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# The Educational Review.

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G. U. HAY, Ph. B.,  
Editor for New Brunswick.

A. MCKAY, Supervisor Halifax Schools,  
Editor for Nova Scotia.

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## THE EDUCATIONAL REVIEW.

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## CONTENTS:

ANNOUNCEMENTS,	118-114
EDITORIAL NOTES,	114
EDITORIAL,	114-118
The New Superintendent of Nova Scotia—Retirement of Dr. Allison—University Extension—Order in the School Room—Accuracy in Spelling—Talks with Teachers—Tonic Sol-fa in St. John—Population and Produce—Opening of the Nova Scotia Normal School.	
Teachers' Institutes,	118-119
CONTRIBUTED ARTICLES,	119-125
Astronomical Notes—Notes for Teaching Music by the Tonic Sol-fa—To Teachers of District No. 10—Queens County Institute—Kindergarten Methods in Primary Schools—Primary Department—Programme of a Teachers' Institute—Would-be Grammar School Teachers.	
SELECTED ARTICLES,	125-127
Truro Kindergarten—Patience with Learners—Do You Pronounce Correctly?	
Examination Papers—Educational Opinion—School and College—Question Department—Book Reviews—Current Periodicals	127-133
NEW ADVERTISEMENTS:	
St. Nicholas (p. 133)—The Century Magazine (p. 133)—New Webster (p. 133)—The Atlantic Monthly (p. 134)—T. C. Allen (p. 134).	

## ANNOUNCEMENTS.

### TO THE PATRONS OF THE REVIEW:

The EDUCATIONAL REVIEW has always been proud to be independent of any governmental control, so that, should the occasion arise, it would be free to make friendly criticism of any acts or regulations from the point of view of the teacher. In order to allow the same sound policy to continue the Nova Scotian editor, who has been appointed to the Chief Superintendency of Nova Scotia, feels it his duty to retire from the staff; and in so doing desires warmly to thank all those who assisted in making a native educational paper in these Provinces not only a possibility, but put it in such a position as to be able, in its fifth year to be self-supporting, and to command the steady approval of so large a number of the teachers of the Atlantic Provinces. There is yet room in some quarters for a very much greater circulation, and there is a prospect of a fuller, more varied and more practical editorial corps in the reconstructed staff, so that more than ever before the organ will be found to be a prime necessity to the teacher who keeps in touch with the times.

With my best wishes for the members of the staff, from whom I have received the greatest consideration and kindness, and for the future of the REVIEW and its patrons,

I am yours truly,

A. H. MACKAY.

THE retirement of Mr. A. H. MACKAY from the editorship of the REVIEW will be generally regretted, and more especially by those who have been associated with him in founding an educational journal and assisting to maintain it during the most critical period in the history of such an enterprise. For four years and a half Mr. MacKay has been untiring and unselfish in his efforts to place the REVIEW on



a sound educational basis, and to make it known not only in Nova Scotia but in the other Atlantic Provinces. Our readers, while regretting the retirement of Mr. MacKay from the position he has so worthily filled, will congratulate him on the honor that has been conferred upon him by the government of Nova Scotia.

MR. A. MCKAY, Supervisor of Schools for Halifax city, who will succeed Mr. A. H. MacKay, and whose name appears in this issue as editor of the REVIEW for Nova Scotia, is well known for his energy and his capable administration of the schools of Halifax. But his energy and executive ability have not been felt alone in the schools of Halifax nor in movements for the general educational welfare of that city. As secretary of the Provincial Association of the teachers of Nova Scotia, and secretary and afterwards president of the Summer School of Science his influence and co-operation have contributed to the advancement of provincial educational affairs. The readers of the REVIEW in future will become better acquainted with Supervisor McKay, and reap advantage from his mature experience as an educationist.

THE Dalhousie College *Gazette* celebrated the beginning of its 24th volume by appearing in an entirely new dress, new title page, greatly enlarged, and in excellent shape both for reading and preservation. Two better numbers, both in make-up and contents, than its October and November issues, it would be difficult to find among college journals.

In the *Magazine of American History* for October is an article by Mr. W. F. Ganong, on the identity of the St. Croix River of the North-eastern boundary of the United States. This river has been held by all United States writers to be the present Magaguadavic, and by all the British writers the present St. Croix. After an examination of the available records and maps, Mr. Ganong reaches the conclusion that the St. Croix is the river referred to in the treaty which defined the boundary.

THE children's fund for the relief of the Springhill sufferers amounts to about two hundred dollars. Seventy-four dollars of this is in the Savings Bank, subject to call of Springhill teachers, as it may be needed by orphan pupils. Gold medals, inscribed, "To Dan Beaton and Danny Robertson, from children of Cumberland and Colchester, in admiration of their

bravery," and date, were purchased out of the fund and presented to the two boys at a public meeting. Our readers may remember the story of the two Dans in our May number. The rest of the fund has been paid over to Springhill Fund and W. C. T. U.

THERE has been considerable liveliness in educational matters in P. E. Island during the past few weeks, and the changes that have taken place have led to a good deal of rancorous discussion in the newspapers. Mr. D. J. McLeod, of Prince of Wales College, has been appointed Chief Superintendent of Education in the room of Mr. Nicholson. Mr. G. E. Robinson, B. A., Principal of one of the Charlottetown city schools, has been appointed to the vacancy in the College. Inspector Arbuckle, who was recently dismissed, has been appointed superintendent of the Summerside schools.

IN the *University Monthly* for October are two interesting articles by Professors Stockley and Duff, on University Extension.

IT appears that the National Educational Association of the United States will meet at Saratoga, July 14-17, 1892, and in Chicago in 1893.

A CORRESPONDENT asks: "What has interrupted Mr. Brittain's course of lectures in chemistry, which were commenced about a year ago, and which aroused us to begin the study here and to procure chemical apparatus?" In answer it may be said that Mr. Brittain will continue the course in the December and future numbers of the REVIEW, and that the interruption was due to the pressure of his regular work in his normal school classes.

INSPECTOR MERSEREAU is visiting this month the ungraded schools in Saumarez, Alnwick, Newcastle and Nelson parishes, Northumberland County.

#### THE NEW SUPERINTENDENT OF EDUCATION IN NOVA SCOTIA.

The Government of Nova Scotia has chosen Mr. A. H. MacKay, Principal of the Halifax Academy, to fill the office of Superintendent of Education. As principal of Pictou Academy Mr. MacKay advanced the high character of that institution until its fame extended beyond Canada. A profound thinker, an accomplished scholar, an enthusiastic teacher, Mr. MacKay assumes the educational leadership of Nova Scotia at a time of life when his mature judgment and knowledge of educational affairs in his native province give confidence in his ability to discharge with wisdom and moderation the duties of such an important position; while his steadiness of purpose



and devotion to his chosen work give promise of increased usefulness in the wider field to which he has been called.

Mr. MacKay has been chosen from the ranks of teachers, and this policy on the part of the government is a wise one when it can be adopted without detriment to the service.

Mr. MacKay, a moderate Conservative, owes his appointment to a Liberal administration. All honor to a government that has the courage to appoint, irrespective of party considerations, the man whom it considers the best qualified to fill the position.

#### OPENING OF THE N. S. NORMAL SCHOOL.

The formal opening of the Nova Scotia Normal School took place on Wednesday, November 11th, in presence of a large assemblage of the citizens of Truro. There is an attendance of 98 pupil teachers with prospects of 12 or 15 more. The address of Principal Calkin was an excellent one, containing words of counsel and encouragement to the students. The new superintendent, A. H. MacKay, Esq., was present and addressed the students, making an excellent impression. Addresses were delivered by several citizens of Truro.

Prof. McDonald of Antigonish has entered upon his duties as instructor of mathematics in the place of Prof. Eaton. A fine portrait of the latter, the work of Miss Smith, instructor in drawing, was placed in the assembly room.

#### TONIC SOL-FA IN ST. JOHN.

Rev. James Anderson, M. A., who has met with wonderful success in Nova Scotia in introducing the Tonic Sol-fa method in the schools has been engaged by the Board of School Trustees of St. John to give instruction in the method to teachers of that city. Mr. Anderson gave an introductory lecture in the Centennial Hall on Thursday afternoon, November 5th. Since that time Mr. Anderson has been visiting schools in the city and giving introductory lessons. It is needless to say that his methods and the enthusiasm with which he has entered on his work have aroused a corresponding interest among teachers and in schools which have had the good fortune to receive his personal instructions.

The regular class for teachers was opened in the Leinster street school on Wednesday, November 10th, when over fifty teachers were in attendance.

The energetic public spirit which has led the Board of Trustees of St. John to take measures to arouse an interest in music in the city schools will, it is hoped, be reciprocated by the teachers themselves in

a steady effort to give to the schools what they have greatly lacked — systematic and regular instruction in music.

Rev. Mr. Anderson's contributions to the REVIEW in Tonic Sol-fa methods for nearly two years past have prepared the way for its introduction in St. John and in other parts of the Province. Mr. Anderson has already established private classes in the city, and in Rev. Dr. Macrae's church he has been engaged to give instruction to the Sabbath school.

#### ORDER IN THE SCHOOL ROOM.

A word of advice to the young teacher in the miscellaneous school. Don't be in a hurry to do work all at once. Sit down and study how to control your school. Be calm, but firm. Obedience is a habit. Commence to form the habit deliberately. For this purpose drill the school in "positions" until the most inattentive or refractory responds spontaneously to your number or sign indicating your order. Never mind the loss of half an hour day after day in making all move simultaneously and promptly. If the habit of obedience is formed for purely mechanical exercises it is only one step more to gain complete control over the whole school for general purposes. When you are engaged in some class-work, low murmuring in some other part of the room will commence, at first so faint as not to disturb your work, and you feel like not noticing it. But there is no line between that and what distracts. So at the first sign of a breach of the silence you wish to have observed, calmly stop your work, let your eye fall in the indicated direction with no manifest haste to return to your work and forget. If necessary give your signs for movements, which must be gone through with precision. Soon each pupil will feel it as natural to keep quiet and be interested solely in his or her work, when not engaged in class work, as to play when play-time comes. Motion drill is as good a training to secure the habit of prompt obedience in school as military drill is for the army.

#### ACCURACY IN SPELLING.

If spelling is not done thoroughly with every single word the pupils read from the commencement of their course, inaccurate attention to the forms of words are tolerated, and the habit can be changed with only the greatest effort — too great for the majority. If there are to be any spelling tests they should be applied to the lowest grades of teachers and to the candidates for entrance to the high schools. It is too late to learn to spell well at a later stage; but the test should be applied even earlier. No pro-



motion from one grade to another in the common schools should be made with defective spelling ability within the range of the lessons read. Strict accuracy in figures and letters, from the primary upwards, will save the pupils as well as the teachers who may have the good fortune of educating them, untold labors and mortifications. Our academic and high school teachers should bring to public notice schools which commonly send up candidates defective in these fundamental requisites. Exposure will set in train a movement which will correct the evil and prevent that slipshod attention to accuracy in elementary work which has ruined the scholarly prospects of thousands of promising pupils.

#### POPULATION AND PRODUCE.

According to the latest data the areas and populations of the great divisions of the earth's surface are as follows:

	Square Miles.	Population.
Europe.....	3,756,880	357,378,000
Asia.....	17,530,686	825,954,000
Africa.....	11,277,364	163,953,000
America.....	14,801,402	121,713,000
Australia.....	2,991,442	3,230,000
Oceanic Islands.....	733,120	7,420,000
Polar regions.....	1,730,810	80,400
	52,821,684	1,479,729,400

This is the estimate given in the "Almanach de Gotha," published by Dr. Wagner, professor of geography in the University of Göttingen, and Dr. Supan. These are "census" figures for only a little more than one-half the population, 56 + per cent. Forty-four per cent. of this population is therefore made up from the best available estimates of the past, corrected by the latest and most accurate information. Ten years ago only 44 per cent. of the population of the earth were from census figures, the remaining 56 per cent. being estimates. This shows an extension of the "census" enumeration during the past ten years from 44 to 56 per cent. of the inhabitants of the world. This latest enumeration cuts down the former estimate of China from 405 millions to 350 millions; and of Africa from 220 millions to 164 millions. Europe has an average density of population twice that of Asia, seven times that of Africa and twelve times that of America. Of European countries, Belgium leads with 530 persons to the square mile, England 480, Holland 365. Mr. Ravenstein, in a paper before the British Association last fall, estimated that at the moderate rate of increase of 8 per cent. per decade, in 182 years hence the food supply of the world will not be sufficient for the inhabitants. Farming will therefore certainly begin to pay sometime before the year 2000.

#### TALKS WITH TEACHERS.

Have a good, workable time-table and work by it. Remember your pupils depend upon it as well as yourself. The excellence of a school depends in no small degree upon system.

Study the work to come before the classes the next day. Break away from the text-books in class work. A teacher with her face in a text-book during recitation is hampered in her work and loses the confidence of her pupils.

Cultivate facility of expression on the part of your pupils. A child without the acquired power of expression is poorly equipped for recitation. Oral composition is one of the most important exercises in the school.

Finding fault with the text-books is the refuge of the lazy teacher. An industrious teacher is the best text-book for a school.

Do not continually grumble at your predecessors' work. Spend the time in trying to remedy the defects.

Remember that the old memoriter system is dead and that memory exercises to impress ordinary school subjects are worse than useless. Memory should be cultivated, but not in learning history and geography lessons.

Be friendly with parents, but not familiar. Do not always call to find fault and do not call too often on any account.

Magnify your office, not by continually talking shop, but by asserting yourself in the community. Combine for diversion outside of school work. Both by education and profession the teacher is entitled to occupy the highest rank in society.

#### RETIREMENT OF DR. ALLISON.

On the 27th of October, at 4 p. m., representatives of the inspectors, normal school, academic and high schools of Nova Scotia met the late Superintendent of Education in the Executive Council Chamber of the Province building and presented him with the following address and a fine and costly set of ornamental mantel bronzes, containing a clock, as a memento of their official relations for the thirteen years of his superintendency:

To David Allison, LL.D., Superintendent of Education, Nova Scotia:

SIR,—It was with feelings of deep regret that we, the public school inspectors, normal school, academic and high school teachers of Nova Scotia, learned of your resignation of the position held by you during the last thirteen years as chief executive officer of our educational system.



We cannot permit you to leave us without conveying to you our high appreciation of the firmness, justice, sound judgment and urbanity which characterized your administration, and which enabled you to retain the respect and goodwill of those whose labors you directed.

To many of us who have worked under you throughout your term of office your name will always in a special manner recall memories of continued acts of kindness in time of affliction.

Your generous sympathies led you to a respectful consideration of every opinion, so that your conclusions embodied the united wisdom and commanded the respect of all. History will credit your *regime* with steady progress and with many important amendments of an educational system fundamentally good. Teachers work with enthusiasm and are proud of a profession in which the honors of the highest positions are now the rewards of successful work in the ranks.

The system has become more completely organized and modified by the introduction of a graded course of study and by the academic and high school regulations which have thus stimulated secondary education.

The colleges are beginning to realize more than ever the necessity of some organic connection with the schools from which they draw their students.

Our public school system is not only better organized, but it has also extended its sphere of usefulness by including the education of the deaf and of the blind.

You have fostered schools for miners, for farmers and for the manual training of young men. As president of the art school you have given encouragement to those studies which do so much to improve the artisan, to stimulate the industrial development of our country and to advance the finer arts.

Our regret at the termination of the official intercourse of so many years is lessened by the knowledge that while the public school system of Nova Scotia is to lose your fostering care, the cause of education is still to have the benefit of your learning, experience and executive ability. May the providence that has re-united the links that were severed when you assumed the duties of this office give you the strongest pledges of approval in the work you resume under extended conditions by a large bestowal of the spirit of wisdom and power.

Kindly convey to Mrs. Allison our sincere wishes for her happiness. May her health and strength permit a continuance of those good works in which she is so abundant. Again wishing you and yours continual health and prosperity, we remain, dear sir, your warm friends and well-wishers.

The proceeding was a surprise to the esteemed Dr., who replied in a very appropriate vein, alluding to his most pleasant relations with the members of the various governments under which he served and the teaching profession. At the invitation of Supervisor McKay, who presided, Hons. Premier Fielding, Attorney-general Longley and Commissioner Church, made capital speeches, followed by Prof. Weldon, M. P. The incident was a very pleasing termination of a long, invaluable and happy official career. Dr. Allison assumed the duties of the President of Mount Allison on the 1st of November.

There are 6,250,045 Roman Catholics in the United States. The church is represented in every state and territory.

#### UNIVERSITY EXTENSION.

The University of New Brunswick, in connection with the New Brunswick Natural History Society, has organized an extension movement in St. John that ought to lead to important educational results. The design of the movement is to bring the University—its learning and methods of study—within reach of those who cannot take a University course. Classes will be formed and lectures given by specialists on certain subjects which have been announced. The lectures are intended to stimulate the hearers to study and research and to pursue a regular course of reading, followed by a University certificate, to be gained by students who do regular work and pass an examination at the end of the course.

The following is the scheme of lectures, to begin on Monday, November 23rd, and to be continued during succeeding weeks on the same day:

Monday, Physics, (8 lectures), PROF. DUFF.  
 Tuesday, History of England, 1640-1659 (8 lectures), REV. J. DE SOYRES.  
 Wednesday, Botany, (8 lectures), MR. G. U. HAY.  
 Thursday, Philosophy, (8 lectures), DR. D. MACRAE.  
 Friday, Zoology, (8 lectures), DR. BAILEY.

On the completion of the above courses (about the end of January) the following will succeed them:

English Literature,.....PROF. STOCKLEY.  
 Geology,.....MR. G. F. MATTHEW.  
 Chemistry,.....MR. A. E. MACINTYRE.  
 Political Economy,.....PROF. MURRAY.  
 Law, { Its nature and Origin,.....DR. I. ALLEN JACK.  
       { Private Wrongs and their  
       Remedies,.....DR. A. A. STOCKTON.

An executive committee, composed of Messrs. J. V. Ellis, J. D. Hazen, M. P., G. U. Hay, Prof. Stockley and Prof. Duff, Secretary, has been formed, who will make all necessary arrangements to carry out the course. The following gentlemen have consented to act with the lecturers and executive committee in making the scheme and its purposes known and appreciated in St. John, viz.: His Worship Mayor Peters, H. J. Thorne, Esq., Dr. Thomas Walker, Dr. Murray Maclaren, Rev. George Bruce, Jonas Howe, Esq., Dr. Boyle Travers, Ezekiel McLeod, M. P., J. E. B. McCready, Esq., S. D. Scott, Esq., John March, Esq., Dr. F. E. Barker.

Much interest has already been aroused in St. John and vicinity, and Mt. Allison University is about organizing a similar extension movement at Moncton.

The University extension originated in England over twenty years ago, and since that time it has made great progress. During the past two years the movement



has extended to the United States, and now Toronto University, the University of New Brunswick and Mt. Allison have taken it up. Its aim is to take the University to those who cannot go to it. If this means anything it means that students, teachers, clerks, artisans, in short people of all ages and conditions may have the opportunity of obtaining a higher education that will both give a keener enjoyment to their leisure and advance their material interests. Courses of lectures that will set people thinking, and then working, will mean something. There are many young men and women who would take positions of influence and usefulness if they could be assisted to utilize their spare moments to the best advantage. If University extension can help to do this, let it come, and *stay*, not only in the cities but in the towns and villages.

In view of the approaching meeting of the Summer School of Science in St. John, next year, intending students will have an excellent opportunity to take a preliminary course of study in natural science and English literature by attending the University extension classes this winter.

A Canadian University Extension Association has been formed with these officers: President, Sir Donald A. Smith, Chancellor of McGill University; Vice-President, Senator Allan, Chancellor of Trinity University, Toronto; Edward Blake, Chancellor of University of Toronto; Sanford Fleming, Chancellor of Queens University, Kingston; Abbe Laflamme of Laval University, and Prof. Goldwin Smith; Treasurer, B. E. Walker, General Manager of the Bank of Commerce; and Secretary, William Houston, M. A., Librarian to the Ontario Legislature.

### TEACHERS' INSTITUTES.

#### CARLETON COUNTY.

The fourteenth annual meeting of the Carleton County Teachers' Institute met at Woodstock, October 29th and 30th. Mr. Amasa Plummer occupied the chair; Mr. John Farley, secretary. The financial statement showed \$21.50 on hand. The enrolment fee was made 25 cents.

Messrs. S. Miller, A. Clark and Misses C. Comben, C. L. Brown and Lizzie Simpson were chosen as a committee on manual work.

An invitation on behalf the W. C. T. U. was extended to the teachers to partake of the hospitality of many homes in Woodstock.

The enrolment was seventy-five. After enrolment and routine the meeting adjourned until 2 p. m.

An excellent exhibit of manual work was tastefully arranged at the end of the hall.

At the afternoon session addresses were made by the Chief Superintendent and Inspector Bridges.

Mr. John Home gave a lengthy address on the "Co-operation of Parents and Teachers." The paper was discussed by Mr. R. P. Steeves, Inspector Bridges and Chief Superintendent Inch.

Mr. H. D. Creed read a paper on the "Teaching of Botany."

A public meeting was held in the evening in the Temperance Hall. A fine audience was present, and addresses were given by Dr. Inch, Hon. Wm. Lindsay and Mr. John Home. An excellent musical programme was carried out consisting of solos by Inspector Bridges, Miss Gilmore, Miss Hammond and Miss Ganong. Miss Sharp and Miss Cupples presided at the organ.

At the Friday morning session a paper on "The Importance of Writing in the Common Schools" was read by Mr. John Farley. An animated discussion followed, which was participated in by Messrs. Frank Good, Charles McLean, H. D. Creed, R. Wheeler, Rev. W. Dobson and Inspector Bridges.

At the afternoon session Mr. S. S. Miller read the report of the committee on manual work.

The election of officers resulted as follows: Frank Good, President; H. D. Creed, Vice-President; S. S. Miller, Secretary. R. P. Steeves and Misses Ena Gill and Helena Mulherrin additional members of the executive.

The usual votes of thanks were passed.

On invitation Mrs. Moses Burpee and Mrs. C. D. Jordan of the W. C. T. U. addressed the Institute on the teaching of temperance. The Institute then adjourned.

The following schools participated in the exhibit of manual work:

- Woodstock—Grades 7 and 8, Miss Gilmore.
- Upper Woodstock—Primary and advanced, Miss Bessie Good and C. McLean.
- Central Northampton—Mixed, Miss Ella Comben.
- Hartford—Mixed, Miss Mary Hayden.
- Somerville—Mixed, Miss Lydia Alexander.
- Hartland—Advanced, Mr. A. Plummer.
- Central Richmond—Mixed, Miss Mary Flemming.
- Weston—Mixed, Miss Lilly Holmes.
- Victoria Corner—Mixed, Miss Ena Gill.
- Jacksontown—Mixed, Miss Flora McLeod.
- Lakeville—Mixed, Miss Comben.
- Centreville—Mixed, Mr. S. S. Miller.
- Tracey Mills—Mixed, Miss Owens.



## WESTMORLAND COUNTY.

Westmorland County Teachers' Institute met in Memorial Hall, Sackville, November 5th and 6th, the President, Geo. J. Oulton, Dorchester, in the chair.

In addition to seventy teachers present at the opening, there were: Dr. Inch, Chief Superintendent of Education; Geo. Smith, Inspector of Schools for Westmorland County; C. R. Palmer, Secretary of Schools, Moncton; Prof. Borden of the Ladies' College; Prof. Tweedie, Sackville.

The officers elected for the ensuing year were: Geo. J. Oulton, Dorchester (re-elected), President; Miss Sprague, Point de Bute, Vice-President; S. W. Irons, Moncton, Secretary-Treasurer.

Chief Superintendent Inch delivered an address and took an active interest in the proceedings of the Institute.

Papers were read as follows: Miss Weldon, Sackville, on Geography in Our Schools; S. C. Wilbur, Moncton, Temperance Teaching in the Schools; Prof. Tweedie, Sackville, on the Survivals and Corruptions in Modern English; Miss Annie Sprague, Point de Bute, on Grammar in Intermediate Departments; Prof. Andrews, on Mental Gymnastics; N. W. Brown, Petitcodiac, What Should Our Schools do for the Children?

The discussions on the papers were instructive, and the proceedings throughout marked with great interest.

Dr. Inch and others addressed a public educational meeting on Thursday evening in Memorial Hall.

## Astronomical Notes.

The French Academy of Sciences has accepted the trusteeship of the sum of 100,000 francs, bequeathed by an old lady as a prize to the lucky earth-born mortal who shall succeed in discovering some means of communicating with another world. It will probably be some time yet before the prize is awarded. But next year there will be an unusually good chance to try what can be done in this way with Mars. So far as we can judge this is the most likely of all the planets to have inhabitants.

I came across a book the other day which says that we are soon to be favored with "the re-appearance of the most splendid celestial body ever recorded, the variable star in the constellation Cassiopea." This is what the newspapers were calling the Star of Bethlehem a few years ago. They predicted its re-appearance for the autumn of 1887 and again for some time in 1890. On the latter occasion the REVIEW devoted two or three columns to a serious discussion of the subject. The book now referred to does not call the wonderful object the Star of Bethle-

hem, but it is the same old star and the same old yarn. "It may be looked for," we are told, "in the fall of 1891 or the spring of 1892, when in the course of a few weeks it will become brighter than the planet Jupiter." So may it be! Let us hope that the third prediction will have better luck than the other two.

From October 23 to November 13 midday happens at 11.44 a. m. On December 1 it happens at 11.49, on December 15 at 11.55. This note is for the benefit of St. John and Yarmouth and other out-of-the-way places that still keep local time. In Halifax they say they keep local time, but they don't.

At 4 p. m. on October 3 the earth was at her mean distance of about 93 millions of miles from the sun and was doing her planetary duty at her mean rate of  $18\frac{1}{2}$  miles a second. On November 15 she is a million miles nearer and is travelling 750 miles an hour faster. Between November 15 and December 15 she will get 400,000 miles still nearer and will increase her speed by 300 miles an hour.

Venus has been evening star since September 18 and will be so until the middle of next June. It has not been easy to see her yet because of her great southern declination. In the middle of November she is  $22^\circ$  south of the equator and this increases to  $24\frac{1}{2}^\circ$  on December 6, after which she gradually works her way northward again.

The first glimpse of her that has been reported was got on the evening of October 17—twenty-nine days after conjunction. The observer was Miss Beatrice Tooker, of Yarmouth. On that date Venus set 22 minutes after the sun and about  $2^\circ$  farther south than him. On November 15 she is  $3\frac{1}{2}^\circ$  south of the sun and sets three-quarters of an hour after him. In the middle of December her declination will be the same as the sun's and she will then be above the horizon for more than an hour and a half after sunset.

An observer, who used to get up in the morning to look at Venus and Jupiter when in conjunction last April, asks why these planets are so far apart in the sky now. It is because Venus moves among the stars at a much faster rate than Jupiter does. Their last conjunction happened on April 7, the next will happen on February 5. During this interval of ten months Venus will have gained a whole celestial lap on the bigger and slower planet. If we could watch the motions of these two from the sun instead of from a fellow planet, which is itself in motion, we would see Venus complete a circuit of the heavens in  $7\frac{1}{2}$  months, while Jupiter would do only about  $\frac{1}{10}$  of a round in that time; and so Venus would overtake and pass Jupiter every eight months, or less. Placed



as we are, we see the relative motions of the other planets in a rather mixed-up condition, but the complication due to the motion of our own planet does not affect the fact that the swifter of another pair is seen to pass the slower, then to move off to the east of it, and after a time to come round on the west side of it and pass it again.

A similar question has been sent in about Mars and Saturn as seen in the morning sky last month. On October 12 they were very close together. After that date they were seen farther and farther apart. Which was which, and which was running away from the other? As in the other case, it was the swifter that was running away from the slower, Mars was moving towards the east away from Saturn. In the middle of November they are  $16^\circ$  apart. Saturn is much slower than Jupiter even and creeps over only a small arc in a year. He entered the constellation Leo in 1888 and only passed out of it about six weeks ago. During that time Mars has been all round the Zodiac once and half way round a second time.

But the slowest of all the planets is Neptune, and this makes it very easy to keep trace of him during the season when he is above the horizon in the evening. This is that season. He is in Taurus, has been there for years, and will be there for several years yet. He is much too faint for the naked eye, and a small opera-glass is hardly strong enough to find him, but is quite strong enough to see him with after you know just where he is. Since writing the last sentence I have seen him with a glass whose full length when focused is less than 4 inches and the diameter of its object-glasses less than  $1\frac{1}{2}$  inch—and the conditions, both terrestrial and celestial, were none of the best. A good field-glass will easily find him in a clear sky when the moon is out of the way. Point your glass at Epsilon Tauri and look east and a little north of that for three small twinklers close together—two of them very close. About the line joining this group with Epsilon—close above it—look for the two or three brightest dots your glass shows—none of them as bright as the three in the group. Note carefully the relative positions of Epsilon, the group and the other two or three. Repeat the operation two or three or four weeks later. If you have done your work well you will find that one of the dots has shifted its position, that it has moved towards the west. That is Neptune.

Jupiter has stopped retrograding and is now slowly moving east. Some observers report having seen all four moons, sometimes with their binoculars, others say they have not yet been able to see one. The latter must have been looking when the moons were all huddled up close to the planet's disc, or their

eyes or their glasses must be very inferior. Let the unsuccessful ones try again on the last three days of November and on December 14, 15, 16,—never mind the full moon on these last days. Any glass that will not show one of Jupiter's moons in a clear sky on these dates must be a wretchedly poor glass.

Mercury is evening star again, but it a very poor season for him. He is very far off, very far south and very faint. The first half of December will be the best time to see him, but it is a poor best. He will then be very close to Venus. A. CAMERON.

Yarmouth, N. S., November 7, 1891.

FOR THE REVIEW.]

#### Knotty Questions.

SIR: At the recent entrance examination to the Provincial Normal School there was a question evolved from the gigantic intellect of the man or woman who sets the geography papers, requiring an accurate knowledge of the location of every mile of railway in the Province.

I have no doubt that the framer of the question could not draw a map placing every railway correctly upon it. Why? Because outside the crown-lands office there is not a map containing them. The school maps are particularly deficient in this respect. How, then, are teachers and pupils to obtain such information? We are all quite familiar with the railways in our own section, and would be able to map them, but those of other sections, while we might know their names and have a general idea of their location, yet it would be impossible to map them. This, of course, refers to short or branch lines and not to trunk lines.

This is only a specimen of many questions that have been given at the Normal School. The questions may not be too difficult, but they are certainly more difficult than a student is led to expect from the published requirements for entrance. What is a worse feature, they seem to be framed more with the idea of showing how knotty a question the framer can give for the chance he has than of exercising the judicious discretion of a skilful examiner.

Yours, etc.,

TEACHER.

#### Winter Trees.

Mrs. M. F. Butts in November St. Nicholas.

Who finds the trees of winter bleak  
Has not the poet's sight,  
They bear gold sunrise fruit at dawn  
And silver stars at night.

All day they prop the lowering clouds,  
No respite do they ask,  
And they in voices deep and wild,  
Like giants at a task.



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

## FOURTEENTH PAPER.

(Supplementary to eleventh paper.)

It is very discouraging, the first part of music teaching, in schools where there has been little or no singing for some terms.

In such cases, as should be done in all classes, begin sufficiently far back to interest the most backward pupil—with the most elementary principles. Draw out and develop the idea of *force* by asking the pupils to distinguish between *loud* and *soft* tones in the teacher's singing, and then illustrate by the singing of the pupils. Next get the pupils to distinguish time in tones, as *long* and *short*. Then deal with a combination of these. Ask the pupils to give a tone

loud and long      loud and short  
soft " ——— soft " ———

It will be a little more difficult to develop the idea of pitch, as *high* and *low*. The keys on a piano may help: The right hand keys give *high* tones, the left hand keys, *low* tones. It is the difference between a squeak and a growl. The tones of a woman's or a child's voice are *high*, those of a man are *low*. Ask children to distinguish *high* and *low* in the teacher's singing and then illustrate in their singing. Next be careful to get the pupils to distinguish *loud* from *high* in pitch. Let the teacher sing lah to key A, with medium force, and then the same tone loud and ask the children which is higher, and in most cases the children will say the last. The confusion may be cleared away by singing a tone, beginning *m* and increasing to *f* in force. If the pupils clearly understand that the teacher has not changed the tone in pitch, then he may begin *softer* and end *louder* and get the pupils to do the same. Next reverse this, begin *loud* and end *soft*, and use lines to represent these ideas of crescendo and diminuendo. A thin line will do for a soft tone, a thick for a loud, a line gradually increasing in thickness for crescendo. Next ask the pupils to give tones.

long	soft	and	high
——	loud	"	——
——	soft	"	low
——	loud	"	——
short	soft	"	high
short	——	"	low
short	loud	"	high
short	——	"	low

The youngest children will be interested in the development of these ideas, and the dullest will be pleased to know that they understand something about music.

Even in these exercises encourage the children to

give the sweetest sounds they can, though the voices be not in tune. However, the teacher will feel that these exercises are bringing the voices more and more into tune.

**Physical and Breathing exercises.** These should be taken standing and where it can be done in single file round the room so that the teacher can pass in front, and quietly, by a sign or word, correct a fault. Give physical exercise, first by pattern and then by number, to awaken and strengthen the muscles of the chest and to put the shoulders and head in right position. These and the breathing exercises will always be useful, even in advanced classes, and will be a good preparation for singing, especially where the pupils have been at desk work, and it is best to take them with fresh air in the room.

Be careful in these and breathing and singing exercises not to tire the pupils or strain weak chests. Breathing is made up of the two parts—inhaling and exhaling. Teach each separately, one at a time, and then combine. In all apply the principle "divide and conquer."

First take a deep breath, through the nostrils, filling the lungs completely to the bottom. When this has been done three or four times, with a few seconds between each effort, next fill the lungs and tell the children to hold the breath while you count 1, 2, 3, M. 60. This may be increased, if carefully done, perhaps to seven seconds the first day and afterwards to fifteen seconds.

Next take a full breath, hold for about two seconds, and then, as teacher lowers his hand, breathe out through the mouth as if whispering to a person at a distance, Hoo. Gradually, from day to day, increase the time taken to exhale. Vary this with breathing out through the nostrils. The time may be increased to about forty-five seconds. Note very carefully that the breath is not to be retained by closing the throat, as some children are so apt to do, and this can be seen by looking into the pupils faces. The breath is to be held in by an action of the will, keeping the muscles of the lower chest from contracting. The delicate muscles of the throat must not have any of this work. This slow breathing out is to prepare for producing sound, which otherwise would be breathy, and even with much of this careful training it will be for some time. Next let the teacher tell the class how to produce a right musical sound, the posture, the mouth well open and the sound striking at the root of the upper teeth. Ask the pupils to open the mouth, where there is difficulty in getting this done the fore-finger and second finger of the left hand, the one above the other, may be put between the teeth at the left side of the mouth.



Let the teacher then give the pattern of a clear, pure, sweet, soft tone to the vowel sound ai, as in maid, and ask the class, when he extends his hand, to give the same sound from his pattern after him. In many schools the teacher will be disappointed to find so many voices out of tune. Let him try again and a third time. Next let him pass round the line and try to help these pupils individually. He may not get four out of twenty to sing in tune even with these efforts. But if he get only four let him go on with these and encourage the children to listen careful. The listening is the difficult part. Sometimes by singing gradually, softer and softer, and asking if they can hear your tone, the teacher may help the class. If they answer yes, you may ask them to try if they have actually heard it. In the first lessons in the most tuneful class there will probably be a few who will sing out of tune. These must only listen till they come to sing in tune for their own sake as well as for the good of the class.

Let the teacher now change to key D and key F.

When the pupils give a clear, pure tone to this vowel sound, let the teacher count 1, 2, 3, 4, 1, 2, 3, 4, and ask the pupils at the second 1 to change the vowel sound to aa (as in father), but with the same breath. The pupils must be careful when the vowel sound changes to keep the sound well forward in the mouth. Next ask the pupils to sing one tone to ai, aa, ee and then to ai, aa, ee, o.

**Mental effects of tones.** Time and labor will be well spent in developing the mental effect of the different tones of the scale. The more skilful the dealing with this point the results will be the greater. The more clearly the pupils perceive the distinguishing effect of the tones they will sing the more accurately in tune. Even very young pupils will more easily produce the sorrowful lah if they understand the effect, because they have felt it, and then try to produce that effect. When a color is placed before the eye the effect may be considered a physical effect, but when two or more colors are brought together the impression may be called a mental effect. A sound may be clear, pure, sweet and musical when heard from an instrument, or the voice and alone. But when heard along with certain other sounds the sound assumes a mental effect, an emotional effect. These mental effects will be found most helpful when we come to teach transition. Transition is explained as a change of mental effect among the tones. The tones assume these mental effects it seems, in virtue of their relative pitch to other tones.

Let the teacher sing to the vowel sound aid, ms to keys C, E, A, and even young pupils will notice the resemblance, — that while they are different in pitch,

those in key C and key A have no tone in common, yet in one respect the children feel that they are the same notes.

Next get the teacher to draw out from the pupils the character of first Doh, the firm, restful, good-ending tone. Younger pupils may be helped by asking which of two or three unlike objects it is likeliest till they feel the firmness, the rock-like character; that it is like a massive stone building, while Soh is more like a light, elegant painted exhibition building; a bright day, water flashing in the sunlight, a children's pic-nic with banners floating; and that Me is like the quiet water, the still lake under the moon; that it is the lullaby, the baby-sleep note. Then let the teacher sing softly and sweetly in key D to the vowel ai, ds and ask the children to copy. Let the teacher pattern very carefully. Give the hand signs for these notes when this can be done and then next the names doh, soh. Next write these on the board, soh above doh, and get them sung when pointed to. After this is done, change the pitch and try it all over again at different keys. Write doh in red and soh in yellow. When this has been well done by the tuneful singers perhaps the other members of the class might be asked to try in order to encourage them, and it may be some of them have come to sing in tune. If so this should be pleasantly and encouragingly noticed by the teacher.

Let these be well sung before Me, the third note of the scale, is tried. JAMES ANDERSON.

Corrections, September number. — Page 80, first column, line 9, read "Lille." Page 80, second column, line 22, read "Hullah." Page 81, first column, line 10 from foot, read Mr. J. S. Curwen.

For the REVIEW.]

#### To Teachers of District No. 10.

For nature lessons for the winter term take up last winter's subject, Physiology, combining with it talks on temperance and health. On alternate days taking advantage of our institute work and the collections you will be able to make while weather permits; have simple talks on minerals, as quartz, granite, sandstone, lime, plaster, iron, coal, etc. Strive to make your oral lessons and every examination of common objects the subject of a composition exercise, taking care to have the pupils write out what they have discovered for themselves.

Foster's Primer of Physiology and Clapp's Observation Lessons on Common Minerals are the books recommended for teacher's use. E. J. LAY,

Amherst.



For the REVIEW.]

**Queens County Institute.**

The Teachers Institute of Queens County met in Gagetown on the 29th October and was in session two days. Miss Mary Tibbets was elected President; Mr. Chas. Strong, Vice-President, and Mrs. Cox, Secretary-Treasurer. Miss Mary Simpson and Mr. J. W. Fowler were elected as members of the Executive. Owing to the severe weather not more than 30 per cent. of the teachers in the county were enrolled.

Through some misunderstanding several papers which had been promised were not forthcoming.

Miss Tibbets read a paper on "Composition in the Common Schools," which was followed by a discussion.

The younger teachers present derived much profit from an informal discussion of some of the difficulties in teaching, particularly those which arise in the moral training of pupils.

Inspector Whelpley was present on both days and did much to forward the work of the Institute.

It was decided that the Institute hold its next meeting at Gagetown the second week in June, 1882.

For the REVIEW.]

**Kindergarten Methods in Primary Schools.****NINTH PAPER.**

The ninth gift consists of steel rings of different sizes. The sticks of the eighth gift represent edges of flat surfaces of planes and cubes, while the rings represent round edges of the cylinder, or the periphery of the ball or sphere. Whole rings and halves, one, two and three inches in diameter, are used. A story about miners, mines, iron, steel, etc., must be the introduction here. One whole ring is given at first, then two halves, and the half is compared with the straight stick. Absence of angles is noticed as we proceed, and parallel lines come in easily when we use rings of different sizes. Hundreds of pretty forms are laid with these rings and also with the combination of sticks and rings. The imagination is exercised at every point in giving names to the outlines made.

Tenth gift.—From the body to the plane (tablets) to the line (sticks and rings) we come to the point. Seeds, shells, small pebbles, even sawdust and sand are used. Seeds, if taken, are introduced singly and then in numbers and are laid on the desk as the teacher dictates to form outlines of objects.

The point was visible to the teacher in all the gifts, but now it is the subject of the work.

"The work of the kindergarten, excepting the play and games, is divided into gift-lessons and occupations. The gifts are used, by means of a series of lessons, to

give the child mental and manual discipline. After each lesson they are returned to their original form and are kept among the other materials in the kindergarten. The occupations, on the other hand, as the epitomized industries of the world, are elements, which are to be combined into wholes by the child and carried home as his own property.

"The question often arises, Why are the gifts so called? Frœbel studied growth in the natural world as symbolical of growth in the physical, mental and spiritual worlds. He said that everything on the earth is the gift of God, to be used as a means to reveal man to himself, to reveal God to man, and to prepare for the fuller life to come. A few simple forms he selected as typical of these gifts in nature and called them 'the gifts.' These he used as the starting point of the child's education. These gifts are ten in number, beginning with the ball and concluding with any small seed used to represent the point." D.

For the REVIEW.]

**Primary Department.****INTERIOR OF A CLANS-ROOM.**

$$2 + 1 = 3$$

Last week I had the pleasure of visiting Chauncy Hall, and, thinking that the readers of the REVIEW might be interested in a brief sketch of the elementary work of that famous school, I spent the greater part of the morning in the primary and kindergarten departments.

As the decoration and arrangement of a room serve as an index to the character of its occupants, I shall first describe briefly the interior of the grade 1 department.

Imagine a large room bright with sunlight, flowers and childish faces, ivy-wreathed windows with quivering leaf-shadows forming changing pictures on the well-worn floor and intercepting the mellow-light falling softly on another picture, the grandest of all subjects for a school-room, "Christ Blessing Little Children. One can readily imagine a restless, fractious child yielding to the gentle influence of that sublime subject. Along the upper part of the wall, above the blackboard surface (extending around



the room) were fine engravings of children's heads, groups of sheep, cows, horses, deer, squirrels, rabbits and homely barn-yard pets. A portrait of Agassiz occupied a conspicuous place on the front wall and a statue of Charles Sumner adorned a sunny nook in the rear. A large glass case in a side window accommodated two young alligators, brought from the south by a pupil, and an aquarium decorated a table in the middle of the room. A rubber tree, fifteen years old, rose to the raftered ceiling and formed the shade and centre-piece of an indoor garden, a circle of geraniums forming the border, the whole space taken up not exceeding three feet in diameter. Along the moulding below the blackboards were long, narrow tablets hinged to the wall and covered with specimens of the children's work in clay, carefully-modelled hand, stiles, flowers, fruits, shoes, potted plants, dishes, spoons, conch shells and many other articles, showing what they can do in this line. In the left-rear corner of the room an old-fashioned fireplace gave impression of comfort, and, at the same time, furnished an idea of the little people's work in paper-pasting—the row of "make believe" tiles decorating the hearth, having been prepared and arranged by them from their teacher's dictation. On the mantel were more designs worked out in clay, the whole forming an admirable exhibit.

One very interesting feature (and one that should be found in every primary room) was the reading table, shaped like a horse-shoe, little chairs being placed within the arch. Many of the standard works of juvenile literature lay on the cover, the greater number of the books were national in character. Two little lads were poring over an illustrated copy of *Heroes of Our War*, and, in answer to the writer's question, volunteered this information: "When you do your work well you may come up here to read while the other fellows get through." (Some of the other "fellows" were girls). No wonder that the Americans are so patriotic! Grade 1 children interested in heroes of our war, while their elder brothers and sisters in the upper hall raised their eyes from their collegiate studies to rest them on a mural tablet inscribed with the names of former graduates who had fallen in the same war—twenty-nine names offering their eloquent, though silent testimony, to love of country.

Another distinct feature of this school, and possibly the basis of its success, is the liberty of speech and action accorded to the pupils, the patter of feet and hum of voices make known the presence of children as soon as the door is opened. "We allow them all the freedom consistent with courtesy to each other and to their teachers; it establishes a kindly

feeling," said Miss Smith as a little girl skipped to her place at a rate of speed that would have stricken dumb with wrath one of those military martinets found masquerading as teachers.

The class-work was very interesting. The phonic method of teaching singing is employed, the words being first sounded and then written on the board, the children point them out as in our method, but use writing instead of print to reproduce them; print is considered a waste of time.

The assistant teacher gave a lesson in number, butterflies and daisies being the mediums through which she impressed the commonplace facts that the two and one are three, three less two are one. The four rules are taken together as far as possible, the signs and numbers drilled upon and the result of the lesson formulated in *figures, no strokes*. Groups of dots were placed on the board and instantly erased to test the child's perceptive power of estimating numbers without counting.

The kindergarten notes must be reserved for another paper, there was so much to interest and admire in the work and surroundings of those tiny tots instructed by Miss Wheelock, famous all over the continent for her skill as a kindergarten teacher.



1 2 3 4

For the REVIEW.]

### Programme of a Teachers' Institute.

UNDER TWO INSTRUCTORS.

#### FIRST DAY, forenoon—

Botany, Study of Buttercup and Use of Key.  
Music, Tonic Sol-fa.  
Mineralogy, Granite and Constituents.

#### FIRST DAY, afternoon—

General talk on course of study and work of school-room.  
Botany, Study of Rose Family.  
Music.  
Entomology, Housefly and Insect Changes.

#### FIRST DAY, evening—

Talk on Returns and Register Keeping, and Tonic Sol-fa.

#### SECOND DAY, forenoon—

Music.  
Botany, the Pulse Family.  
Entomology, the May Beetle or Potato Bug.

#### SECOND DAY, afternoon—

Mineralogy, Lime, their different forms and uses and Plaster.

Music.

Entomology, the Grasshopper.

Excursion, which may consist of a walk to some point of interest, or a boat-sail or a drive.



*SECOND DAY, evening—*

Public meeting, speeches, music, and, perhaps, discussion on some educational matters.

*THIRD DAY, forenoon—*

Botany, Compositæ.  
Music.

Entomology, Currant, Worm and other Insects destructive to fruit.

*THIRD DAY, afternoon—*

Botany, Ferns  
Mineralogy, the Iron Ores.  
Music.

There should be a separate teacher for music and an endeavor made to send teachers home prepared to give instruction in tonic sol-fa. In botany, class supplied with specimens, and not only those specimens studied, but every effort used to furnish simple object-lessons for the school-room.

In mineralogy, every teacher with specimens in desk, testing for hardness, streak, etc. Same application of lesson as in botany. In entomology, insects in teachers' hands and thoroughly examined. How these lessons may be made use of in school-room. Excursion made use of to collect specimens and apply knowledge already gained.

Public meeting, speeches from among the people of the village and the teachers; illustration of tonic sol-fa and singing by choir or playing by band. Questions asked and answered. AMHERST.

For the REVIEW.]

#### Would-be Grammar School Teachers.

SIR: I believe it has been proposed, and more than once, that teachers should be allowed to pass the examination for grammar school license in parts. The object surely is that they shall get the further knowledge implied in succeeding at that examination, and the higher certificate fitting them to take higher positions; the examination is surely but a means to an end. Now, if many, or if even few, teachers would find in an examination thus divided the necessary spur to prepare themselves for it, and if their present work prevents them from preparing for the examination as at present arranged, is there not a piece of needless tyranny in our system?

However, what I have said above has been said before. What I wished to call attention to was this: That in Trinity College, Dublin, such a division of examination is allowed in the case of the degree for Bachelor of Divinity. There is now a long course for this examination; but since, candidates for it are allowed to divide the examination into as many as six parts, presenting themselves for examination as many as six times. I have been assured by high authority that this relief is much appreciated, and in

the best sense; it has been a change in favor of good learning, and has helped many to continue in habits of reading.

Do your readers know of any other instance for our study of comparative emancipation?

University of New Brunswick.

W. F. STOCKLEY.

#### The Truro Kindergarten.

We publish the following open letter to the Town Council of Truro from the President of the Fröbel Institute of Nova Scotia, because it called attention to many points which may be suggestive to other towns which may have as yet done nothing to keep abreast of the times in this department of public education. Truro people, assisted by persons taking a provincial range of interest in education, contributed first to the support of a kindergarten in connection with the public school system. Halifax and Dartmouth have since, and in a very short time, made a very great advance on what Truro had hitherto attempted. This letter, already published in the *Colchester Sun*, will give the public a very good idea of these matters generally.

GENTLEMEN: It will be remembered, by at least some of you, that in the summer of 1887, after the formation of the "Kindergarten Committee," which undertook to organize a kindergarten in the town of Truro, one of the first official acts of that committee was to appoint a deputation consisting of Rev. Mr. Cumming and Mrs. Hinkle Condon, President of the Fröbel Institute of Nova Scotia, to visit the Town Council and urge upon them the advisability of contributing, from the funds of the town, towards the support of the projected kindergarten. Dr. Muir, the Mayor, to whose business ability and tact the committee, of which he was chairman, owe so much, secured a hearing for the deputation, who then presented the claims of the kindergarten to pecuniary support from the funds of the town. In support of their claim they urged that two important points had been established in St. Louis and in Philadelphia, where the experiment had been fairly tried: First, that Fröbel's system, the kindergarten, was the beginning and foundation of all true educational work; secondly, that the experiment of engrafting the kindergarten upon the common school system of those two cities (famous educational centres) had proved a splendid success.

It was objected by some members of the council that, although, personally, they should be willing to vote a sum for its support, it was the opinion of their legal adviser, Mr. Recorder Laurence, that they were unable to do so without violating the law. But the council passed two resolutions, one endorsing the kindergarten as a system of training and instruction; another, the second, pledging themselves, should the time arrive when they could legally assist it from the funds of the corporation, to do so. The amendment to the school law, which allows any city or town, with the consent of the Council of Public Instruction, to assess itself for the schooling of children under five years of age, now enables the municipal authorities of Truro to extend a helping hand to



the Truro Model Kindergarten, which the committee has now, regardless of cost, sustained handsomely for four years.

The government grant which it secured in its second year has been repaid, many times over, in the admirable object lessons this model kindergarten has afforded to the pupil-teachers attending the normal school. But this kindergarten now occupies an anomalous position, for, while it is affiliated with the normal school, it is still a private enterprise, since it is principally supported by fees and contributions from those who believe in Fröbel's system. Then let public acknowledgment be made to a few of the generous individuals without whose support, moral and financial, the enterprise must have failed. \* \* \* The only way in which the people of Truro can acknowledge the debt of gratitude they owe is by realizing the ideal ever before these friends of the kindergarten *from the very first*, viz., that of making it an organic part of the common school system of the town. \* \* \* They will now have an opportunity of taking over the kindergarten and making it an integral part of their admirable common school system. The committee will, no doubt, gladly make over the furniture and material, which are in fine order. Mrs. Patterson, who is carrying on the work with marked ability, will, holding a license as she does, draw a sum which will be a substantial help, and the quarters in the normal school would, of course, remain undisturbed, while the large number of pupil-teachers that profit by observing its methods in training and instruction, will ensure that the government grant shall not only be continued but probably even increased.

Yours obediently,

CATH. M. CONDON,  
President Fröbel Institute.

#### Patience With Learners.

School is not only "an institution for learning" for the pupil, but for the teacher as well, if he is a teacher in the true sense of the word.

Nothing is more common than impatience upon the part of the instructor with what he is pleased to consider the dulness or stupidity of some of his pupils. The simple fact which he has plainly and emphatically stated nineteen times must be said for the twentieth and the twenty-ninth as plainly and emphatically as if the pupil were told it for the first time. The scriptural "seventy times seven" is not a metaphorical, but a literal necessity in nearly every line of instruction, and in nearly every school-room in the country. Teachers live in a state of chronic wonder—and often exasperation—at this constant necessity, and find it hard to believe that anything but native dulness, indifference, or inattention is responsible for such a condition of things.

Let the teacher try an experiment, setting himself to the task of learning some new thing with which he is entirely unfamiliar; say, for instance, the French language. Assume that he has a great desire to learn it, and as rapidly as possible. He pays a fair price to his teacher, and is anxious, even as a matter

of pride only, to do his very best at every lesson. There is faithful work on the part of the teacher; there is no stupidity, indifference or inattention on the part of the pupil; yet even under these conditions he will repeatedly make mistakes at which he himself wonders, for which he can find no excuse, and which the teacher has corrected over and over again. The person whose experience in study does not prove this statement to be a true one, is an exception to the general rule, and such an experience will do more than anything else to show the adult mind how necessary and inevitable is the "line upon line, precept upon precept" policy in all departments of instruction and even under the most favorable conditions. "Put your yourself in his place" is an admirable watchword for the impatient teacher. If he will do this literally he will be doubtless surprised to learn the extent of his own stupidity, and be inclined to make allowances for the dulness of the youthful and uninterested mind which otherwise he would be quick to censure. The experience will tend also to lighten in some measure the weight of discouragement which too surely oppress him, and which cannot fail to react upon the mind of the pupil.

That "the teacher should also be a learner" is true, not only in the generic sense in which the words are often used, but because in no way can he so perfectly understand the difficulties which lie in the learner's way as to become a student himself.—*The Teacher.*

#### Do You Pronounce Correctly?

A company of very dull people were one day housed under the same roof. It was raining. There was only one room in this small country hotel, and the travellers were gathered in it, weather-bound, irritable and uncongenial. The only newspaper to be had was absorbed by a school-girl. Hidden behind its high pages, she did not see the envious gaze of the old gentleman, or the cross glances of a young man, nor did she hear the nervous finger-tapping of her own relative, Mrs. Marten.

"Oh, aunt," suddenly said the fair reader, "how do you pronounce s-q-u-a-l-o-r?"

The reply was considered unsatisfactory by the old gentleman. He put in a word, and was reinforced by the younger man. They said it must be pronounced sqa-lor with the a long. The school-teacher pulled a small pronouncing dictionary from a jacket pocket, and looked up the word.

"It is sqa-lor," she said. "But it is easy to confuse this with squalid, which is pronounced squal-id."



"How is idyl pronounced in your book?" asked Mrs. Marten. "I have heard it two different ways, and would like to know which is right."

When the school-teacher had settled Mrs. Marten's word as being correct with either i-dyl or id-yl, the young man asked:

"How about exquisite? Some one told me it was out of date to say exquis-ite."

This was reported by the school-teacher to be pronounced ex-quisite, accenting the first syllable.

"When I was a boy," said the old gentleman, "we used to be taught to say 'hurth' (hearth), but now I hear that it is 'harth,'"

"Oh, yes," replied the school-teacher, "and gaunt and haunt are very different now from the old-style 'gant' and 'hant.'"

Some other words that came up for discussion and were turned over to the school-teacher for verification of their pronunciation were ex-plic-a-ble, accenting the first syllable; Fahrenheit (pronounced Fah-ren-hite); falcon, faw-kn; flo-rist, which is often called flor-ist by mistake.

The dinner bell rang and rang again before it received any attention, and the party adjourned from the impromptu discussion.—*Treasure Trove.*

#### N. S. County Academy Entrance Examinations, 1891.

##### ARITHMETIC AND ALGEBRA.

WEDNESDAY, Oct. 28th, 10 A. M.—12 M.

1. From 78947642 take 69469884, multiply the remainder by 789 and divide the product by 263. (No value will be given for this question unless all the work is correctly done).
2. What is the length of the longest string that will exactly measure four roads, 856, 636, 676 and 2386 ft. long respectively?
3. Define Numerator, Denominator, Mixed Number, and add together 3-5 of a ton, 7-8 of a cwt., 2-5 of a qr., 3-32 of a lb. and 1-4 of an oz.
4. Divide .2 by .06 and 6.35 by .425 each to 4 places of decimals and prove the truth of each result by vulgar fractions.
5. Define Interest, Principal, Amount, Discount. A man is offered a house for \$4,800 cash, or for \$5,250 payable in 2½ years without interest; which is the more profitable, and how much, money being worth 8 per cent.?
6. I sold a horse for \$120.75 and gained 15 per cent., what would have been my gain or loss if I had sold him for \$90?
7. If one pound of tea be equal in value to 50 oranges, and 70 oranges be worth 84 lemons, what is the value of 3 lbs of tea when a lemon is worth 3 cents?
8. How many houses, each with a frontage of 10 yds. 2 ft., can be built on a terrace 752 yds 2 ft. in length, allowing for a roadway at each end of 14 ft., and a space of 7 ft. 5 in. between every two houses?
9. Write the principal signs used in Algebra, and explain the significance of each; subtract  $-3-y^2+2x^2$  from  $x^2-y^2$ .

10. Divide the product of  $x^2+2xy+y$  and  $a+b$ , by  $x+y$ .

11. If  $a=4, b=3, c=1, d=6, e=5$ , find the value of:

$$\frac{a-b}{c} + \frac{d-b}{b} - \frac{a+d}{e}$$

##### GRAMMAR.

WEDNESDAY, Oct. 28th, 2—3.30, P. M.

1. Define Number, Gender, Comparison, Mood, Tense, Participle, Gerund.
2. Give the two plural forms of each of the following nouns, explaining the difference of meaning in each case: *brother, penny, die, index, genius, cloth.*
3. Give the general classification of the Pronouns; name the Relative Pronouns and give sentences illustrating the use of each.
4. Write in full the three past tenses of the Indicative Mood, Passive Voice of, the verb *take*; and give the principal parts of — *cast, swell, fight, flee, thrive, fly, buy, flow, ring*, classifying them as weak or strong.
5. Correct where necessary the following sentences: You hadn't ought to have asked that question. He told you and I to stay. Will you be at home this evening? No, I will be at home to-morrow night. Each of the boys have another chance. Who do you think it could have been? He lay so long we thought him dead. Here are a black and blue ball, make your choice.
6. Define Subjective Complement, and state of what it may consist.
7. Parse and analyze the following:  
The king perceived the enemy's fleet—the sole object of dread—sail slowly out of sight.

##### GEOGRAPHY.

THURSDAY, Oct. 29th, 9—10.30 A. M.

1. Name the chief minerals of Nova Scotia, and the counties in which each is found.
2. A schooner sails from Halifax to Behring Sea. Describe her voyage (1) as to the direction in which she sails, (2) the countries, capes and islands near which she will pass, (3) the trade in which she will probably be engaged.
3. Trace the following rivers from their source to their mouth, naming the chief cities on each, and the water into which each empties, St. John, St. Lawrence, Ottawa, Hudson, Fraser and Thames.
4. Name the principal forms of existing governments, giving an example of each. Name the chief river systems of North America.
5. Give the names and situation of the great lakes of the world.
6. Where and what are the following: Rhine, Glasgow, Canary, Ceylon, Apennines, Volga, Bremen, Nile, Tibet, Sacramento, Tasmania, Cheviot, Harbor Grace, Saguenay, Winnipeg, Escuminac, Margaree, Wallace.
7. Write a short description of the surface, climate and industries of Scotland and Ireland.
8. Write a note on any one of the following: New England States, China, Germany, Chili or South Africa.  
Draw an outline map of Asia, marking the chief rivers and mountain ranges.



## USEFUL KNOWLEDGE.

THURSDAY, Oct. 29th, 10.45 A. M.—12 M.

*(Ten questions will be considered a perfect paper.)*

1. What are the bones made of? How do the bones of children differ from those of old people?
2. What changes do we make in our clothing as winter approaches, and why?
3. What are muscles, and how are they fastened to the bones?
4. Describe the mariner's compass, and tell to what useful purposes it may be devoted.
5. At what time of the day is the temperature highest? What reason can you give for this?
6. Why do we heat the bolts and rivets used in putting together the parts of iron bridges and boilers? State any other examples of this kind.
7. Why does ice form at the top and not at the bottom of a pond or stream? State what would likely be the result if the ice should begin to form at the bottom.
8. Give a description of a quill feather taken from a goose, naming its different parts.
9. Tell what you know of the habits of any two of the following: Bee, Spider, Ant, Beetle, House-fly.
10. Compare the movement of the horse and cow. In what order are the horse's feet placed in trotting? in pacing? in galloping?
11. What is meant by a warm-blooded animal as distinguished from a cold-blooded one? Give examples of each.
12. Give your reasons why you should abstain from the use of alcoholic drinks.
13. What is an Amphibian? Name those found in this country.
14. Name the animals found in Canada belonging to the following orders; *Carnivora*, *Rodentia*, *Ungulata*.
15. Write a short note on any one of the following: Hydrogen, Carbon, Sulphur.
16. Describe as fully as you can how *Salt* is obtained.

## BRITISH AND CANADIAN HISTORY.

THURSDAY, Oct. 29th, 2—3.30 P. M.

1. Give an account of any two of the following: The defeat of the Spanish Armada; The Jacobite Rebellion of 1745; The Field of the Cloth of Gold; Catholic Emancipation; Repeal of the Corn Laws.
2. For what were the following personages celebrated: Sir Walter Raleigh, Oliver Cromwell, Warren Hastings, Daniel O'Connell, Lord Clyde.
3. Mention the chief events in the reign of (1) Stephen; (2) Henry VII; (3) James I; (4) Victoria.
4. Name the Sovereigns of the House of Tudor, giving the dates of their accession, and trace the descent of James II from Henry VII.
5. Describe briefly (1) The Ashburton Treaty, (2) the Reciprocity Treaty, (3) The Washington Treaty.
6. Write brief notes on any three of the following: De la Roche, DeMonts, Claude de la Tour, de la Salle, Joseph Howe, Thos. C. Haliburton, S. G. W. Archibald.
7. Locate Beausejour and Beaubassin, giving their present names, and describe the capture of the former.

A good deed is never lost; he who sows courtesy, reaps friendship; and he who plants kindness gathers love.

## EDUCATIONAL OPINION.

The other day the Acton, England, school-board asked its officer why a certain gentleman's children did not attend the board school. The officer replied that he had done his best to induce the gentleman to send his children to Acton school, but that the gentleman wouldn't. "Then why don't you serve him with a summons or a notice, or whatever will meet the case?" asked the board. "Because," replied the officer, "the gentleman's bed is so placed that only his legs are in Acton, and I can't very well serve summonses upon a man's legs. His head is in Hammersmith, so that whenever I appear he has only to pull up his legs, and he is no longer in Acton at all.—*Chicago Herald*.

Dr. Thomas Hill has been for fifty years a student of the American school system, and now in the maturity of his years his conclusions are: first, there is too much rigidity in the graded system; second, teachers make a mistake of beginning the training of the reason too early; and third, the schools confound the true order of development, and attempt to make the human plant bear seed before it has borne flowers and almost before it has budded.

Years ago when a government in Nova Scotia was on the look-out for a superintendent, they had the courage to select a gentleman whose sympathies were with the opposition; but that government never had the slightest ground for regretting the selection it had made. It required moral courage to make the selection; but who does not in his heart of hearts admire the moral courage which leads to doing the right thing?—*Halifax Presbyterian Witness*.

By degrees our educational system is awakening to a sense of corporate unity. Twenty years ago we took the control of the education of this province out of the hands of private individuals. Slowly we are beginning to see that the provincial university is part of our provincial and undenominational system of education. The province injures itself as well as the university by not fully realizing that the institution is a provincial one. Its true position will be rendered clearer if the government carry out the intentions expressed in last year's University Bill and make the Superintendent of Education as responsible for the university as for the rest of the provincial school system.—*St. John Globe*.

For one authentic case of permanent injury to the health of a school-boy or girl from too much mental exercise, there are twenty examples of scholars who suffer from idleness or inaction.—*J. G. Fitch*.



## SCHOOL AND COLLEGE.

The Truro Academy issues a handsome catalogue of seven or eight pages. The staff is given as follows: W. R. Campbell, B. A., Principal and Master of Classics; James Little, Esq., Mathematics and Physics; G. A. Cogswell, B. A., English and History; (Not yet appointed), Music and Elocution.

Three new instructors have been appointed to Halifax Academy, viz., Herr Lothair Bober, Instructor in German, Monsieur Victor Plotton, in French, and Miss Hills, of the Victoria School of Art and Design, in Drawing.

William McIsaac, Esq., has been appointed Inspector of Schools for Antigonish and Guysborough counties in place of Professor A. G. McDonald, M. A., who has been appointed to the Provincial Normal School at Truro.

The enrolment in the General Protestant Academy, St. John's, Nfld., under Principal Soloan, is one hundred and forty. The institution has made a fine advance under the new regime.

John Taylor, manager of the cotton factory, Halifax, was fined \$10 last month, for engaging a boy under 14 years of age. Agnes Ford was also fined \$5.00 and reprimanded for giving an untrue age of her son to a truant officer in order to circumvent the Compulsory Attendance Act. The Act has become law in the city of Halifax, it will thus be seen.

Miss Lizzie G. Roulston of Second Falls, Charlotte County, N. B., has taken the school at Elmsville, St. Patrick, and entered upon her duties 1st of November.

Mr. D. P. Chisholm has been transferred to one of the departments of the St. John Grammar School.

Miss Helen Galt of Campbellton has been appointed to succeed Miss Ross of the Model School, Fredericton, recently resigned and—married.

The Rev. Dr. J. C. Titcombe has been elected a trustee of Fairville. He has a fine field for interesting himself in school matters. There should be better school accommodations in Fairville than there are at present.

Attention is directed to the advertisement of the Ontario Business College, Belleville, Ont., now in its 23rd year. The teachers who have graduated from this institution have achieved great success. Its students are drawn from all sections of the continent, and from the West Indies. One of its principals, Mr. J. W. Johnston, F. C. A., is this year first vice-president of the Institute of chartered accountants of Ontario.

N. C. James, B. A., of the Halifax Academy, was presented with an address and souvenir on the eve of his departure for Germany, whither he goes to spend a year in the study of European languages and literature.

Miss Diiblee of the St. Stephen school staff has been granted a six months' leave of absence on account of ill health.

Inspector D. P. Wetmore has gone to Boston in the interest of his health, which has greatly improved during the summer. He hopes on his return in a few weeks to be quite himself again.

The schools at Beaver Harbor, Charlotte County, will remain closed until after Christmas vacation on account of sickness among the children.

There is quite a noticeable movement among the teachers of the gentler sex in Charlotte. One was married at Oak Bay the other day; another, it is said, will be married at the same place this week; and still another, living in the vicinity of Moore's Mills, will, before Christmas, take on herself the matrimonial bonds. It is a great thing to be a female school teacher, but a greater to be one of these in Charlotte.—*Courier*.

Come, come, Mr. *Courier*, be easy. You will soon have all the female teachers in the Province seeking positions in Charlotte County.

The sixth annual closing of the Provincial School of Agriculture at Truro took place October 23rd. From the large number present and the interest manifested throughout the programme, it is evident that scientific farming is fast gaining ground in the eyes of our farmers. The papers, five in number, which were prepared by the graduating students, were explicit and thorough in detail. Professor W. H. Smith, principal, then presented teachers' diplomas to Messrs D. McNeil, and W. O. Creighton; and farmers diplomas to Messrs. Simmons, Trueman and Ancient. The two former receive prizes of \$50 each. Dr. Lawson, of Halifax, Secretary of Agriculture for the Province, spoke in glowing terms of the work being done by this college, but he felt that as yet it was comparatively weak to the strength it shall acquire. It will soon be as important an institution as the normal school. At the last session of the Legislature \$9,000 was voted for the erection of a school on the farm, which will be built at an early date.

Not to be behind the other schools in the parish of Westfield, Miss Rene Kirk, of Land's End, has, with the assistance of her pupils and others, raised a sufficient sum of money to greatly improve the interior of her school-room and purchase some apparatus.

Miss Stella Payson, teacher at Millidgeville, St. John, has, by means of a school concert, been able to purchase about fifty volumes to start a school library. The books have been well selected and are very well adapted to the capacity of all the grades. There is no book in the library that a pupil would not be eager to read and none that might not be read with profit. In respect of this class of library Millidgeville is in advance of the other schools in St. John.

Miss Jessie Sutherland has been engaged by the Trustees of Chocolate Cove, Deer Island.

Fourteen of the twenty-nine candidates who took the Yarmouth Academy entrance examination were successful.

There is a very successful private kindergarten in Yarmouth, N. S., under the direction of Miss Notting.



The grammar school library has been presented with a copy of Hannay's History of Acadia by Chief Superintendent Inch. The gift is highly appreciated.—*St. Andrews Beacon*.

C. E. McMillan, B. A. (Dal.), has been appointed principal of the Hawkesbury schools, Cape Breton.

New Glasgow high schools is now placed on a level with Pictou and other academies, a certificate from which will entitle the holder to entrance into Dalhousie College without further examination. To Principal E. MacKay, B. A. (Dal.), our hard-working, energetic and scholarly principal is this splendid position due.—*Enterprise*.

### QUESTION DEPARTMENT.

I. We give the following solution of No. 3, October, by D. R. Boyle, West Arichat:

$$\begin{aligned} & \left. \begin{array}{l} x^2 \times y^4 = 0 \\ x \times y^2 = 22 \end{array} \right\} \quad (1) \\ (1) \ x \ y = & \quad x^2 y = x + y^2 = 40y \quad (2) \\ (3) - (2) = & \quad x^2 y - x = 40y - 22 \quad (3) \\ (4) + 4(1) = & \quad x^2 y \times 4x^2 - x = 36y + 138 \quad (4) \\ (5) \text{ Resolved} = & \quad x^2 - \frac{x}{y+4} = \frac{36y+138}{y+4} \quad (5) \\ (6) \text{ Comp. sqrs.} = & \quad x^2 - \frac{x}{y+4} + \frac{1}{4(y+4)^2} = \frac{144y^2+1138y+2209}{4(y+4)^2} \quad (6) \\ (7) \text{ Ext. roots} = & \quad x - \frac{1}{2(y \times 4)} = \frac{12y+47}{2(y \times 4)} \quad (7) \\ (8) \text{ Transposed} = & \quad x = \frac{12y \times 48}{2(y \times 4)} = 6 \quad (8) \\ (9) & \quad \therefore x = 6 \quad (9) \end{aligned}$$

[NOTE.—Such methods require the exercise of more mathematical ingenuity than the general method outlined in our last number. The formation of the desired equation (5) as in the above, in such a problem, for instances, as "Given  $x^2 + 1y = 23$  and  $3x + 5y^2 = 29$ , find the integral roots," is a much more difficult feat than finding a linear factor of a polynome of the fourth degree. (See articles on factoring in Maclellan's Hand Book of Algebra for teachers.) The science of algebraic factors is one of the most extensive, useful and purely mathematical departments of algebra, specially useful in the investigation of the higher equations. But for the solution of quadratics, or equations of a higher degree which may happen to be reducible to quadratic forms nothing beyond the completing of a binomial squared is required. But in such problems as the above this not always easily done.—ED.]

2. H. K.—What is meant by "find all the roots of the equation  $x^3=1$ ."

ANS.—This is an equation of the third degree, and therefore, three values of  $x$  will satisfy the equation.

Solution:

$$\begin{aligned} (1) \text{ Trans.}, & \quad x^3 - 1 = 0 \quad (2) \\ (2) \text{ Factored.}, & \quad (x-1)(x^2+x+1) = 0 \quad (3) \\ (3) \div (x^2+x+1) & \quad x-1 = 0 \quad (4) \\ (4) \text{ Trans.}, & \quad x = 1 \text{ 1st ans.} \quad (5) \\ (3) \div (x-1) & \quad x^2+x+1 = 0 \quad (6) \\ (6) \text{ Trans.}, & \quad x^2+x = -1 \quad (7) \\ (7) \text{ Square completed,} & \quad x^2+x \times \left(\frac{1}{2}\right)^2 = -1 \times \frac{1}{4} = -\frac{5}{4} \quad (8) \\ (8) \sqrt{\text{extracted}}, & \quad x + \frac{1}{2} = \pm \frac{\sqrt{-3}}{2} \quad (9) \\ (9) \text{ Trans.}, & \quad x = -\frac{1}{2} \pm \frac{\sqrt{-3}}{2} \text{ (2nd \& 3rd ans.)} \quad (10) \end{aligned}$$

That is,  $1^3 = 1$ ,  $\left(-\frac{1}{2} + \frac{\sqrt{-3}}{2}\right)^3 = 1$  &  $\left(-\frac{1}{2} - \frac{\sqrt{-3}}{2}\right)^3 = 1$  which can be proved by actually cubing the complex members.

The equation reformed from its roots is, therefore, as follows:

$$(x-1)\left(x + \frac{1}{2} - \frac{\sqrt{-3}}{2}\right)\left(x + \frac{1}{2} + \frac{\sqrt{-3}}{2}\right) = 1$$

3. "Please answer question 2 in grammar paper for grade B in 1891, and also No. 4; also the analysis of sentence beginning, 'Mary! I want a lyre with other strings,' and the last question in arithmetic, 'some examination. . . .'"

ANTAGONISH.

ANS.—The following are the grammar and analysis questions:

2. (1) Mention some strong verbs in which the *a* of the past participle has dropped off; some in which the past tense has come to be used as the past participle; and some which have two forms of the past tense. (2) Selecting any weak and strong verb you choose, give all the simple forms assumed by each in conjugation.

4. Explain and illustrate the absolute use of the participle.

2. Give general and detailed analysis of:

"Mary! I want a lyre with other strings,  
Such aid from heaven as some have feigned they drew,  
An eloquence scarce given to mortals, new  
And undebased by praise of meaner things,  
That ere through age or woe I shed my wings,  
I may record thy worth with honour due,  
In verse as musical as thou art true  
And that immortalizes whom it sings."

GRAMMAR.

2. (1). (a) Come, drink, ring, sing, spring, stink, swim.

(b) Abide, shine, awake, stand, sit.

(c) Begin, drink, ring, sing, sink, spin, shrink, spring, strike, swim.

(2) Talk, talkest, talks, talked, talkedst, talking. Write, writest, writes, wrote, wrotest, writing, written.

4. In Anglo-Saxon some verbs were used without a subject, to affirm simply the taking place of an action. Participles are now used in just the same way. (See gr. p. 105.) Some participles of transi-



tive verbs have, by frequent use in this way, come to be looked on as prepositions, as "Concerning this matter, I am blameless." Here "concerning" is really an active participle substituted for the passive, and the expression is equivalent to "This matter being concerned."

ANALYSIS.

A. "Mary! I want a lyre with other strings, such aids from heaven, an eloquence scarce given to mortals, new and undebased by praise of meaner things— principal clause.

1 a<sup>1</sup>. As (=which) they drew.

Adj. subord. qualifying "aid."

1 a<sup>2</sup>. (According as) some have feigned.

Adv. subord. of lim. and prop., qualifying "drew."

2 a<sup>1</sup>. That I may record thy worth with honor due in verse.

Adv. subord. of manner, effect, qualifying "want."

2 a<sup>2</sup>. Ere through age or woe I shed my wings.

Adv. subord. of time, qualifying "record."

3 a<sup>2</sup>. (Which is) as musical.

Adj. subord., qualifying "verse."

1 a<sup>3</sup>. As thou art true.

Adv. subord. of manner, comparison, qualifying "musical."

4 a<sup>2</sup>. And that immortalizes (the person.)

Adj. subord., qualifying "verse."

2 a<sup>3</sup>. Whom it sings.

Adj. subord. qualifying the antecedent "person" (*und.*)

"Last question" in arithmetic paper:

"6. A man bought a farm for \$4,500, and agreed to pay principal and interest in four equal annual payments; how much was the annual payment, money being worth 6 per cent.?"

The present worth (at compound interest) of each \$1 in each annual payment, one year, two years, three years, and four years respectively, from the date of purchase are:

$$\frac{\$1}{1.06} \quad \frac{\$1}{(1.06)^2} \quad \frac{\$1}{(1.06)^3} \quad \text{and} \quad \frac{\$1}{(1.06)^4}$$

The present worth of the \$4 of annual payments is

$$\$ \left\{ \frac{1}{(1.06)} + \frac{1}{(1.06)^2} + \frac{1}{(1.06)^3} + \frac{1}{(1.06)^4} \right\}$$

But, as the present worth of 4 equal one dollar payments is to a one dollar payment, so is the present worth of the 4 equal annual payments, to one annual payment. That is,

$$\left\{ \frac{1}{1.06} + \frac{1}{1.06^2} + \frac{1}{1.06^3} + \frac{1}{10.4^4} \right\} : \$1 :: \$4500 :$$

$$\therefore \text{Ans.} = \frac{\$4500}{\frac{1}{1.06} + \frac{1}{1.06^2} + \frac{1}{1.06^3} + \frac{1}{1.06^4}}$$

Computing only simple interest the answer becomes,

$$\frac{\$4500}{\frac{1}{1.06} + \frac{1}{1.12} + \frac{1}{1.18} + \frac{1}{1.24}}$$

BOOK REVIEWS.

HEATH'S MODERN LANGUAGE SERIES: Sandeau's *Made-moiselle de La Seigliere*, a comedy in four acts, with introduction and English notes by F. M. Warren, Ph. D., of Johns Hopkins University. In paper, price 50 cents; Corneille's *Polyeucte*, a tragedy, with introduction and notes by Alcee Fortier, Tulane University, Louisiana; paper, price 35 cents. Publishers, D. C. Heath & Co., Boston, Mass. These two masterpieces of French literature are here presented in an excellent form for students of the French language.

TARBELL'S LESSONS IN LANGUAGE: Second book, pp. 299; price 70 cents. Publishers, Ginn & Co., Boston, Mass. This book has been prepared for higher grades, and the principles of English grammar and composition are here combined in a practical and economical way.

A SHORT HISTORY OF THE ENGLISH PEOPLE, by John Richard Green, Parts I and II, price 1s. each. Publishers, MacMillan & Co., London and New York. This is a republication, in part, of Green's Shorter History, with maps and illustrations. The mechanical execution of the First Part is admirable. The illustrations number 55, consisting of representations of armor, earthenware, architecture, etc.

FRIENDSHIP: Three notable essays by Cicero, Bacon, and Emerson; octavo, gilt top, white parchment cloth. Price \$2.00. Albert Scott & Co., publishers, Chicago. This is one of the neatest and most cleverly designed, both in matter and make up, of all the books yet placed in the holiday market. Nothing more delightful or appropriate could be selected as a Christmas gift.

A BRIEF SPANISH GRAMMAR, by Prof. Edgren, Ph. D., of Nebraska University, pp. 123. Price 85 cents. D. C. Heath & Co., Boston, Mass. This is a book of one hundred and twenty-five pages, and intended, primarily, for college classes and such students generally as would begin reading Spanish without waste of time, but with a basis of an accurate knowledge of the essentials of its grammar.

COMPARATIVE VIEW OF GOVERNMENTS, by John Wenzel, assistant librarian, Boston University; pp. 22. Price 20 cents. Publishers, D. C. Heath & Co. This is a valuable little brochure for the student of politics. It arranges in parallel columns outlines of the governments of England, Germany, France, and the United States.

THE TEACHER AS HE SHOULD BE; THE TAXPAYER AND THE TOWNSHIP SYSTEM. C. W. Bardeen, publisher, Syracuse, N. Y. These are addresses by C. W. Bardeen, editor of the *School Bulletin*, N. Y., published separately in pamphlet form. The first contains some excellent points, put in a unique and vigorous style.



NEWMAN'S ESSAY ON ARISTOTLE'S POETICS, with introduction and notes by Albert S. Cook, Professor of English, Yale University; pp. 36. Published by Ginn & Co., Boston. This admirable essay, at once distinguished for the scholarly treatment of the subject and the lucid and vigorous style, is presented to the reader in convenient form, with an excellent introduction and brief notes.

CÆSAR'S CIVIL WAR, Book I., edited with notes and vocabulary for the use of schools. Price 1s. 6d. London: MacMillan & Co. and New York. This is one of the elementary classics series being published by the MacMillans. Although the text is one not generally read in schools on this side of the water, this excellent and cheap edition should tempt students to take it up.

ETHICS FOR YOUNG PEOPLE, by C. C. Everett, Bussey Professor of Theology in Harvard University; author of "The Science of Thought," "Poetry, Comedy and Duty," etc. Pp. IV. + 185, 7 inches by 5, \$0.60. Boston: Ginn & Co., 1891. This is a capital book. The language is extremely simple. No unnecessary words. Contains forty-six chapters, and each is well paragraphed. We have seen nothing better to aid the teacher in giving a very complete course of oral lessons on morals to school children. Something systematic in this department is of the very greatest importance.

THE COLLEGE CRITIC'S TABLET, for use in literary societies, lyceums, and classes in English, elocution and oratory by Robert J. Fulton, A. M., and Thos. C. Trueblood, A. M., the former Professor of Elocution and Oratory in the Ohio Wesleyan University, and Assistant Professor of Elocution and Oratory in the University of Kansas; the latter Assistant Professor of Elocution and Oratory in the University of Michigan. Price 60 cents. Ginn & Co., Boston, New York, and Chicago. (Copyrighted by Fulton & Trueblood, 1891.) A good idea. Each sheet has tastefully printed on it a great list of classified points, with the blanks ready for the sign of the critic's pen.

EASY DRAWINGS FOR THE GEOGRAPHY CLASS. By D. R. Augsburg, B. P., author of "Easy Things to Draw." New York and Chicago: E. L. Kellogg & Co. 1891. 95 pp. Price 50 cents. The author does not here seek to present a system of drawing, but to give a collection of drawings made in the simplest possible way, and so constructed that any one may reproduce them, of plants, animals, and natural features, and calling attention to steps in drawing.

GLIMPSES AT THE PLANT WORLD. By Fannie D. Bergen, Boston: Lee & Shepard; 50 cents. Illustrated. Of books intended to arouse the interest of young people in botany there is no lack; but there decidedly is room and need for such a work as Mrs. Bergen's. The book aims to arouse, hold and direct the interest of the young children in plants, and we should judge that it will well accomplish this useful

end. The treatment is most logical. It begins with principal types, explaining clearly and simply the most instructive facts about yeast, mould, toadstools, seaweeds, ferns and some flowering plants; and then proceeds to broad biological topics, such as cross-fertilization and dissemination of seeds, all treated so simply that every child can understand. Nearly all of the plants pictured in the numerous and good illustrations, and described in the text, live in the Maritime Provinces. Anyone having children or young friends whom they wish to interest in natural history cannot do better than to put this book in their hands.

SHELLEY'S DEFENCE OF POETRY, edited with introduction and notes by Prof. Albert S. Cook of Yale University, pp. 86. Price 60 cents. Publishers, Ginn & Co., Boston, Mass. This charming essay is here published in convenient form, with a scholarly introduction and notes.

THE CHURCH OF ENGLAND IN NOVA SCOTIA, AND THE TORY CLERGY OF THE REVOLUTION. By Arthur Wentworth Eaton, B. A. New York: Thomas Whittaker. 1891. In this book is treated one of the most interesting phases of our history—the connection of the Church of England with the Loyalist immigration. Mr. Eaton, who, though now a resident of New York, is a Nova Scotian by birth, has enjoyed excellent facilities for the study of his subject and has improved them to the utmost. Beginning with a description of the state of the Church in pre-Loyalist times, he traces it through the coming of the Loyalists and its subsequent history down to the present. Its relations to higher education in Nova Scotia and to other religious bodies are clearly and impartially discussed. A valuable feature of the work is the series of biographical sketches of Tory clergy, and distinguished laymen of the church, and of the Royal Governors from Vetch in 1710 down to the present time. Altogether Mr. Eaton has given us an interesting and a valuable work in a field otherwise almost unoccupied, for Mr. G. Herbert Lee's work deals with New Brunswick only. It should be read by all Churchmen in the Maritime Provinces.

#### Current Periodicals.

The *New England Magazine* (Boston) for November has several excellent articles, among which are, "The Home and Haunts of Lowell," by Frank B. Sanborn; "An Old-fashioned Homily on Home;" "A Future Agriculture;" "Why the South was Defeated in the Civil War."... *St. Nicholas* for November begins volume 19. The principal illustrated articles are, "A Dash with Dogs for Life or Death," by Lieut. Schwatka; "The Sea Fight off the Azores;" "To the Summit of Pike's Peak by Rail," and others... The numbers of *The Living Age* for October 24th and 31st contains The New Emperor and his New Chancellor, *National Review*; Modern Astronomy, *Contemporary Review*; Amongst the Cage-Dwellers, *Murray's Magazine*; The Battle of Copenhagen: A Danish Account, *Cornhill Magazine*; The Humors of Baccarat, *MacMillan's Magazine*; Lowell in his Poetry, *Fortnightly Review*; Science and Society in the Fifties, *Temple Bar*; Two Jealousies,



*English Illustrated Magazine*; A War Correspondent's Reminiscences, by Archibald Forbes, *Nineteenth Century*. For fifty-two numbers of sixty-four pages each (or more than 3,300 pages a year) the subscription price (\$8) is low; while for \$10.50 the publishers offer to send any one of the American \$4.00 monthlies or weeklies with *The Living Age* for a year, both postpaid. Littell & Co., Boston, are the publishers.... The *Educational Journal* of Toronto is bringing out good portraits with biographical sketches of some of their leading educational men. So far Nova Scotians have come well to the front, Principal George Munro Grant of Queens' University being a Pictonian and James A. McLellan, M. A., LL.D., Principal of the School of Pedagogy, Ontario, a native of Colchester County.... In the *Popular Science Monthly* for November University extension has the first place, and a full statement of the inception and progress of the movement is given.... In *Garden and Forest* for November 4 is a charmingly written and appropriate article on "The Delayed Frost."

#### "THE BEST OF CHILDREN'S MAGAZINES."

The publishers of *St. Nicholas*, that famous young folks' magazine, are offering to send a sample copy, free of charge, to any father or mother who would like to consider the question of taking a children's magazine during the year to come.

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In 1892

there are to be serial stories by Brander Matthews, Lieutenant Robert H. Fletcher, (the author of that charming book, "Majorie and Her Papa,") Laura E. Richards, William O. Stoddard, Charles E. Carryl (the author of "Davy and the Goblin,") and Frances Courteney Baylor. There will be short stories by Thomas Nelson Page, Mary E. Wilkins, Mary Halleck Foote, Richard Malcolm Johnston, Octave Thanet, General O. O. Howard, and many others, with papers of travel and adventure by J. T. Trowbridge and Lieutenant Schwatka, and useful articles on "How Columbus Reckoned," "William-the Conqueror," "Volcanoes and Earthquakes," "Straight Lines and Circles," etc. In "Strange Corners of Our Country" the Great American Desert, the Cliff Dwellings of Arizona, and other interesting places will be described, and in "Honors to the Flag" and "Boys and the National Guard" the patriotism of the young readers will be aroused and stimulated. Julian Ralph is to describe "The Making of a Great Newspaper," and the arc and incandescent electric lights are to be clearly explained.

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#### A GREAT MAGAZINE.

The Century's Programme in 1892—A New "Life of Columbus"—Articles for Farmers, etc.

That great American periodical, *The Century*, is going to outdo its own unrivalled record in its programme for 1892, and as many of its new features begin with the November number, new readers should commence with that issue. In this number are the opening chapters of

#### "THE NAULAHKA,"

a novel by Rudyard Kipling, the famous author of "Plain Tales from the Hills," written in collaboration with an American writer, Wolcott Balestier. It is the story of a young man and a young woman from a "booming" Colorado town, who go to India, he in search of a wonderful jeweled necklace, called "The Naulahka" (from which the story takes its name,) and she as a physician to women. The novel describes their remarkable adventures at the court of an Indian maharajah. Besides this, *The Century* will print three other novels during the year, and a great number of short stories by the best American story writers.

The well-known humorist Edgar W. Nye ("Bill Nye") is to write a series of amusing sketches which he calls his "autobiographies," the first one of which, "The Autobiography of a Justice of the Peace," is in November. This number also contains a valuable and suggestive article on "The Food-Supply of the Future," which every farmer should read; to be followed by a number of others

#### OF GREAT PRACTICAL VALUE TO FARMERS,

treating especially of the relations of the government to the farmer, what it is doing and what it should do. This series will include contributions from officers of the Department of Agriculture, and other well-known men will discuss "The Farmer's Discontent," "Co-operation," etc., etc.

A celebrated Spanish writer is to furnish a "Life of Columbus," which will be brilliantly illustrated, publishers of *The Century* have arranged with the managers of the World's Fair to print articles on the buildings, etc.

One of the novels to appear in 1892 is

#### A STORY OF NEW YORK LIFE

by the author of "The Anglomaniacs," and the magazine will contain a great deal about the metropolis during the year,—among other things a series of illustrated articles on "The Jews in New York." In November is an illustrated description of the "Players' Club," founded by Edwin Booth, and one of the features of the splendidly illustrated Christmas (December) number is an article on "The Bowery."

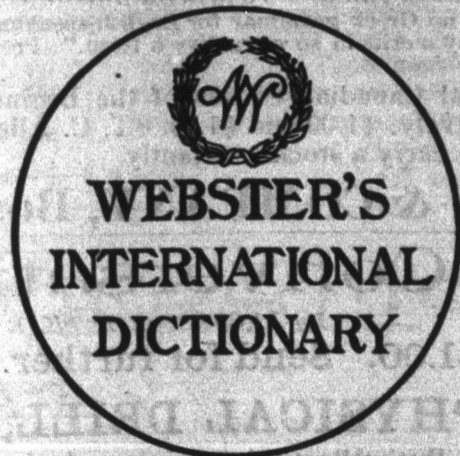
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**ATLANTIC MONTHLY FOR 1892.**

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will be a feature of the *Atlantic Monthly*.

**PAPERS ON MARKED MEN.**

On George Bancroft, by W. M. Sloane; Orestes A. Brownson, by George Parsons Lathrop; John Esten Cooke, and Philip Pendleton Cooke, by Thomas Nelson Page; and James B. Eads, etc.

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**SINGLE NUMBER STORIES**

are arranged for from Henry James, Sarah Orne Jewett, Ellen Olney Kirk, Margaret Deland, Joel Chandler Harris, Octave Thanet, and others.

**EDUCATIONAL TOPICS.**

Attention will be given this year to Education, especially to the education of girls and women.

**BOOKS THAT ARE TALKED OF.**

The critical reviews of new books that are talked about will be continued. The most important works foreign as well as American, will be examined by expert scholars. There will also be careful, scholarly studies in English and other literatures.

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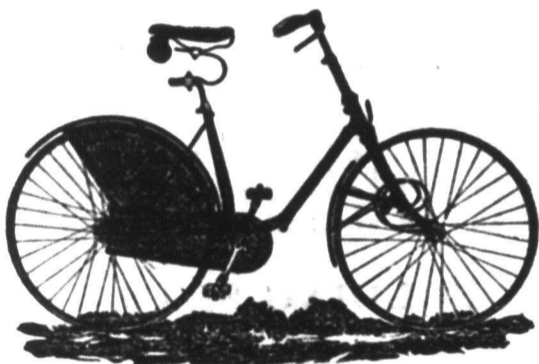
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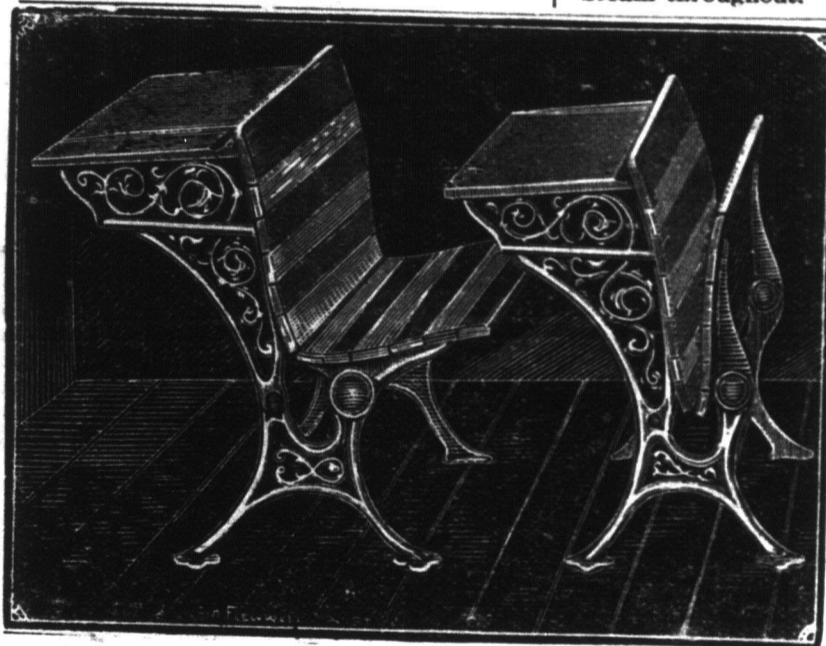
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