his time; and there
Spontaneously had his affections thriven
Amid the bounties of the year, the peace
And liberty of nature; there he kept
In solitude and solitary thought
His mind in a just equipoise of love.

2. Scan the last four lines of the foregoing passage.

3. Frame sentences to illustrate the shade of meaning between each pair of the following synonyms:—

Instruction, Education. Reason, Intellect. Jeopardy, Danger. Aid, Help. Obvious, Clear. Imagination, Fancy.

4. Name the chief figures of speech, and give an example of each.

5. Write a short biographical description of some historical personage, or a criticism on some poem with which you are familiar.

ALGEBRA.

1. From the following equations find the value of x :

$$(1) \frac{x+1}{3} - \frac{3x+1}{5} = x-2.$$

$$(2) \frac{2x-5}{6} + \frac{6x+3}{4} = 5x-17\frac{1}{2}.$$

$$(3) \frac{1-2x}{3} - \frac{4-5x}{6} + 1\frac{1}{3} = 0.$$

2. Find a number which, when multiplied by 4, is as much above 35 as it was originally below it.

3. The difference of two numbers is 20, and one-half of one of the numbers is equal to one-fifth of the other. Find them.

4. Resolve the following expressions into factors:—

$$(1) x^2+11x+30.$$

$$(2) x^2+13xy+42y^2.$$

5. Apply formulæ to work the following:—

$$(1) (x+y+z)^2.$$

$$(2) (p-q+v-s)^2. \text{ Exhibit the work.}$$

6. How is one power of a number divided by another power of the same number?

Show by this rule that $x^0=1$.

GEOMETRY.

Read this Paper before commencing the work.

1. If one side of a triangle be produced, the exterior angle is greater than either of the interior opposite angles.

2. If a straight line, falling upon two other straight lines, make the exterior angle equal to the interior and opposite upon the same side of the line, or make the interior angles upon the same side together equal to two right angles, the two straight lines are parallel to one another.

3. Prove that if the opposite angles of a quadrilateral be equal the quadrilateral is a parallelogram.

4. If the square described upon one of the sides of a triangle be equal to the squares described upon the other two sides of it, the angle contained by those two sides is a right angle.

5. If a straight line be divided into any two parts, the square of the whole line is equal to the squares on the two parts together, with twice the rectangle contained by the parts.

Female Candidates for Class I. will omit the 1st and 4th of the foregoing Questions, and work the following instead:—

(a) Equal chords in a circle are equally distant from the centre; and conversely, those which are equally distant from the centre are equal to one another.

(b) In a given circle to inscribe a triangle, equiangular to a given triangle.

N. B.—When Female Candidates have worked this paper, they will receive, on application, the paper set to Male Candidates, and will receive credit for any work thereon, provided the work is in advance of Book IV.

GEOMETRY.

1. If any two points be taken in the circumference of a circle, the straight line, which joins them, must fall within the circle.

2. The angle in the same segment of a circle are equal to one another.

3. Prove that if one side of a quadrilateral figure inscribed in a circle be produced, the exterior angle is equal to the opposite angle of the quadrilateral.

4. Describe an isosceles triangle having each of the angles at the base double of the third angle.

5. The sides about the equal angles of triangles which are equiangular to one another are proportionals; and those which are opposite to the equal angles are homologous sides.

6. Equal parallelograms which have one angle of the one equal to one angle of the other, have their sides about the equal angles reciprocally proportional.

N. B.—Female candidates will receive credit for any correct work on questions 5 and 6 above.

NATURAL HISTORY.

1. State what you know of the probable use of the following parts or organs of plants:—Bark, Sepals, Wood, Petals, Stamens, Roots, Tubers, Tendrils, Leaves.

2. What laws govern the distribution of leaves upon plants? What provision is sometimes made to obviate the injurious results of their possible destruction by frost or insects?

3. What is the nature of the food of plants? How is it taken in? How disposed of?

4. For what reasons are Plants properly regarded as living things?

5. Explain the structure of a Seed? the purpose of each of its parts? the changes which occur in germination.

6. What common structural features are possessed by all vertebrate animals? How are they respectively modified in the four vertebrate classes?

7. Explain how the rocks of the Earth's crust tell its history.

8. How far is Canada a source of the following useful minerals:—Gold, Iron, Silver, Gypsum, Coal. In what portions of the Dominion are they severally found!

N. B.—Six of the above Questions will make a complete paper.

DOMESTIC ECONOMY.

For Female Candidates only.

PART I.—THEORY. 1. Give some useful hints to clean iron saucepans, tin moulds, and wooden tables.

2. How would you make potato soup?

3. Give directions for boiling beef when you wish to retain the full flavour of the meat? What difference would you make if you specially wished to get a rich soup or broth?

4. Give the outline of a lesson on "Sweeping and Dusting," as if to a class.

N. B.—Work three of the foregoing Questions.

PART II.—PRACTICE. (Material, $\frac{1}{2}$ yd. undressed white cotton.) Use the cotton furnished you to cut and baste any garment, shewing stitching, pleating, button-hole, feather stitching.

GRAMMAR AND ANALYSIS.

1. Give the general and detailed analysis of the following passage:—

*And thus before his eighteenth year was told
Accumulated feelings pressed his heart
With still increasing weight; he was o'erpowered
By nature; by the turbulence subdued
Of his own mind; by mystery and hope,
And the first virgin passion of a soul
Communing with the glorious universe.*

2. Parse the words above in italics. Define the following: voice, mood, gerund, participle.

3. Distinguish between (1) *The pure infinitive* and *the gerundial infinitive*, and give examples. (2) *The gerund* and *the verbal noun* and present participles, and give examples.

4. Give your classification of adverbs (1) as to their function, (2) their meaning.

5. Comment upon such verbs as *methought*, *him listeth*, *worth*.

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The fifth session of the School will be held at **ANTIGONISH**, beginning on **MONDAY, the 27th of July** next and closing on **SATURDAY, AUGUST 8th**. Opening address by the President, Supervisor McKay, of Halifax, will be delivered in the Assembly Room of St. Francis Xavier College, on Monday evening, at 7.30 p. m. The staff of Instructors is larger than usual, and consists of the following:—

Astronomy—Principal Cameron, Yarmouth Academy.
Botany—G. U. Hay, Ph. B., Principal of Victoria and Girls' High School, St. John, assisted by Miss N. Forbes, B. A., Yarmouth Academy.
Chemistry—D. M. MacAdam, B. A., St. Francis Xavier College.
Elocution—Not yet selected.
Geology—A. McKay, Esq., Supervisor of Schools, Halifax.
Microscopy—A. H. MacKay, B. A., B. Sc., &c., Halifax Academy.
Mineralogy—A. J. Pineo, A. B., Pictou.
Music (Tonic-Sol-Fa)—Miss A. F. Ryan, St. Mary's School, Halifax.
Physics—E. McKay, B. A., Principal of New Glasgow High School.
Physiology—M. L. Angevin, M. D., Halifax.
Psychology—J. B. Hall, Ph. D., Normal School, Truro.
Zoology—Prof. Brittain, Normal School, Fredericton.

It will be seen that two new subjects are added to the course, viz.: *Microscopy*, by Principal A. H. MacKay, of the Halifax Academy, and *Psychology*, by Dr. Hall, of the Provincial Normal School, Truro. In original and practical scientific work Principal MacKay has few equals in Canada, and his class in *Histology* and *Microscopy* at the school will be one of very great interest. Dr. Hall has made a thorough study of the German Educational System during his recent sojourn in that country, and his lectures on *Psychology, in its relation to the work of Teaching*, which will be free to all enrolled students, cannot fail to interest all members of the Teaching Profession.

Teachers who can spend a couple of weeks in the beautiful town of Antigonish, with its picturesque surroundings, and in the company of genial wide-awake fellow workers, cannot fail to enjoy themselves; and while they add largely to their store of knowledge they will also gain many valuable hints as to the best methods of imparting it.

Any who have not received a copy of the programme of the work to be undertaken are requested to drop a card to the Secretary, who will send one by return mail. The whole cost of travelling, board and class-

fees will be from \$10 to \$20, according to the present location of the student. Arrangements have been made with the proprietor of the *Central Hotel* to accommodate a large number of those who attend the school (terms, \$3.50 per week), and in order to do so he finds it necessary to secure rooms in private residences. Persons, therefore, who wish to enjoy the hospitality of this leading hotel will drop a card to the local Secretary, Principal A. A. MacDonald, Antigonish, who will make satisfactory provision for them.

Arrangements are being completed with railway lines and steamboat companies for reduced rates of travel. Those going by the I. C. R. will pay a full first-class fare to Antigonish, but will be careful to get from the agent who sells the ticket a certificate to that effect. This certificate, when completed by the Secretary of the Science School, on being presented to the Station-master at Antigonish, will entitle the holder to a return ticket, good for one continuous return trip, free. Passengers by the W. & A. Railway will receive return tickets by paying one first-class fare and one-third.

W. T. KENNEDY, Secretary.

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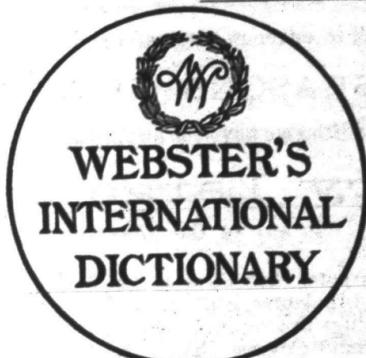
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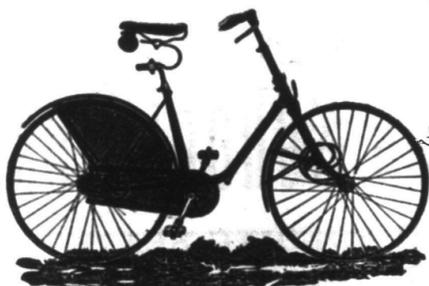
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