

THE EDUCATIONAL REVIEW.

FOR THE ATLANTIC PROVINCES OF CANADA.

VOL. III.

SAINT JOHN, N. B., AUGUST AND SEPTEMBER, 1889.

NO. 3 AND 4.

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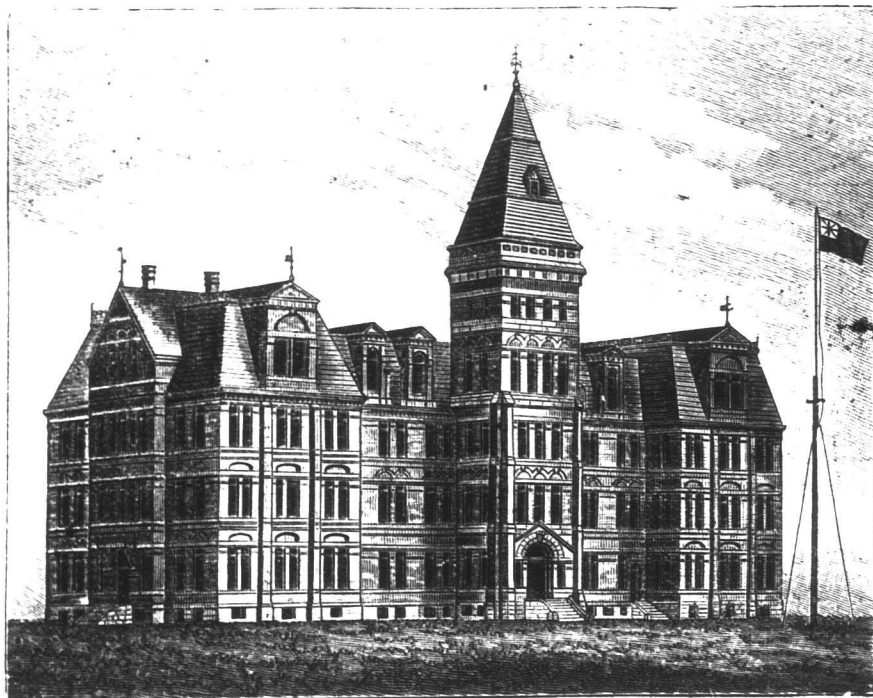
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Devoted to Advanced Methods of Education and General Culture.

PUBLISHED MONTHLY. ST. JOHN, N.B., AUGUST AND SEPTEMBER, 1889. VOL. III. NO. 3 AND 4

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OUR DOUBLE NUMBER.

We confess that this number of the REVIEW appears somewhat tardily. It is the first holiday that the REVIEW has taken, and we trust that our readers will be glad to welcome it after its brief rest. The present number, issued for August and September, consists of thirty-two pages, and furnishes an interesting page of our educational history for the past two months. *Four thousand* copies are sent to subscribers and those whom we hope to enrol in the near future on our books. These 4,000 copies will probably reach the eyes of over 20,000 readers—an evidence that the REVIEW, just entered on its third year, is a vigorous offshoot of our educational system.

That it is appreciated we have had abundant evidence. We hope that those who may read its pages for the first time will see in it a worthy exponent of Atlantic Province education and as such entitled to their support.

Its excellence was warmly endorsed by hundreds of assembled teachers at our educational conventions and at the N. S. Science School. With such a strong public sentiment in its favor, backed up with an increasing material support, its editors feel that the aims they had in view are being accomplished: A greater *esprit de corps* among our teachers, a broader sympathy and co-operation among all classes of educational workers, the erasing of provincial and sectional prejudices, with the advocacy of scientific and rational methods in teaching. The success of the REVIEW is an evidence that this work is being accomplished, and with scores of vigorous and sympathizing assistants, its editors feel that what they have done is "but earnest of the things that they shall do."

EDITORIAL NOTES.

SOME valuable contributed and other articles are unavoidably held over until our next number, which will be published early in October.

THE occultation of Jupiter by the moon on the 3rd was not visible at Pictou on account of a dense smoke-like haze which prevailed for a few days. In St. John the same cause, but to a less extent, prevented a clear view of the interesting phenomenon. Our readers should be on the look out for the conjunction of planets referred to in another column.

THE annual meeting of the Nova Scotia Normal School Alumni Association was held at Truro, July 9th, in the Normal School building, the President, Miss Miller, presiding. After usual routine business, a resolution recommending the offering of a prize for the best essay on a selected subject, conditions to be determined by a special committee, was made, discussed and finally passed. The financial condition of the association was satisfactory, prospects of increased membership for the next year were very encouraging. An alumnus of the school, who is aware of the exist-

ence of the organization and does not make an effort to join its membership, has not the *esprit de corps* we would expect to see in the profession. The following were elected as officers for the ensuing year: *President*, Principal Calkin; *Vice-President*, Principal A. H. MacKay; *Secretary-Treasurer*, L. A. McKenna, Dartmouth.

FROM an educational point of view the meeting of the N. B. Institute, at Fredericton, in June, was an interesting one. The papers were all thoughtful and suggestive, the discussions admirable in spirit and in usefulness, and the tone of the meeting, as a whole, stimulative and progressive. Current movements of educational opinion were fully dealt with, without losing sight of the broad principles of sound general education.

The teachers of New Brunswick have reason to look with just pride on the progress which has been made in all departments of educational work, and no doubt many of them are indebted to the meetings of the Educational Institute for help and direction in their work. This meeting was full of such help and direction, and we hope that all future gatherings may be equally high in tone and purpose.

THE schools throughout the Atlantic Provinces are again at work after the summer holidays, and it is encouraging to note the increased attendance, the better facilities for work in improved courses of study, in school buildings and apparatus. The teachers have been stimulated by these signs of progress, and enter upon the new school year with fresh zeal. Let us hope that all along the line there is a steady determination to use to the utmost the materials we have for increasing the efficiency of our common schools.

N. B. COUNTY INSTITUTES: St. John County Institute meets at St. John (*not* at St. Martins as announced in the advertisement on another page), September 19th and 20th; Charlotte County, September 26th and 27th; Kings County, October 3rd and 4th.

WE REGRET that in our last two issues the printer without our observing it omitted the last cipher in the amounts of the Junior Exhibitions and Bursaries in the advertisement of the University of Dalhousie. Although divided by ten the amount still struck the printer's eye as of sufficient magnitude. As these prizes are tenable for two years the amount won at a given examination is double the annual quotation. \$8,500 (eight thousand five hundred dollars) may be won by students at the senior and junior matriculations held this month at the University. The pre-

eminently grand feature of this great mine of wealth is that it makes the University course as accessible to the poorest in the land as to the richest, providing there is the genius. It largely eliminates the influence of material circumstances, and makes university success more generally a function of intellectual ability wherever it may be found.

THE St. John's, Newfoundland, *Mercury* reports the discovery of a frog in Newfoundland. Is it an augury simply of political import, or is it a scientifically established fact?

THE St. John's, Newfoundland, *Mercury* of the 27th August, has a valuable article, under the head "Have we any Partridges?" The answer is, "No, nor ptarmigan, properly speaking, either." There is not much in a name sometimes; but as the American Ornithological Union have agreed upon a definite nomenclature, it might be as well to give it as much currency as possible to obtain the uniformity sought for. We find that the genera *Colinus*, *Oreortyx* and *Callipepla*, not found in Newfoundland nor the Atlantic Provinces, although they are in the western portion of the Dominion, are called *partridges*. The genera *Dendroperagus* and *Bonasa*, represented here by *D. Canadensis* and *B. umbellus togata*, are called *grouse*. The former has also been noticed in the west of Newfoundland. The genus *Lagopus* constitutes the *Ptarmigan* according to this authority. According to Ridgway, there are two species of ptarmigan peculiar to Newfoundland. *Lagopus lagopus albidus* (Stejn.), Allen's Ptarmigan, and *Lagopus uexilli* (Brewst.), Welch's Ptarmigan. The *Mercury* ably and popularly shows how different environments have contributed to the development of the different genera of this group.

OUR higher educational institutions are opening the new school year under most favorable auspices. Mt. Allison University was the first to fall into line with its resources taxed to the utmost to provide accommodation for increasing accession of students. The Halifax Ladies' College begins the year with an efficient staff of teachers and a large number of students. The N. B. Normal School sees one of the largest if not the largest class ever gathered within its walls. The Baptist Seminary, at St. Martins, opened this month with a new staff of teachers and an enrolment of eighty students. The N. B. University, Acadia, and Dalhousie will soon re-open, and the prospects for these institutions were never better.

ST. JOHN CITY SCHOOLS.

On Monday, Sept. 2nd, the teachers of St. John City met at the Centennial School. Senator Boyd, chairman of the Board, presided. It was the first meeting of the teachers of the united cities, and the eyes of Mr. Boyd glistened with good humor and satisfaction as he looked round on his largely increased family, and gave them his paternal blessing, mingled with words of good natured counsel. Secretary March, who for years has been performing the double duty of Secretary and Superintendent with a thoroughness and courtesy that has secured him the lasting esteem of teachers and trustees, has been transferring the duties of the latter office to younger shoulders. Superintendent Hayes enters upon his duties with a self-reliance and energy that promise to maintain and increase the efficiency of the St. John schools.

One object of the meeting was to introduce to the attention of the teachers the system of modelling in clay from wooden objects. Several teachers, who were the first to grasp the idea and put it into practice, gave the others the benefit of their experience. These pioneers are Miss Orr of the Victoria, Miss O'Sullivan of St. Malachi's Hall, and Miss E. Barlow of the Winter Street School. The explanation of their methods, given with the confidence inspired by success, was listened to with satisfaction by the assembled teachers. During this and the following weeks Supt. Hayes will hold meetings for further instruction among teachers of the same grades. If practical benefit is to come from this addition to the course of instruction it can only be secured by careful preparatory study.

The attendance at the public schools is very great. Nearly all the departments are full — some even crowded beyond their accommodations, and the Board of Trustees is already establishing some new departments in the city.

Not Irish, nor Scotch, nor Acadians; but Canadians.

We quote the following from a letter of His Grace Archbishop O'Brien, of Nova Scotia, published in *L'Evangeline*. Digby, Nova Scotia:

Whilst on this subject I would wish to correct some false notions and dissipate some prejudices and misapprehensions. I cannot for one moment admit that less provision has been made in the Maritime Provinces for the education of our Acadian fellow-Catholics than for that of any other class. All the schools of higher education in these provinces, established by the bishops, have been equally open to all Catholics. We cannot, so far as spiritual affairs go, admit race distinctions. We are simply Catholics; not Irish, nor Scotch, nor Acadians.

What is good in spiritual affairs is good in temporal affairs. His Grace, we understand, is at one with us here. While we consider it a good trait of character to be proud of one's descent and to honor the race, it is certainly mischievous to do so to the extent of retarding the fusion of races. The writer is proud to be one of the *Chlann na Gael*, not of that parasitic society of murderers, which, by natural selection, took upon itself the honored name of its unconscious host, as insect parasites often assume the color of what they prey upon for the sake of the temporary immunity it gives. He has enjoyed the book learning of a language which many have been only too ready to forget. But he would not go to the extent of claiming that Gaelic should be taught in the schools of the Atlantic Provinces, because there are there 244,000 persons of Scotch descent. Nor would he propose that all of Scotch origin should attempt to perpetuate Scotch customs because they were Scotch; or to endeavor to keep themselves separate and distinct from people of other origin. And if any race has a right at all to make such demands, surely the loyal service of the Scotch element to the state, and its numerical proportions would place it ahead of all competitors. But such a disposition would be suicidal to the state, and ultimately so to the Scotch element. For like Ishmael, whose hand is against everybody, will soon have everyone's hand against himself.

In our schools teachers will often have occasion to notice race feelings, sometimes good-natured enough, at other times not so good-natured. Here will arise some occasions where the teacher can, in an oral lesson, deftly show up good points in the character of the English, Irish, French, Scotch, German or other races, and that we in Canada, having all these races, should develop their combined good virtues. The young Canadian should know that he should be the heir of the glories of all the peoples, and that, instead of endeavoring to keep his particular race distinct, he should make an effort to understand and appreciate good points in other races. The Englishman would then, probably, soon learn that he could have an associate in an Irishman, more intelligent and devoted than were he an Englishman. And the Scotchman might learn that the best supplement of his slow calculating nature would be the vivacity and spirit of the Frenchman. All our interests alike demand for their betterment race fusion.

It is hard at a certain stage to give up one language for another. But no matter what affection we may have for our old clothes we put them off when there is an advantage in putting on the new. But man's nature is just as reverently superstitious now as when the Druids sat under their oaks. The objects only

are changing. There are some at this day who would die martyrs for our present unphilosophical, inaccurate and mischievous system of English spelling. Change it, and for them you destroy the beauty, nay, the very language itself. What a dying affection for old clothes; even for the thread-bare neckstock, which has so often choked and sometimes nearly decapitated us. Perhaps there is no people in this world to-day so superstitiously superstitious as those who have mastered English orthography *as it is taught*, and read bales of novels. We are not advocating the changing of our system of spelling now. We simply suggest that if English people think that Gaelic, French, German, and other non-English tongues, spoken in this country, should be given up, as old clothes, when they cease to be economically used, they should be ready also to give up the antique and unhealthy wrappings of the English tongue as soon as they can be made to perceive the fact, providing the law of fashion, which requires the general concert of the leaders, is not violated. While we may have a word of censure ready on our lips for those who cling to the loved relics of their own small branch of the great tree of humanity, when they become, perhaps, rather an obstacle to general harmonious advancement, let us think, if we be not as great sinners ourselves. Closer acquaintance with others may show that they are even better than we. Let us not, then, forget on every occasion to attempt to draw closer those whom the mal-fortune of history may have separated. We are all of one blood. The same love will draw all hearts. The same Father has placed us together here, and will soon take us all away again together.

NEW CHAIRS IN THE N. B. UNIVERSITY.

The two new chairs of practical science that have recently been established in the New Brunswick University furnish gratifying proof that the university authorities are determined to keep up with the progress of the age. No less satisfactory is it that the young men selected to fill these important chairs are natives of the Atlantic Provinces and each has completed a university course of exceptional brilliancy.

Alexander Wilmer Duff, who has recently been appointed Professor of Experimental Science in the university of New Brunswick, took his B. A. degree at Fredericton in 1884, graduating at the head of his class with honors in mathematics. In the same year he won the Gilchrist scholarship, taking first place at the London University matriculation examination. He proceeded to Edinburgh where he

graduated in 1888 with first-class honors in mathematics. In 1889 he won the Vans Dunlop scholarship in natural philosophy. The scholarship is of the annual value of one hundred pounds sterling and is tenable for three years. Mr. Duff is now in India where he intends to remain until May, 1890, holding the position of interim professor of experimental physics in the university at Madras. He will take the chair of experimental science in the University of New Brunswick at the beginning of October, 1890.

Allan Wilmot Strong, the new Professor of Civil Engineering and Surveying in the University, graduated in the Faculty of Applied Science in the University of McGill, in April, 1889, at the head of his class.

In addition to certificates of merit in designing and heat and heat engines, Mr. Strong, during his undergraduate course, was awarded the British Association Exhibition for proficiency in the theory of structures and mathematics.

At the degree examination he was awarded the British Association gold medal, having taken the first place in the advanced course of civil engineering. The subjects of examination were the higher mathematics and mathematical physics, and the higher branches of applied mechanics (strength and materials theory of structures, heat and heat engines, hydraulics).

Besides his college certificates, testimonials from the chief engineer of the Grand Trunk Railway and the resident engineer, under whom Mr. Strong worked, give proof of his practical knowledge of civil engineering.

TRURO KINDERGARTEN.

Miss Woodcock's resignation, to take a fine position in Hartford, Conn., where she had already labored four years, necessitated careful search for a worthy successor of proved ability and experience. Miss Twichell, of Haverhill, Mass., is the lady chosen to fill this important situation. Miss Simonds, who watches with intelligent interest kindergarten progress in Nova Scotia, endorses the lady most emphatically. Miss Simonds is accounted the most successful trainer in Boston, and her ideal of the kindergarten is so high that her word carries weight. Both Miss Woodcock and Miss Twichell are her graduates. Miss Woodcock's able services in Nova Scotia were acknowledged by a hearty and unanimous vote of thanks from the Educational Association, which met in convention in Truro, in July. The closing exercises of the kindergarten were heartily appreciated by all who witnessed them.

EDUCATION WEEK IN TRURO.

As the word "carnival" has by this time fully developed beyond its infantile, flesh-eating stage to the maturer age of plenary omnivorousness, where every thing not only can be, but is swallowed, we may safely call the second week of July in Truro the educational carnival week. First came on the closing exercises of the Normal School, naughtily spoken of as "commencement" exercises by some brethren of the press. True, it might have had some of the elements of the technical "commencement," but a great deal more of the popular "conclusion." However, in these piping times of peace, when we cannot turn the world upside down, we must invoke the mirage, sail our vessels with their keels in the sky, and gallop paradoxes over the plain.

Quadrupedante putrem sonitu quatit ungula campum.

Well, these closing exercises filled in Tuesday forenoon with a most interesting programme. In the afternoon an equally interesting but more novel sight were the closing exercises of the Truro Kindergarten affiliated with the normal school. Immediately after was held a meeting of the Kindergarten Committee, we might say, of the Frœbel Institute of Nova Scotia, and swift on its heels the annual meeting of the Alumni Association of the Normal School of Nova Scotia.

Tuesday Evening.

In the evening the first of the public educational meetings was held in the public lecture hall, under the auspices of the Alumni Association. J. B. Hall, Ph. D., vice-president, presided, and introduced

HON. J. W. LONGLEY,

Attorney-General of Nova Scotia, as the speaker of the evening. He first referred to the relations of the state to education in this province. He then expounded his theory of a good educational system, which was essentially in line with that of Herbert Spencer. The best education was that which made the most useful citizen — not merely the best scholar. The teacher instead of grinding out routine work should inspire the young with the idea of the responsibility of citizenship. They should be trained physically—in the principles of self-preservation—to give a sound mind in a sound body. They should be trained with a view to the earning of their bread, for the industrial development of the state. They should be trained in the knowledge necessary for the bringing up of families in the best physical and moral conditions for the perpetuation and growth of the state. The idea of being great should never be held as a motive before the young; only the idea of being useful. The dignity of labor should ever be upheld.

He made a powerful appeal in favor of scientific training which would lay a good foundation for industrial science and art, successful farming, mining, fishing, building, invention, intelligent and therefore successful labor in every department of industry possible in this nature-favored country. He considered that for the great majority of people the study of the dead languages was a sheer loss of time. He wound up with an eloquent peroration on the possibilities of our country, and the historically proven fact that quality rather than the quantity of men determines the power of the nation.

Dr. Allison, Superintendent of Education, who was on the platform with the school inspectors and other representative men, in moving a vote of thanks, called attention to the evident trend of modern education as indicated in the able address of the Attorney-General. He intimated the fact, however, that a study of the statistics of our schools would show that in Nova Scotia at least there was not much reason to complain of the amount of time lost in Latin and Greek; while he complimented the classical training of the lecturer as one element in giving him his continental reputation as a speaker and writer.

Principal A. H. MacKay, in seconding the motion of thanks, referred to the tendency to worship the dead past, including the dead languages. Were the Hon. Attorney-General himself to die, we would probably find even his loyal opposition joining in the apotheosis. It is our nature. But if the dead languages have slain their hundreds, dead letters—dead as door nails—have slain their tens of thousands and are still slaying them. And he expressed the hope that in a short time dead letters could be as safely denounced from a public platform as the dead languages.

The chairman very gracefully tendered the hearty vote of thanks of the meeting to the hon. gentleman, whose powerful address placed him in the front rank of educational reformers.

The platform was then cleared and Part II. of the evening's entertainment came off according to the following programme:

1. SONG—"Fiddle and I." with violin obligata.
Miss Sarah Crowe. [*Mrs. Arthur Goodsoe*]
2. READING—"Guinevra."
Miss May Usher Griffin.
3. SONG ————— *Selected*
Miss Crowe.
4. READING—"4th of July celebration at Jonesville."
Miss Griffin. [*Josiah Allen's Wife*]
5. SONG—"The Resurrection," violin obligata.
Miss Crowe. [*Harry Rowe Shelly*]
6. READING—Scene between Mary Stuart and Queen Elizabeth,
Miss Griffin. [*Schiller*]
Miss Dodge and Mr. A. C. Patterson, accompanists.
National Anthem.
Choir.

Wednesday Evening.

The public meeting next evening was attended by as crowded a hall as on the first night. This meeting was held under the auspices of the Educational Association which was in session during the day and on the day following. Dr. Allison, Superintendent of Education, was, therefore, in the chair. His Lordship Bishop Courtney with leading educational gentlemen were on the platform.

HON. D. C. FRAZER

was introduced as the principal speaker. His subject was "Our Common Schools," which he discussed under such heads as their object, their equipment, and their independence. His treatment of the subject was very effective, and was specially adapted to the teacher. But trustees and even higher officials came in for some very pertinent advice. The freedom of our schools from denominational control was one great advantage enjoyed. This did not mean the prohibition of religious teaching. It meant the cheapening and advancing of secular education, by all combining to work for common wants. It meant the elevation of religious teaching by relegating it to the various churches, where by means of domestic instruction, Sunday schools, or religious classes, the instruction could come directly from the respective authoritative sources.

His Lordship Bishop Courtney followed in a very pleasant and fascinating speech. His manner was quiet, his illustrative points most apt, and brimful of humor he went on increasing in earnestness until he reached his final and main argument. The clergy were teachers, therefore he was of their number. But when a clergyman read up everything until he was forty, then imagined he knew enough for his congregation for ever, he would perhaps be surprised to see that when about fifty the pews would begin to become empty. Children and parent will tire much more readily of the teacher who is not constantly adding to his knowledge. He criticized particularly defective enunciation and pronunciation in such schools as he had visited in this country, although he by no means complimented the rhetorical declamations in the schools south of the boundary. And finally he laid great stress on the use of the Bible as a text-book in the public schools. He thought any objections as to the use of it could certainly be overcome by arrangement between the heads of the various Christian denominations. His lordship's argument was put as forcibly as any man or council of scholars could put it. But the reception of it by the audience conveyed the strong impression that they felt a few years longer stay in Nova Scotia would result in his lord-

ship's complete attachment to the views so well expressed by the Hon. Mr. Fraser.

The president in commenting on the views of the speakers shortly and deftly defended the provincial system at any threatened point. He called on Principal Oakes, of Horton Academy, who until the present year was an Inspector in the province of New Brunswick, and as representing that province on the occasion. Mr. Oakes made a short and appropriate reply. Votes of thanks were then as usual presented to the speakers and the ladies who furnished the interlude music.

In the absence of Hon. Mr. Fraser, his lordship humorously and gracefully responded in behalf of all.

On the morrow, Thursday, at 5 p. m., the convention closed, and we returned home revolving many curious ideas suggested by so many and so various leading minds in this great carnival of educational thought. Although all were not moving in the same direction, there was a strong general drift. There were swirls and eddies playing on the surface, but the great river was moving on.

NOVA SCOTIA KINDERGARTEN CLOSING.

This event took place on the afternoon of July 9th, after the closing exercises of the normal school. The Truro kindergarten has, to a certain extent, been used as a provincial institution — the students of the normal school having access to it as a model school, and receiving special instruction from the teacher in a course of lectures. The crowd of visitors was so great on this occasion that hundreds who endeavored to see the exercises could not gain admission to the room. To those who were fortunate enough to obtain entrance the performance and the spirit of the little ones were delightful to witness. Mayor Muir delivered an address at the close, in which he referred to their successful closing of the second year. The committee hoped the present teacher, Miss Woodcock, could see her way clear to remain another year with them, although there were strong inducements abroad. We trust the people of Truro, who have received a greater impetus in starting a kindergarten than any other town in the province can expect, may show themselves worthy of the advantage conceded to them on account of the locus of the normal school. The Froebel Institute, of Nova Scotia, and especially its enthusiastic president, have worked hard for the advantage of Truro, with the object also of benefitting the province. Truro has gained a very important advantage. Shall the province have the benefit? We can suggest another locus where the people will do their duty.

CONFERENCE OF HEADS OF COLLEGES.

In our present issue there will be found a report of the deliberations of the Heads of Colleges in the Maritime Provinces, at Wolfville, on the 3rd and 4th July.

Some of our readers, and many of those who were present at the Interprovincial Convention which was held at St. John last year, will remember that one of the most notable and immediate results of that gathering was the informal but most interesting meeting of the presidents of the colleges in the Maritime Provinces. The morning session of the second day had been set apart for the teachers of the various grades to meet in sections and read papers and discuss them. It happily occurred to some of the college representatives that they might profitably devote the same morning to an interchange of views and experience on matters relating to college work. All the presidents and professors who were present at the Convention heartily responded to the proposal, and so pleased and satisfied were they with the result that they resolved to repeat the experiment next year.

Accordingly, on the invitation of Dr. Sawyer—the chairman of the improvised meeting referred to above—a good representation from the colleges of the Maritime Provinces met at Wolfville, in July, constituted themselves a Conference of Heads of Colleges, and proceeded to discuss questions of great moment, not only to the well-being of the colleges but to the advancement of educational interests in general, and to devise means by which the highest institutions of learning in the provinces and the high schools and academies of the government systems might be brought into proper relationship.

From an examination of the business transacted we observe that the first resolution is directed against an anomaly which has long existed in the irregularity of the standard of the examination for entrance at the various colleges. Manifestly to remedy this defect in our educational procedure and to establish a uniform condition of admission to all our colleges would not only do much to systematize our higher education but simplify and render more efficient the work of the high schools and academies. The intention of the matriculation examination is that the faculty may be satisfied that the candidates who present themselves have a requisite amount of knowledge, and that they are capable of participating in the higher studies of the university. To the high schools and academies the university looks for the performance of this preparatory work of fitting pupils to undertake its more advanced academic pursuits. And surely it

is only reasonable for the intermediate schools, on the other hand, to expect from the universities a well adjusted, comprehensive and precise statement of what they think necessary for the purpose. But, above all, they are justified in looking for unanimity in the demands which are made upon them, that their teachers may feel that the studies in which their pupils are engaged are such as shall meet the requirements of any university in the Maritime Provinces.

But these secondary schools are not merely fitting schools for the university but are intended to complete the education which, in its earlier stages, has been received at the primary schools. To the great majority of the pupils who attend the high schools, the education which they there obtain ought to be of such a nature as to be immediately available for the purposes of life. And hence the curriculum ought to be broad enough to be serviceable for the immediate and prospective needs of the pupils who then complete their education, as well as adapted for the qualification of such of their number as desire to proceed to the university. And here the co-operation of the superintendents of education is both necessary and valuable. And we doubt not but the representatives of the colleges and the superintendents together will agree upon such a test for matriculants as shall stimulate to greater efficiency the intermediate schools of the provinces, and that without impairing their value as final and finishing schools for the boys who have in prospect such a career as is opened up to them through the farm, the machine shop, or the counting house.

In the second resolution we welcome a very opportune and somewhat emphatic opinion respecting the conferring of degrees on candidates who have prepared themselves for examination by private study. The university degree is not only an expression of satisfaction with the knowledge of the student as exhibited by him in his examination papers, but it also certifies to the fact that he has pursued his studies under the direction of qualified instructors, that he has passed through a course of severe and salutary discipline, that by the constant contact with superior minds his character has been formed and his intellect brightened, and that he leaves the university stamped as qualified by the culture and training of the schools to employ advantageously the faculties with which he has been endowed. If, therefore, the university degree be obtainable by examination, without attendance on lectures, it ceases to provide a guarantee for the possession by the student of that culture and discipline which are the highest aims of university teaching.

The subjects of athletics, examinations, and the standard adopted at the various colleges in the

examinations for degrees appeared to have also occupied the attention of the Conference. Athletic sports do not, as a rule, require much pressure on the interest of students. They need, however, wise regulation and careful supervision. To the subject of examinations we directed the attention of our readers some months ago, and notwithstanding all that has been written respecting them in the interval, we see no reason why we should adopt a different view from what was then expressed. If examiners were judicious, accomplished and experienced men, and the limits of the examination reasonable, we do not doubt but much of the dissatisfaction which is now so general would disappear. At the same time we would also express our conviction that much advantage would be gained by conducting part of the examination orally. But the merit of this recommendation is greatly dependent upon the skill of the examiner and the coolness of the student under examination.

We are, perhaps, at some distance from a common standard of examination for degrees, but it is very gratifying to observe the interchange of examiners between universities—that the professors of one university have been invited to assist in the examinations at another. Such academic courtesies cannot but be productive of good, and must prove to the public that the only rivalry existing among the different colleges is that healthy emulation, each to excel the other in the quality of the service they render to the cause of higher education.

We also consider the deliverance of the Conference respecting the proposal of the government of Nova Scotia as well timed and eminently becoming. Private benefaction has done a great deal in recent years for university education in Nova Scotia, but in a new community the gifts of munificence cannot be expected to meet all demands. Such an expenditure as that indicated by the government would, adopting the words of the resolution, “benefit the high schools and academies of the province and tend to assimilate and consolidate its collegiate work.”

With pleasure and satisfaction we had the announcement that the Conference of Heads of Colleges is now a duly constituted body and that it shall meet annually for the transaction of business.

As our readers must have observed, the printers, in the absence of the local editor, published in July the notes on the “Natural History of the Atlantic Provinces,” from which the June article was compiled.

THE SCHOOL TRUSTEE.

In Nova Scotia the annual school meeting in each section must be held on the last Monday of September. A new trustee is elected in place of the retiring one on the board of three. Without any pecuniary reward these men have to manage the affairs of the school section for three years before their term is ended. Much time has to be spent, and sometimes much anxiety endured and even annoyance experienced. And in addition to all this, at the annual meeting they have to meet the criticism, especially of people who have no interest in education, whose object is to keep down the taxes—even should it also keep down the school. When the estimates are brought down they attack every item on the principle that if they challenge everything something may perhaps be cut off. They do not at all consider what the intelligent trustee, who is responsible perhaps for the future progress of that section, has on his mind. While Sec. 45 of the Manual, or 49 *Vac.*, Ch. 14, 1886, states that “any other expense required in providing an efficient school or schools shall be determined and levied,” they cannot think of any other than the salary of a teacher and the fuel for the winter. To have an efficient school there must be a healthy, comfortable and passably beautiful school-room, with a fair amount of apparatus. To enable the trustee to be posted in the general work of education so as to keep the school up to the times in the most economical manner, it is absolutely necessary that they read regularly some leading educational papers. With the other taxes put upon the time and money of the trustee is it not fair? And is it not necessary, in order to have a thoroughly efficient school, that the section should include some leading educational papers for their gratuitously laboring trustees, while they are making provisions for maps and other apparatus for the school? We would like to have the privilege of talking to every school trustee in the provinces, as well as to the teachers. And we should have no objections to have them talk back to us, if we did not make our case good. Certainly no harm could come of it, and much interest and benefit to all concerned would result.

Yot No people should learn languages as dogs learn to swim: fling them into the water and let them splash about. Depend upon it, they will not sink to the bottom.—*Prof. John Stuart Blackie, in the June Forum.*

Provincial Educational Association of Nova Scotia.

The Annual Convention of the Provincial Educational Association of Nova Scotia was opened at 9.30 a.m., on Wednesday, July 11th, in the convocation hall of the normal school at Truro. The attendance was very large, nearly four hundred from the various quarters of the province having been enrolled. The president's countenance was beaming with satisfaction, and his periods were more sonorous than ever. From beginning to end there was not a single unpleasant hitch, although most important matters were discussed, and lively passages at arms were enjoyed.

The financial report of last year, which was satisfactory, was referred to Inspector Morse and Mr. McKenna as auditors. Supervisor McKay, of the Halifax schools, was then elected secretary, and R. J. Wilson, Esq., assistant-secretary.

Dr. Allison, Superintendent of Education, gave the opening address as presiding officer, in which he referred to what he had observed when attending the National Association of the United States two years ago, and his experiences at the Interprovincial Convention of the Atlantic Provinces of Canada, last year, and the history of the work of the Provincial Association, and concluded from all that we were making very substantial progress. The keynote of all our work here of course was more progress.

EDUCATIONAL OBSTRUCTIONS

He then introduced the first essayist, A. McN. Patterson, A. M., principal of Acadia Villa Seminary, who treated of "Obstructions in our Educational System." The Importance of our Work: Fashioning the Temporal and Eternal Characters of 100,000 Future Citizens. Great Pioneers: Sir William Dawson, Dr. Forrester and Sir Charles Tupper. Definition of a Good System, that given in the June number of the EDUCATIONAL REVIEW: "The best education is that which makes man the most useful. The highest culture is the one which in the long run makes man the happiest and best servant of his race." Obstructions: License given to teachers who have no real interest in teaching work—teaching for money; to teachers who have no training; to teachers who do not appreciate the enormous importance of moral development, of patriotic sentiment. The profession should be protected from the dabbler. Good men should be kept in the profession by good pay and promotion. He fired into the executive and inspectoral departments a few solid shots, which would take effect chiefly in quarters under cover, where there was not sufficient interest shown to arouse the people by lecturing, or even to come together in con-

vention for mutual stimulation. We have not space even to outline this admirable address.

Inspector Condon, with spirit, threw down the gauntlet in behalf of some of the challenged obstructionists. In a keen and humorous manner he pointed out the difficulty of finding out the proper teacher by any other method than by trial. The people are rapidly becoming more educated, and are yearly becoming more critical in their judgment of the perfunctory teacher. The proper teachers are in the process of being found out. As to the inspector's powers of arousing the people by lecturing, he thought Mr. Patterson was the man to make an inspiring lecture tour through the province.

Dr. Allison emphasized the fact that the teacher was not the sole custodian of the morals of the pupils. There were the parents, the church, the Sunday-school. Still, the government were very determined to have no immoral individual in the profession; and in accordance with that determination they had not been slow to cancel several licenses upon evidence of immoral deportment, and shall continue so to do.

A CHARMING TONIC-SOL-FA EXERCISE

with a class of young pupils, was then conducted by Miss Crowe, of Truro. It evidently convinced all that the simplicity of the system will very soon make it our public school system. From its success in Toronto and Halifax we may expect shortly to follow Great Britain and the many of the best schools in the United States, in adopting it as a compulsory subject in the Nova Scotian schools. Look out, non-musical teacher! But there is hope for even you in the tonic-sol-fa system, they say.

COURSE OF STUDY.

The second paper of Wednesday forenoon was Prof. Eaton's discussion of the "Course of Study." This was, perhaps, the most important subject under consideration at the Convention. The object of the paper was to secure a committee for the consideration and revision of the course. *First*, as regards its constitution; *second*, as regards its administration. He suggested the laying of more stress on the acquisition of good language than the technical elements of grammar in the earlier stages, the confining of exercises in number to such as pupils could fully comprehend; called attention to the omission of modelling as the complement of drawing, the elements of manual training and vocal music from the detailed course; advised the formulation of courses of study for the miscellaneous schools, the partially graded schools, as well as for the fully graded; and criticised the lack of co-ordination between the syllabus of the teachers' examination and the courses of study for the common and high schools.

Wednesday Afternoon.

At two o'clock Sergeant-Major Bailey put a company of twenty-four bright Halifax boys through a course of calisthenic drill, amid the applause of many hundred spectators. They were addressed for a few minutes by Principal A. McN. Patterson on the value of good physical development. He rounded off with ringing, good, patriotic sentiments, which were apparently appreciated to the full by the future Halifax citizen as well as by the general audience.

Civics.

"Civics in the Schools" was ably treated by Prof. Tufts, of Acadia College. He reviewed the rise of civics in the schools of the United States, outlined its principal divisions, and presented the subject in a much more complete form than would be necessary simply for the elements required in the common and high schools. This paper, discussed in connection with the proposed revision of the course of study, elicited a brisk discussion, led by Principal Calkin, of the normal school; President Forrest, of the University of Dalhousie; Professor Seth, of Dalhousie; Principal MacKay, and others, whose names were not repeated from the chair.

TRANSFER EXAMINATIONS.

In line with the consideration of the course of study this subject was briefly treated in a paper by Principal Cameron, of Yarmouth, read in his absence by Mr. Porter, of the Truro Academy, and more fully discussed by Principal H.S. Freeman, of Amherst Academy. Mr. Freeman's vigorous treatment of the subject roused a very breezy discussion on examinations in general. President Forrest and Superintendent Allison tilted in full tourney, while Principal Calkin, Inspectors Lay and Condon, Professor Eaton, A. H. MacKay and others, joined in the general fray. The result, under the admirable directing genius of the president, was a very full exposition of the *pros* and *cons* for the benefit of the future committee on the revision of the provincial course of study. In the evening one of the series of public educational meetings, elsewhere described, under the auspices of the association, was held in the lecture hall of the Y. M. C. A. building.

Thursday Forenoon.

The Convention met this forenoon in three sections, the academic, common and primary schools. While three times the amount of ordinary work was done by this arrangement a great deal of dissatisfaction was necessarily caused, by the impossibility of following more than the work of one section at a time.

ACADEMIC SECTION

Principal Smith, of Digby Academy, in the chair, and R. J. Wilson, Esq., of Halifax, secretary.

Prof. Smith, of the school of agriculture, read a very superior paper on "Natural Science in the School." He spoke from his experience, and from his interest in the development of agriculture. Classics need not be expunged from the high school. There is a place for it. But certainly natural science should have a high position. The prosperity of the country depends more on the scientific training of our people than on their literary knowledge. Natural science should be introduced from the earliest stages by object lessons on minerals, soils, plants, insects, common chemical reactions, so as to induce the habit of accurate observation and close reasoning, based upon well-tested facts. The study of any subject, Sanskrit or Gaelic, would be of value as a mental discipline. But studies, which, while disciplining the mind, give also a practical knowledge of the nature of the world from which we must win our bread, have much stronger claims on our attention for general public use. No outline of this valuable address can be given here.

Principal George Miller, of the Hantsport high school, read a brilliant paper on "Academic Diplomas," followed by Professor N. C. James, of the Halifax Academy, with a masterly treatment of the subject in its various hearings. We have not space for a summary that would do justice to these gentlemen. We trust their papers may soon be had *in extenso* in the printed annual report.

Principal Oakes, of the Horton Academy, led in the discussion of these papers, and was followed by Principal Miller, Principal A. H. MacKay, Principal Calkin, Principal W. R. Campbell, of Truro Academy, Mr. Torey, Professor Eaton and others. The general consensus appeared to be in favor of the assimilation of the syllabus of the teacher's examination with the high school course, and the examination of the high schools by a provincial board of examiners, whose diplomas of the first, second and third year course would also stand for the non-professional work respectively of teachers of Classes D, C, and B, for instance. The discussion took in a wide range, and was closed by a resolution to memorialize the Council of Public Instruction in reference to the whole matter.

COMMON SCHOOL SECTION.

Principal Slade in the chair. "Language in Grades 3, 4, 5 and 6" was the title of the paper read by Miss Burgoyne, of Windsor. The subject was treated in an eminently practical manner, and was one of the most useful before the Convention. In a most effective manner the essayist pictured the method of the successful language teacher. He must be the textbook himself. His language must be pure and accurate.

In the course of Grade 3 the study of language might be classified as follows: (1) practice in enunciation and reading; (2) correct forms of speech; (3) sentences and their essential parts; (4) nouns, verbs, etc.; (5) practice in easy sentences. In the first division great care and practice is necessary. If we seek a definition of a word we find something like this, "a word is an articulate sound." It is useless to give that definition to a child. A practical distinction must be given between a sound and an articulate sound. Under the third head teachers find the greatest difficulty. It is hard to make a child understand the difference between a sentence and a phrase. It may be well to give the definition first and then ask the pupils to write some words on the black-board. Perhaps they will write the words "on the hill." Is that a sentence? No. Why? Because a sentence expresses a statement. Then ask another pupil to make a sentence of it. Possibly it will then read, "the house stands on the hill." Is that a sentence? Yes. Why? Because it expresses a complete statement. The fifth head comprises all the others. Call upon a pupil to tell you something he did; something he did not do. Tell him that this is a declarative sentence. By a like process explain operative, interrogative and exclamatory sentences. Write these on a board, and make all the students spell them. Then let them turn away from the board and spell these words, insisting on clear enunciation. It may be advanced that enunciation does not pertain to a study of grammar, but if grammar teaches the correct method of using words in speaking, surely the right method of pronouncing a word goes hand in hand with grammar. A sixth head may be made of composition on abstract and other subjects. Ask a pupil to tell a story, and another to repeat it. For variation, ask them to tell as much as they can about a lecture or a lecturer. I have seen some reports worthy of the press. Then instruct them in letter-writing. Let them write letters to their teachers or their friends. Poetry forms a very important branch of language. In this branch of the study let them learn poetry by heart, but be sure that it is something worth learning. I do not think that paraphrasing is to be commended. Thoroughness should be characteristic in all our work. Drill and review may be tiresome to teachers, but it is not to children. He who reviews and reviews, drills and drills most, is most successful. We must not be in a hurry. The growth from nature is slow, and so it is with intellectual growth. Haste will ruin our best plans.

The paper was followed by speakers, among whom were Dr. Hall, Inspectors McDonald, Lay and Morse, Miss Miller, and Mr. McKenna. A letter from Prin-

cipal E. MacKay, of New Glasgow, was read at this stage, expressing regret at being unable to prepare and deliver his paper on "The Duties of Principals." A paper on "Arithmetic in the First and Second Grades," prepared by Miss Church, was then read by Professor Eaton, and spoken upon by Inspector Condon.

PRIMARY SCHOOL SECTION.

Inspector Condon in the chair. Principal Campbell, of Truro Academy, and Miss Patterson, of the Truro kindergarten, read excellent papers in this section, on the Kindergarten in the Primary School. There is no doubt but that the day is not far distant when the kindergarten method will be adopted in principle in all good primary schools. More than that, the principle at the root of good kindergarten training should be carried out right along through the university. Effective faculty development.

Thursday Afternoon.

The President, Dr. Allison, in the chair. After the minutes of the various sections were read and announcements bearing on the meeting of the Summer School of Science made, Principal Calkin, of the Provincial Normal School, moved a resolution to the effect, "That this Association place on record its high appreciation of the EDUCATIONAL REVIEW." The resolution was seconded and supported in very complimentary terms by Professor J. B. Hall, Ph. D., Supervisor McKay, of the Halifax schools, and by Dr. Allison, Superintendent of Education, and was unanimously adopted. It might be mentioned here that this spontaneous compliment from the great Provincial Association of Nova Scotia has an evidence of genuineness, in the fact that Nova Scotia leads all the other provinces with the largest subscription list.

Professor Eaton then moved the resolution, of which he had previously given notice, "That a committee of seven be appointed to take into consideration the advisability of revising the present course of study laid down for the public schools." It was seconded by Principal Campbell. Discussion followed, during which it was agreed, on the suggestion of A. H. MacKay, that the recommendations of the academic section be also referred to this committee; and on the suggestion of Inspector MacDonald, that "a one-termed school year, commencing say about the first of September and ending about the first of July" should also be referred to them. Carried without opposition. President Allison reserved the selection of the committee for the future — until he had time for fuller consideration of the representative character of its *personnel*.

A letter from Prof Eaton, of McGill University, Montreal, advocating an Interprovincial Convention for all Canada, was referred to the Executive on motion of Inspector Lay.

The ballot for the seven who, with the *ex-officio* president and vice-president (superintendent of education and principal of the normal school) and the secretary already elected, should form the Executive Committee, was then taken.

While the ballots were being counted, Rev. James Anderson, A.M., read a paper on the new tonic-sol-fa system.

He called attention to the fact that while 990 out of 1000 had the power of singing, a much smaller proportion could sing. Cause, chiefly the difficulty of mastering the notation. The superior advantage of this simple system he proved by the most indisputable evidence. By its means a child can learn to read music which an adult, trained in the staff notations would find difficult to read on his favorite staff. Mr. Anderson gave a brief outline of the subject; but was cramped for time as the adjournment was approaching, and some members were leaving to catch the trains. His work in Halifax city is an undoubted evidence, however, of the superiority of the system. The evidence is so plain that general expectation sees the tonic-sol-fa system already on the teachers' syllabus.

The scrutineers of the ballot reported the following elected to the Executive: A. H. MacKay, Miss Burgoyne, Inspectors Lay, McLellan and Condon, Professor Eaton and Principal Freeman.

The president's chair at this stage was taken by Vice-president Calkin.

Mr. A. H. MacKay moved, That the Provincial Educational Association of Nova Scotia record its very great appreciation of the services of Miss Woodcock, as principal of the Truro and Provincial Kindergarten, through which she has conferred material benefit in the matter of primary education on the whole province. He expressed regret that the superior advantages of wealthier centres of population tended to take from us those who became eminent in their special work; but he was assured that the best wishes of one and all followed Miss Woodcock to her new sphere of labor. The motion was supported in similar terms by Supervisor McKay and Principal Calkin, and passed. Then followed short farewell addresses.

After the customary votes of thanks to railway and steamboat authorities, to the press and those who supplied music at the public educational meetings in the evening, the tenth and best convention of the Provincial Educational Association of Nova Scotia stood adjourned, *sine die*.

Intercollegiate Conference.

A conference of the heads of colleges in the Atlantic provinces was held at Wolfville, on 3rd and 4th July last. The conference met in the library of Acadia College. There were present Presidents Sawyer, Acadia College; Forrest, Dalhousie College; Inch, Mount Allison College; Willetts, of Kings College; and Principal Anderson, Prince of Wales College, P. E. Island. The conference was organized by the appointment of Dr. Sawyer, president, and Dr. Anderson, secretary.

The president read a letter from Dr. McNeil, the president of St. Francis Xavier College, Antigonish, in which he expressed regret at his inability to be present, owing to other engagements, and the readiness of "St. Francis Xavier College to co-operate with the other colleges in anything in which co-operation is practicable." The president also informed the conference that a telegram had been received from President Harrison, New Brunswick University, who had previously intimated his intention to be present, stating that he could not attend the meeting in consequence of the call of other duties.

The following resolution was submitted to the conference by Dr. Inch, and, after discussion unanimously adopted:

That in the opinion of this conference it is desirable that a common standard of matriculation should obtain in all the colleges in the Maritime Provinces; that for the purpose of deciding upon such requirements for matriculation, the superintendents of education for the provinces of Nova Scotia, New Brunswick and Prince Edward Island be invited to meet representatives from each of the colleges in a convention to be held at a convenient time and place; and that in the meantime we recommend that certificates of examination from the principals of approved high schools and academies in the three provinces named be accepted *pro tanto* by the faculties of the colleges, in lieu of the usual matriculation examination.

The secretary was requested to communicate the first part of the above resolution to the superintendents of education of the three provinces.

The subject of the conferring of degrees on non-resident students was introduced by Dr. Willetts, who embodied his views in the following resolution, which was accepted as expressing the opinion of the conference:

That in the opinion of this conference it is undesirable that the B. A. degree examination should be open to non-resident students.

A conversation at this stage ensued, in which ideas were interchanged upon athletic sports, examinations, and the standards adopted by the various colleges in the examination for degrees.

The following deliverance was offered by Dr. Inch, upon the proposal of the government of Nova Scotia, respecting scholarships and fellowships, and cordially approved of:

That the conference recognizes in the principle of the measure proposed by the government of Nova Scotia to establish a system of scholarships and fellowships for the encouragement of collegiate education, both undergraduate and post-graduate, a desirable and efficient means of not only promoting the objects aimed at, but also of benefiting the high schools and academies, and tending to assimilate and consolidate the collegiate work of the provinces.

It was then proposed and unanimously agreed to, that the conference meet next year at Windsor, on the first Wednesday of July. The Conference then adjourned.

N. B. Educational Institute.

The N. B. Educational Institute met in session in the hall of the Normal School, at Fredericton, June 26th, 27th and 28th. Nearly 250 teachers attended its sessions, which were marked by a number of instructive papers read and many interesting debates. Chief Supt. Crocket presided, and H. C. Creed, A. M., was re-elected Secretary and W. C. Simpson Assistant Secretary. The following is a list of *ex-officio* members of the Executive Committee elected by the Institute: Miss L. J. Gregory, Fredericton; Mr. J. M. Palmer, B. A., Fredericton; Mr. Philip Cox, B. A., Newcastle; Miss Bessie L. Barker, Scotchtown, Queens; Miss Jennie Lyle, St. Stephen; Mr. Frank H. Hayes, St. John; Miss M. Maud Narraway, St. John; Mr. George H. Harrison, B. A., Chatham; Mr. Frank A. Good, Edmundston; Mr. Geo. A. Inch, B. A., B. Sc., Fredericton. A resolution, recommending the Board of Education to make members eligible to the Provincial Institute without being members of a County Institute was passed unanimously. A resolution was also adopted asking the Executive Committee to prepare a plan looking to a change in the mode of electing the *ex-officio* members of the Executive Committee.

The public meeting in the evening was largely attended, and addresses were delivered by the President, Supt. Crocket, and by Sir John C. Allen, Hon. Judge King, Attorney-General Blair, Dr. Harrison, President of the University, and His Worship Mayor Allen. The latter welcomed the teachers to Fredericton and invited them to visit the chief places of interest. Superintendent Crocket dwelt upon the importance of the teacher's work and the questions they were called upon to discuss in the Convention. Sir John C. Allen referred to the changes

that had taken place in the teachers' work and their position in the last twenty years, and recalled many interesting incidents of his early school days. Dr. Harrison advocated a closer connection of the university with the schools of the Province, and thought the time had come when a higher standard for matriculation should be insisted upon.

His Honor Judge King, after referring to various phases of educational work in the province, spoke of the necessity of some scheme of higher education for the efficient maintenance of our common schools. The remarks of the superintendent in his report had impressed him very much. He did not wish to interfere with the government in their legislation, but thought that the adoption of such a scheme as the one proposed must result in great advantage to our educational system. The difficulty was no doubt one of finance, and he felt that if the financial condition of this country would admit it there could be no better thing done. He had read with much interest and very carefully the scheme laid down by the superintendent, and thought that it had been admirably conceived. The cause of education could not be properly maintained by the common school alone, because the education of those on the surface below must be dependent upon those in the plane above, and there must be something to lead up so as to have a constant circulation from below to above, and from above to below. If we had this we would have something that would leave its impress upon the whole country.

Hon. Attorney-General Blair also referred to the matter of secondary education, and said the financial aspect was not the only difficulty in pressing forward this work. The government had also to convince the people that it would be to the interest of the country to adopt a scheme of higher education. Though deeply impressed with its importance the government had not yet been able to take such steps as would insure its adoption.

A select choir, under the management of Professor Bristowe, furnished appropriate music.

On Thursday morning, Principal Mullin, of the Normal School, read a paper on "The Demands which the Common School is making on the Teacher."

Mr. W. M. McLean read a paper prepared by Mr. G. U. Hay, Principal of the Victoria School, on "Composition and Critical Reading *versus* The Formal Teaching of English Grammar." This paper was discussed freely, the writer having urged that too much attention was given to mere formal methods in teaching the English language, and urging that the amount of time now given to the subject be lessened, and that grammar be taught through the written

compositions of the pupils and a more general and careful study of English classical authors, which could be continued from stage to stage of the pupil's progress.

Mr. Frank H. Hayes, Superintendent of the St. John schools, read a valuable paper on "Compulsory Attendance at Schools." A committee was nominated to formulate the views of the teachers on this matter. Later, their report was read which was to the effect that the Board of Education be memorialized to prepare and submit to the legislature, at its next session, a scheme which will control the absenteeism and non-attendance at school of pupils from insufficient causes. This was unanimously adopted. This was one of the most important acts affecting the school service done at the Institute.

Mr. Brittain, of the Normal School staff, gave a very instructive lesson in clay modelling, and deduced from the model the principles of drawing. The child is allowed to model for himself, which he soon learns to do.

Mrs. Philips, of the W. C. T. U., read a paper on "Scientific Temperance Instruction in the School."

Mr. McFarlane, Principal of the St. Stephen High School, read his paper, "Is the Common School meeting the Demand for Practical Education?" He objected to teachers being engaged in two professions at the same time. Many of our teachers are simply using the profession of teaching to sustain them while they are privately or publicly preparing for other duties. He also urged that teaching should be more practical than it is.

On Friday morning a resolution was passed urging upon the Board of Education the necessity of changing the school terms from their present dates to their former ones.

Mr. Philip Cox, B. A., of Newcastle, read a thoughtful and able paper on "Public School Education—its Relations to Political, Social and Moral Tendencies of the Times." He made reference to the lack in our reading-books of so little matter referring to Canada, with nothing of reference to our great men, which loss affected the up-building of patriotism in the minds and hearts of the pupils.

A resolution commending the EDUCATIONAL REVIEW to all teachers was carried unanimously.

Mr. S. C. Wilbur, B. A., of Moncton, read a brief paper on "The Superannuation of Teachers." A committee was appointed to report at the next Institute on its suggestions.

On Friday afternoon a geological excursion under the charge of Dr. Bailey, of the university, went to Currie's Mountain, about ten miles above Gibson. The party spent the whole afternoon in exploring the geological formations of the district, and was afterwards addressed by Dr. Bailey from the top of the

mountain on some of the more important features that were met with. The excursionists are all loud in their praise of Dr. Bailey, for his kindness and the excellent manner in which he pointed out and explained the peculiarities of the rock formations.

At the closing session, Mr. G. J. Oulton, of Dorchester, read a very suggestive paper on a "Programme for Friday Afternoon." Mr. Oulton claimed that every Friday afternoon should be set aside in the schools for the carrying out of a special literary and musical programme to be superintended by the teacher. These exercises should be of a different nature from the ordinary days. The school should be made a kind of literary society on that afternoon of each week, and it would be found that, if it were managed properly, it would be a valuable service to the pupils. In order to get the children properly interested, the exercises should be made as pleasurable as possible. Original essays might be read, recitations could be given, and dialogues and debates engaged in. A question box might also be arranged. All children not deaf or dumb could learn to sing. Poetry should be committed to memory, as should also choice quotations. The teacher should endeavor to inculcate a taste for sound literature.

Inspector Carter followed with a paper on "Industrial Education," pointing out the need for manual training and the maintenance of schools for that purpose. Such schools were the greatest educational demand of the times.

In commenting upon this paper, Mr. John March, Secretary of the St. John Board of Trustees, gave a very interesting account of a visit he made to an industrial school in Boston. In this province we could not have such schools, but our present system of modelling in clay and paper was a step in the right direction. He thought that a set of the tools in the various trades should be in every school room and their use explained.

Notes of thanks were passed to those who had furnished papers, to Dr. Bailey, and to the president, Superintendent Crocket. The Institute then adjourned, being one of the most interesting and largely attended ever held in the province.

CLARK UNIVERSITY, at Worcester, Mass., will open October 2nd, 1889, with Dr. G. Stanley Hall as its president. There are to be classes in mathematics, physics, chemistry, biology and psychology. The students will include (1) those who have taken the Ph. D. degree in this country or abroad; (2) those who are aiming at this degree; (3) special students not seeking degrees; (4) medical students. There will be about thirty scholarships founded. The aim of the institution is to supplement the work of the college.

Chronicle of the N. S. Summer School of Science, Third Session, Parrsboro, 1889.

Here came the professor weary from his college work, and perhaps longing for an independent roving life, to collect material for some paper or monograph, and recreate himself at the same time. But with the routine of elementary work, even he had recreating rambles in new fields, and in addition the opportunity of meeting scientific and literary fellow-workers who were as lovable and jolly as if their brows never wrinkled in the tussle to enter the arcanum of Nature. Here came the teacher and student, the heroes of the profession, tottering from the fatiguing school-room, but rushing to bear aloft

The banner with the strange device "Excelsior."

These are the men and women who have the spirit which will make a country great, which have a devotion which will make a people love; and who in the just course of things will be honored with the public confidence, or at the worst die blessed martyrs for their race's good.

Monumentum are perennius.

The martyrs were joyful enough at Parrsboro, however. There was there the ecstatic exaltation which comes from the communion and sympathy of kindred spirits.

It was the day of glory,
Of sunshine and the breeze,
When the mountain with its story
Prattled to the rippling seas,
And the brooklets chimed in chorus
To the rustling of the trees.

And perhaps the memory of these days may delight us in the weary solitude which must so often settle down on the hard and thorough working student in the days and nights to come. But we must to our chronicle. The skeleton may serve to shadow forth the work of a busy, restless fortnight to those who were not present.

MONDAY, JULY 22ND.

Arrived in the pretty village of Parrsboro. The boys of the High School did honor to themselves and the town by the fine flag-pole bearing aloft the flag that for a thousand years braved the battle and the breeze, and which marked the school building where the classes met. Near by was the rink building, tastefully decorated, and bearing the motto and air of welcome. Inspector Lay and Principal Craig must have given the citizens a high character of the *personnel* of the school; for the arrangements were creditable and at no inconsiderable expense.

MONDAY EVENING.

Welcome meeting. Large rink hall crowded with citizens. Principal Craig, local Secretary, first presided, introducing Councillor Upham, who welcomed the School to Parrsboro in a well-worded address. President Eaton made an appropriate reply on behalf of the School, after which he assumed the chair and called the faculty to the platform with the citizens' committee, and introduced Principal Mackay, F.R.S.C., who delivered the inaugural address on "the Objects of the School and the Utility of the Scientific Method." At the close, short, merry and complimentary speeches were made by Revs. Gibbons, Morton, Egan and Dill. A formal invitation to an excursion on Minas Basin from the citizens of Parrsboro was given by Dr. Babbit, and an invitation from the people of Amherst, by Inspector Lay. At all the evening public meetings the proceedings were very materially enlivened by the band or a musical choir, the performance of which would do credit to many larger towns.

TUESDAY, JULY 23RD.

8 to 10 a. m., Registration.

10 a. m., Introductory lecture in Zoological room. Hints on collecting, preserving and mounting specimens (Mackay).

11 a. m., Chemistry (Prof. Coldwell). Adjoining this lecture room was the chemical laboratory fitted up with temporary tables and well supplied with apparatus from Acadia College and Parrsboro High School.

12 a. m. In Botanical room. Lecture by Miss Creighton, Principal Compton Avenue School, Halifax, on the collection, preservation and mounting of plants, and by Inspector Lay on floral structure.

Afternoon: Botanical and zoological excursion inland. An army with tin vascula and banners of insect netting. Defoliation of the Larch by *Nematus Erichsonii* was seen strikingly displayed. Many of the elder members of the school proved to be more youthful than the younger when tested by a march *a pied*. At home some laboratory work was going on.

Evening: Rink again filled to hear President Sawyer, of Acadia College, on the "Relation of the Scientific Method to Morals." At the close short speeches, complimentary and critical, were made by members of the faculty on the platform and others.

WEDNESDAY, JULY 24TH.

9 a. m. Astronomy. Prin. Cameron on an Eclipse of the Moon.

10 a. m. Botany. General classification, determination and analysis of *Epilobium*, *Calystegia*, etc.

11 a. m. Mineralogy. General Introduction (A. J. Pineo, A. B.)

12 a. m. Laboratory work in Chemistry, Zoology, Botany and Mineralogy. Lesson on the Tonic sol-fa System by Rev. Jas. Anderson, M. A.

Afternoon: Excursions to Partridge Island and other points.

Evening: Prof. Vallance and daughters gave an exhibition of elocution and vocal music in the Rink Hall.

THURSDAY, JULY 25TH.

8 a. m. Exactly 100 took the train for Amherst.

11 a. m. Were met at Amherst station by a committee of citizens, were escorted to the fine Y. M. C. A. Hall, were received with an address of welcome by Senator Dickey, and were bountifully and luxuriously lunched.

1 p. m. Accompanied by the leading citizens were whirled in a great cavalcade of carriages into New Brunswick and on to Fort Cumberland, from one of the old ramparts of which Judge Morse, of Amherst, entranced the large company by a graphic and thrilling outline of the French occupation. Like a great embossed map the historic region lay before us while the magical finger of the Judge brought back to life the forms of a century ago from the cloud-capped *Chapeau' Dieu* on the right to the low-lying *Main au Dieu* on the left, and we were almost ready to dodge the cannon from Fort Lawrence across the creek. On motion of Dr. Allison, Superintendent of Education, and Inspector Leander Morse, M. A., a vote of thanks was enthusiastically given the eloquent Judge, and the cavalcade started for Fort Lawrence.

4 p. m. It was not the ancient fort but the modern dock which centred all attention here. The great basin where ships are to be raised from the Bay of Fundy to the great broad railway, and thence rolled into the Gulf of St. Lawrence, was already over twenty feet deep, showing the remains of vertical forests long ago submerged, and the road was under completion along its whole length. Mr. Ketchum, the enterprising and energetic engineer, described in a neat speech the working of the dock and road, which, when completed, will be the most remarkable of the kind in the world.

6 p. m. Back to Amherst to dine with our hosts.

7 p. m. Open air concert by the Band in the public square.

8 p. m. Farewell speeches in Y. M. C. A. Hall.

9 p. m. All aboard.

12 p. m. At Parrsboro.

FRIDAY, JULY 26TH.

10 a. m. Geology. Introductory lecture illustrated by a fine collection of specimens from King's College, by Professor Kennedy.

11 a. m. Botany. Cell life, the composite: *cicula*, *spiraea*, etc.

12 a. m. Zoology. Classification of insects and dissection of grasshopper.

Mineralogy. The use of the blow-pipe.

Afternoon: Astronomy, calculation of eclipses, etc., and laboratory work.

Evening: Finding the constellations and interesting stars in the evening sky; demonstrators: Prin. Cameron and Prof. Coldwell.

SATURDAY, JULY 27TH.

9 a. m. Mineralogy.

10 a. m. Geology.

11 a. m. 150 excursionists (School of Science with their Parrsboro hosts) on the steamboat "Acadia" left the wharf and steamed to Two Islands. Landed a company at Wasson's Bluff on the mainland, and with hammer and chisel made a fair collection of trapean minerals, analcite, natrolite, acadialite, heulandite, etc.

1 p. m. Steamer headed for Blomidon across the Bay. The citizens committee served lunch. The water without a ripple, strange to say.

2 p. m. On Amethyst Beach below the awe-inspiring cliffs of Blomidon. Amethysts, magnetite, and other minerals collected.

5 p. m. On board and re-crossing to West Bay. Boarded the "Lima," a Norwegian barque. Steamed along the Bay scanning the strikingly marked stratification which served as illustrations for Professors Kennedy and Coldwell.

7 p. m. As night and the dark basaltic cliffs of Partridge Island began to loom, speeches were called for and were pleasantly responded to by Principal Calkin, of the Normal School, President Eaton, Secretary Dr. Hall, Professors Kennedy and Coldwell, and Inspectors Lay and Morse; while recitations were given by Miss Wallace and Mr. King.

Night. Arrived at the pier, and with cheers for our kind hosts and the band which supplied the music, crossed two miles of *terra firma* and were back in Parrsboro.

MONDAY, JULY 29TH.

9 a. m. Mineralogy. Analysis of Zeolites.

10 a. m. Introductory lecture on Elocution by Prof. Burwash of Mt. Allison.

11 a. m. Chemistry. Acid, Bases, the N & O series.

12 a. m. Geology. Rocks, Concretions, Ripple Marks, etc.

2 p. m. Botany. Grasses.

3 p. m. Astronomy. Eclipse of December worked out for Parrsboro by Prin. Cameron.

4 p. m. Zoology. Dissection of *Mya arenaria*. In other room, Tonic-sol-fa exercises (Anderson).

5 p. m. Physiology. Digestion and Circulation by Dr. John Stewart.

Evening: Lecture by Professor Burwash, D.Sc., on "Suggestions of Science." The usual short critical and complimentary speeches at the close.

TUESDAY, JULY 30TH.

9 a. m. Geology. Stratification, Cycles, Excursion specimens.

10 a. m. Physiology. The Nervous System.

11 a. m. Elocution. Voice Training.

12 a. m. Chemistry. Study of Salts, Ammonia.

2 p. m. Zoology. Dissection of the pigeon by class. Resumed from 4 to 6 p. m.

3 p. m. Physiology. Effects of exercise on digestion, respiration and the brain.

4 p. m. Mineralogy. Blow-pipe work with Professor Kennedy.

5 p. m. Music. Tonic-sol-fa.

9 p. m. Stereopticon views illustrating geological scenes, thrown on the screen by Professor Coldwell, and explained by Professor Kennedy.

WEDNESDAY, JULY 31ST.

Morning. Excursion by teams to Wasson's Bluff and Two Islands. Dramatic scene. Fundy's tide tried to rehearse the Red Sea's overthrow of Pharaoh and his hosts with a portion of the School, one of whom was left for the day on the island, a mile from the mainland.

2 p. m. Elocution. Elements of Vocal Expression.

3 p. m. Zoology. Dissection of the frog until 6 p. m.

4 p. m. Mineralogy. Naming of specimens collected.

Evening: Elocutionary and musical entertainment in the Rink Hall by Misses Wallace, Brown and Sawyer, of Wolfville. Liberally patronized by the School.

THURSDAY, AUGUST 1ST

9 a. m. Elocution. Emphasis. Reading of poetry.

10 a. m. French. The Berlitz system expounded and illustrated by Prof. Maxime Ingres.

11 a. m. Botany. Ferns.

12 a. m. Music. Tonic-sol-fa.

Afternoon. The long tables of the chemical laboratory and the walls of the room bore a fine exhibition of specimens, collected, determined and mounted. The Botanical exhibits were strikingly conspicuous. Mineralogical specimens came next. The Zoological collection of special interest was not the work of a student of the school. It was kindly loaned for teaching purposes by Mrs. Huestis, a local naturalist

of more than provincial fame, who encouraged the students and instructors by an example which did not fail to inspire with enthusiasm.

4 p. m. General annual meeting of the students and faculty for the discussion of any matters bearing on the school or its work. It was here that on the motion of Professor A. E. Coldwell, A.M., of Acadia College, seconded by Rev. Professor Burwash, D.Sc., of Mount Allison College, that the Science School paid a high, unanimous and unlooked for compliment to the EDUCATIONAL REVIEW. One School Inspector declined to express any opinion on the REVIEW, except that over 200 of his teachers were subscribers to it.

Evening. Meeting of Directors. Prize for home-made apparatus for the illustration of physics awarded to Mr. Gormley of the Truro Normal School. Parrsboro approved of for next year's meeting. Principal Ebenezer Mackay, B.A., of New Glasgow, elected instructor in Physics. Rev. Prof. Burwash, D.Sc., elected instructor in Physiology. Provisions made for extended courses. Professor Eaton re-elected President; Inspector Lay, Vice-President Supervisor A. McKay, Secretary; L. A. McKenna Assistant Secretary.

FRIDAY, AUGUST 2ND.

A rainy morning prevented a general excursion, as was projected, to the seashore. A number had to leave by boat or remain over to next week. Packing laboratory materials. Small excursions in the afternoon.

Evening: Farewell meeting in the Rink. Crowded house. Admirable address from David Allison, LL.D., Superintendent of Education, on the proper functions of the school and the effect of the scientific method on theories and beliefs. The president read the list of students who passed their examinations successfully. A number of farewell speeches, wise and witty, flighty and grave, followed, with formal votes of thanks. Among the speakers were President Eaton, who in his role of chairman had always an appropriate word to say; Inspector Lay, Professor Kennedy, Supervisor McKay, Rev. Dr. Burwash, Professor Coldwell, Principal E. Mackay, Rev. J. M. Robinson of Moncton, Mr. Smith of Amherst, Rev. Mr. Gibbons of Parrsboro, Rev. Jas. Anderson, and Mr. King. Not until about 11 p. m. did "God Save the Queen" seal the close of the third and most successful meeting of the Nova Scotia Science School.

The Halifax morning dailies, the *Chronicle* and *Herald*, the Amherst *Record* and *Gazette*, and the Cumberland *Leader* gave such full and excellent reports of the proceedings of the School from day to day that more than a chronicle of the events is not

necessary in our pages. The most striking advance in any one section was probably the excellent laboratory arrangements for chemical work under Professor Coldwell. The botanical section under Inspector Lay and Miss Creighton probably bore off the palm for the greatest total of work done; while in the Zoological section there was the least done.

As for present use and historical purposes, the names of those whose interest in advancing the scholarship and usefulness of the teaching profession at the expense of their money and their vacation, should be known, we gladly publish the complete roll of attendance.

ROLL OF ATTENDANCE.

Instructors: F. H. Eaton, A. M., Normal School, (President); Principal A. H. Mackay, F.R.S.C., (Zoology); Inspector E. J. Lay, (Botany); Professor A. E. Coldwell, A. M., Acadia College, (Chemistry); Professor G. T. Kennedy, M. A., B.Sc., F.G.S., (Geology); A. J. Pineo, A. B., (Mineralogy); John Stewart, M. D., (Physiology); Principal A. Cameron, (Astronomy); Principal Ida M. Creighton, (Botany Assistant); Rev. Professor J. Burwash, D.Sc., Mt. Allison College, (Elocution).

Lecturers: Rev. James Anderson, M. A., (Music); David Allison, LL.D., Superintendent of Education, Nova Scotia, (Lecture); Professor Maxime Ingres, (Berlitz System); President A. W. Sawyer, D. D., Acadia College, (Lecture).

Directors, etc.: Supervisor A. McKay, Halifax Schools; Principal J. B. Calkin, A. M., Provincial Normal School; Inspector L. Morse, A. M.; J. B. Hall, Ph.D., Normal School, (Secretary); Inglis C. Craig (Local Secretary).

Other Members: Wm. S. Calkin, B. A., New York, U. S. A.; Jennie Rowan, St. John, N. B.; Mrs. D. Bowden, St. John, N. B.; Grace Murphy, St. John, N. B.; Mary A. Irwin, Baie Verte, N. B.; Anna Fillmore, Westmorland Point, N. B.; R. J. Wilson, Secretary Halifax School Board, Halifax; A. J. Mitchell, Halifax; M. H. Grierson, Halifax; J. M. Bowden, Halifax; M. C. Brims, Halifax; A. C. Saunders, Halifax; J. K. Brodie, Halifax; M. Brodie, Halifax; E. J. Willis, Halifax; S. F. Smith, Halifax; Emilie Richardson, Halifax; A. M. Cunningham, Halifax; Martha Anderson, Musquodoboit Harbor, Halifax; J. A. Wilson, Halifax; Peter Fraser, Pictou; E. H. Stewart, Pictou; D. A. Mackenzie, Pictou; E. Mackay, B. A., New Glasgow; R. Blackburn, Avondale; Antoinette Forbes, B. A., Little Harbor, Pictou; Emma J. Christie, Truro; Minnie D. Turner, Truro; J. W. H. King, Truro; Bessie Tupper, Truro; Florence Tupper, Truro; J. A. Upham, Truro; Jenna D. Peers, Truro; B. F. Porter, Truro; Alfretta Wadman, Five Islands, Col.; Lela M. Wilson, Five Islands, Col.; Melinda L. Faulkner, Folly Village, Col.; Lucy Spencer, Great Village, Col.; Ella Fletcher, Acadian Mines, Col.; Sara Creelman, Upper Stewiacke, Col.; N. A. Burgoyne, Windsor; B. K. McLatchy, Windsor; Cassie M. Crowe, Selma, Hants; Eliza A. Elderkin, Falmouth, Hants; Annie Harvey, Newport, Hants; P. J. A. McKittrick, Kentville; Jessie E. Moran, Kentville; Alice E. Webster, Kentville; Burgess

McMahon, Aylesford, Chas. E. Reid, Somerset; H. S. Shaw, Berwick; Nettie E. Thomas, Upper Canada; O. H. Cogswell, Morristown; H. W. McKenna, Kingston; Isabella I. Landers, Margaretsville, Annapolis; H. F. Cogswell, Mabou, C. B.; S. A. Martell, Little Bras d'Or, C. B.; L. A. Philips, Little Glace Bay, C. B.; J. M. Longley, Guysboro; E. J. Longley, Guysboro; S. Amanda Hirtle, Lunenburg; Bessie S. Heckman, Bridgewater, Miss B. P. Laird, Parrsboro, Cumberland Co.; Bella Macaloney, Lizzie R. Kirkpatrick, Hester Sproul, Minnie G. Kew, Della E. Hatfield, John G. McCabe, Maggie Gillespie, Mary J. Sproul, Ethel Woton, Lillian Woton, Sara L. Sproul, Mary Jencks, Stuart Jencks, Bertha Cameron, P. Frank Gillespie, G. W. Cole, Emily P. Morton, Percy A. Holmes, J. A. Johnson, Annie Sproul, E. A. Aikman, Alice Aikman, Roland Davidson, Tidnish; Alice Pugsley, River Hebert; Eliza H. Pugsley, River Hebert; Ada A. Travis, Amherst; A. D. Ross, Amherst. Over one hundred in all.

Closing of the Normal School of Nova Scotia.

PROGRAMME.

PART I. 10 A. M.

Opening Exercises, by Principal Calkin and Rev. T. Cumming.

SPECIMEN LESSONS:

ASSEMBLY HALL.

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| 1. Language Lesson, | Miss Rice |
| 2. School Law, | Mr. McTavish |
| 3. (a) Drawing, | Mr. Foote |
| (b) Modelling, | Miss Moore |

ENGLISH ROOM.

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|--|----------------|
| 1. The Canada Pacific Railway, | Miss Hunter |
| 2. Literature, | Mr. Woodman |
| 3. The Government of Canada, | Miss Westhaver |

MATHEMATICAL ROOM.

- | | |
|-------------------------|-----------|
| 1. Elocution, | Mr. Fales |
| 2. Chemistry, | Mr. Ward |

PART II. 10 P. M.

MUSIC—Nymphs of the Ocean Spray, Choir

PRINCIPAL'S ADDRESS

Presentation of Diplomas and Medals.

MUSIC—Solo—The Song that reached my heart, Miss Ford

ESSAY

MUSIC—Trio—Wandering in the May time, Twelve Ladies

ADDRESSES.

MUSIC—Men of England, Choir

AULD LANG SYNE.

All the exercises—musical, literary and professional—were very creditable. In his address Principal Calkin stated that the attendance was not as large as in other years. The total number enrolled was 121. The progress made by the pupils had been good. On the whole the year had been one of the most successful in the history of the institution. Diplomas of the first

class had been awarded to thirty-one students, and of the second class to fifty-four pupils. To any of the pupils who had not been successful in obtaining diplomas he would say, failure need not discourage. In order that a diploma be worth anything the standard must be high.

The prize list is as follows: Governor-general's silver medal, for best essay on given subject, Miss Westhaver. Bronze medals, for best series of essays, Misses Vance and Skerry.

Excellent practical addresses were delivered by A. McN. Patterson, Rev. Dr. McCulloch, Dr. Allison, Rev. L. Cumming, and Hon. J. W. Longley, Attorney-general.

A School for the World.

Mr. Gladstone, responding to an address of welcome at the Paris exhibition a few days ago, said that the universe was indebted to the French Republic for the exhibition, which formed a veritable school for the people of the world.

A visitor realizes this. Nearly every country is represented, and, with a few exceptions, represented according to its wealth and importance. You see here the whole of France except its physical features, and you may get a tolerably complete view of these by climbing to the top of the Eiffel Tower. Every art, science and industry of France is represented, on a scale, too, that is simply wonderful. If every other country in the world were unrepresented it would be a wonderful exhibition. But many countries are so well represented that to visit the department given up to each is almost as valuable as paying a visit to that country. You see its products, hear its language spoken, gaze for hours curiously upon its people, watching their habits and seeing many engaged in their customary pursuits. China, Japan, Egypt are represented so faithfully that it is difficult to believe that you are not in an Oriental country. A street in Cairo is exactly represented, where Arabs, Egyptians, Turks and every known nationality congregate in the evenings.

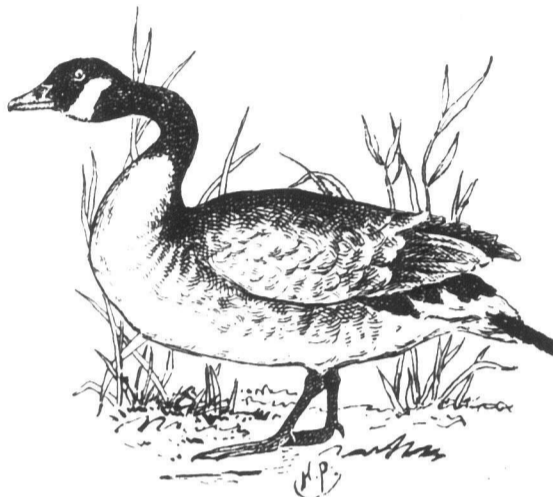
Germany alone of the countries of Europe is unrepresented, or almost so; and France is making a grand effort to surpass her warlike antagonist in peaceful pursuits.

We aim, we hope, we strive, and then we fail,—
When, lo! the way to win we clearly see;
Why should we, then, our overthrow bewail?
Defeat gives us the key to victory!
When comes another chance, to-day, next year,
Shall we, successful, count experience dear?

EMMA C. DOWD.

FERNDALE SCHOOL.

No. XXV.—The Canada Goose.



BRANTA CANADENSIS (Linn.) A. O. U., 172.

From specimen in Provincial Museum, Halifax, N. S.

An omen in March.

A V-line of *Branta* is seen on the wing
In heaven's high arch.

It is *mene* and *tekel* for winter's great king.
His castle walls crumble and tumble and cling,
And borne on wide freshets acknowledge the spring;
Then swelter and parch.

Ere November is old

The omen retreating is seen in the sky,
For the ice-king is bold.

'Tis the Canada goose coming back on the fly;
And the whimpering winds rush along with a sigh
O'er the scampering leaves, ere they lay down to die;
For the ice-king is coming, enthroned on high—
The ice-king so cold.

— KYMAH — *Branta Canadensis*.

T. See who will make the best sketch of our Canada Goose. We should always try to draw, and we would then soon surprise ourselves with what our hand can do.

S. I don't think we could ever draw so well as that sketch on the board.

T. That is just what the person who drew the sketch said not very long ago. But tell me where you have seen a Canada Goose.

S. High up in the sky. They fly in a line sometimes straight, sometimes crooked, often in a V-shape.

T. Did you see any lately?

S. No.

JACK. We may see some this month, September. They begin to come back from the north, where they have been spending the summer.

T. Very good, Jack; you have been watching them. When may they be found in our country, do you know?

JACK. In April and October. They pass over the country, going north, from March to the first of May generally, and return from the end of September to November.

T. Do they always move at exactly the same time each year?

JACK. No. Sometimes earlier and sometimes later.

T. Why, I wonder? What reason can you give for it?

S. If it is an early spring they move earlier, and if it is a late fall they may stay longer.

ANOTHER S. They appear to like as cold weather as they can get, without its being so cold as to freeze up the water in which they get their food.

T. Very good. There must be some reason for the particular time of their movement. So let us watch very carefully, as Jack has been doing, when they first appear, going north or south, and when the last are seen moving. We will then give our information to the ornithologists, who are wanting to get as much information as they can about the migration of birds, so that they may know exactly why they do move at particular times.

S. Is it found in any other country when they call it the Canada Goose?

T. Oh, yes. It winters in the United States. And over two hundred years ago it was taken to Europe, and has increased there so favorably that it is put down in the lists among the European birds.

T. Notice the webbing of its black feet.

S. All the toes are connected with webs except the hind one.

T. Then it does not belong to the "full-web-toed" (toti-palmate) birds. Has it tube-shaped nostrils?

S. No. It is not one of the "tube-nosed swimmers." It belongs to the "lamel-billed swimmers." You can see the fine teeth-like lamels on the upper half of the bill near the angle quite plainly.

T. Correct. How many different "lamel-billed swimmers" are there in the Atlantic Provinces?

S. Thirty-five species, you told us. But how can we know which this one is?

T. There are eighteen genera; and of these there is only one genus which has the neck as long or longer than the body — the swan genus.

S. Then we have to search among seventeen genera?

T. Yes. But of these, fifteen have the *tarsus* or shank shorter than the middle toe without the claw, and two have the *tarsus* longer than the middle toe without the claw.

S. Our specimen, then, must belong to the last group.

T. Then it belongs to the genus, *Chen* or *Branta*. *Chen* has the lamel-teeth visible all along the edge of the upper half of the bill, which is very stout; and it has a white head and neck.

S. This is *Branta*, then.

T. Correct. And there are only two species of *branta* in our provinces, *Branta Canadensis*, the Canada Goose; and *Branta Bernicla*, called in English, Brant. One of these has a head completely black; the other has a black head with a white patch on each cheek, usually meeting on the throat.

S. The Canada Goose is *Branta Canadensis*, then, because it has the white on its head.

JACK. We know nearly as much about the Brant now as about the Canada Goose.

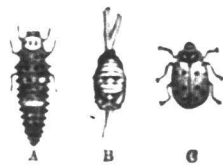
T. Yes. You might know it if you saw it. The white patch is on the sides of the middle of its neck. It is only about two and one-half feet long, while the Canada Goose is about three and one-half feet sometimes. Its eggs are about three inches by two, while that of the goose is about three and one-half by two and one-quarter. Brant also breed farther north than the Canada Goose.

"Lady Bird" Beetles.

Bete a bon Dieu, the French children delight to call it;

"Lady bird, lady bird,
Fly away home."

English children sing to it. Perhaps there are over 1,000 species of them in the world, and those of them we know are the true friends of man. Here is a cut of a species not common here (*Hippodamia Convergens*), but it is at hand, and illustrates well the general form of the larval (A), pupal (B) and perfect (C) stages of their life history. The larva is very active and destructive to plant lice especially. This summer they have saved threatened crops in Ohio and other States when the puny power of man could avail nothing against rapidly multiplying grain-aphis.



LADY BIRD BEETLES

The general shape of lady-birds when at rest may be compared to a split pea, the elytra or wing covers being very hard and convex. Their flying wings are neatly tucked in beneath. Some species are very gaudy, being ornamented with red, white, black and orange colors, arranged in spots or bands. They walk slowly. Sometimes when disturbed they draw in their short feet and feign death; sometimes they open up their wing covers and fly off. When handled, they often give off an offensive fluid from the joints of their body, which has a very strong and pungent

odor, one means of defence. They lay their eggs generally in or near a colony of plant lice, so that as soon as the larva become hatched they commence devouring the insects. We have often watched the larva capture and destroy numbers of the *aphis* on green oats.

An amusing story is told of a gentleman whose rose bushes were grievously infested by plant lice. He took the greatest pains going over them every morning and destroying the *old ones*; yet his bushes were ten times as badly injured by the lice as those of his neighbor, who paid no attention to them. It turned out that the old gentleman was killing off the lady bird larvæ, which were only hunting on his rose bushes, under the impression that they were the mothers of the plant lice. In other words, he was killing his friends while sparing his enemies. And no wonder the plant lice increased under his careful protection of them. And thousands of people are doing the same thing every day, because they do not know better. Every school should have an oral lesson on the friendly "lady birds," given to them each year.

A few of the common species can be recognized from the following brief marks:

The *nine spotted lady bird*, nearly round, of a brick-red color, and with nine black spots on the wing covers. The *plain lady bird*, brick-red with no markings on its elytra. *Spotted lady bird*, pinkish colored, with twelve large black spots. *Thirteen dotted lady bird*, thirteen black spots on a brick-red ground. The *convergent lady bird*, of a deep orange red, marked with black and white. The *double-dabbed lady bird*, black, with two yellow spots; and the *two spotted lady bird*, found clearing the hop plant of the lice infesting it, as mentioned in our Question Department; which suggested this notice.

Astronomical Notes.

The Sun will "cross the line" on Sunday, Sept. 22nd. It will take him all day and more to do it. He will begin work at it about half an hour after midnight on Saturday, keep at it all through the Christian Sabbath, and finish the job at ten minutes past nine on Monday morning. His centre will be on the celestial equator at a quarter to five on Sunday afternoon — just 186½ days after it was there last March, and 178¾ days before it will be there again next March; for the Sun stays in the Northern Hemisphere about eight days longer than in the Southern.

Astronomical text-books are in the habit of saying that on September 22nd, day and night are equal, twelve

hours each, and that this is so everywhere. Have any of you ever tested this by observation? Perhaps some of you will do so this September and send in the result. Note as accurately as possible when the Sun begins to appear above the horizon and when it disappears below it. With a sea-horizon, and a station at sea-level, and a mean state of temperature and air-pressure, and a clear morning and evening, (see below for an inducement to get up and make the morning observation) and a fairly regular watch, the day will be found in our latitude to be about twenty minutes longer than the night. In higher latitudes the difference is greater, and at both the poles there will be no night at all — as the Sun will be above the horizon through the whole twenty-four hours.

The evening star for the month is Jupiter. The Moon will occult him on the morning of Oct. 1. The occultation will be best seen in the west of China.

Mercury and Mars are also evening stars, but Mars is now quite beyond the range of the star-gazer's eye, and hard to find even with a field-glass; and Mercury never amounts to very much as our *evening star in autumn*, because — but I won't spoil your sport — think it out for yourselves.

Early risers will come in for many of the best parts of the astronomical programme for the month. Venus, Mars and Saturn are morning stars. On the morning of the equinox day — Sept. 22nd — all three of them, and the then crescent of the waning moon also, will be closer together in the western end of Leo — so close that a circle of five degrees diameter will include them all, and include with them the first magnitude star in the handle of the Sickle — Regulus. This will be a very pretty sight well worth the trouble of turning out an hour or two before sunrise.

Saturn will be quite near Regulus all the month, nearest on the 20th. On the morning of this day Mars will also be at his nearest to Regulus, and so near to Saturn at the same time that to the naked eye the two planets will look like one. Venus will pass Regulus on the 25th, less than a moon-breadth above him. Next morning she will be a little more than a moon-breadth below Saturn, and on the morning of Oct. 1st she will be about the same distance below Mars. This little family gathering of the planets in the neighborhood of Regulus will be one of the most interesting events of the year to the star-gazer. It is a pity it couldn't come off in the evening.

Have you ever seen *Mira*? If not you may this month. But perhaps you have forgotten who *Mira* is. "*Mira*" means "wonderful." The star of that name is in the constellation of the Whale — Omicron *Ceti*. The wonderful thing about her is that for about eight

months out of eleven she is invisible to the naked eye; and during the other three months she increases from bare visibility up to sometimes second magnitude, sometimes only 3rd and sometimes not more than 4th, and then fades again out of sight. Thus she is a variable star and one of the three most remarkable of that class. She is not regular in her variations and so it is not possible to predict exactly the times of her maximum brightness. A French astronomical periodical (*L'Astronomie*), gives August 6th as the date of her maximum this year. As a general rule she is visible for a couple of months after May. If, then, the Frenchman's date is correct, *Mira* should be visible until the first week in October. But you had better look her up the first fine night. Take your star-map and note how she lies with respect to Alpha, Gamma and Delta *Ceti* and Alpha *Piscium*—in line with Alpha and Delta *Ceti*, Delta to *Mira* being rather less than the distance from Alpha to Delta; also a right angle formed at *Mira* with Delta *Ceti* and Alpha *Piscium*. These two tests are more than sufficient. Now go out the first fine evening, between eleven and twelve, and face between east and south-east. Pick out these stars, apply these two tests, and enjoy your first sight of the wonderful one. Compare her brightness with that of the stars nearest by. (On August 22nd she was brighter than Delta *Ceti*). After your first glimpse of her, watch her every clear night as long as she remains visible; note the date of her disappearance and send it to the REVIEW, and then don't bother about her any more for eight months.

Ayol is another variable star but of a very different type. This month we shall leave our readers to make their own discoveries of his variations—by comparing him with the star near. Next month we may give a few of his more favorable minima data.

Scientific News.

THE NEW BARK-LOUSE IN CUMBERLAND.—Last summer a new species of the Bark-louse genus, *Rhizococcus*, has been found in great numbers on the stems and leaves of grasses in two widely separated communities, Cumberland County, in Nova Scotia, and Custer County, in Dakota. They are not known to be injurious, otherwise their conspicuous abundance in both localities would be cause for alarm. The *Rhizococcus* is found as white sacs attached to spears of grass and are filled with eggs. These sacs are of waxy material secreted by the wingless females all over their bodies as the time for depositing their eggs arrives. As the eggs accumulate, the body of the insect is crowded forward in the white waxy case which is adherent to the grass, and finally shrivels up in death

in the front portion. What remains is simply a nest of eggs, which in due season are hatched into life, if nothing untoward occurs. In the Cumberland specimens, which were collected by Inspector E. J. Lay, we found in a few days a number of minute parasitic flies coming out of the cases after having destroyed a number of the eggs. These parasites will probably prevent the unlimited reproduction of the *Rhizococcus* in these provinces. On the authority of the Dominion Entomologist, at Ottawa, Mr. Fletcher, and the U. S. Entomologists, at Washington, Riley and Howard, the species of *Rhizococcus* is new; and the parasite fly, found in the Cumberland specimens, belongs to the genus *Leucopsis*. Seven years previously Inspector Lay was the first to report the advent of the Colorado Potato Beetle in Nova Scotia.

THE LARCH SAW-FLY.—The appearance of this insect, *Neodactylus Erichsonii*, in Nova Scotia, was, we believe, first noted in the REVIEW of last September from one of our western counties. This summer they have been noticed completely defoliating the Larch (*Larix Americana*) in the Annapolis Valley and in Cumberland County. They have not yet apparently crossed the line of railway between Pictou and Halifax. In 1880 it was first noticed in the vicinity of Boston; in 1882, in Quebec; later in Maine and then in New Brunswick; and in 1888, in Nova Scotia. Next summer, 1890, it will probably be noticed in the larch forests of Central Nova Scotia. Mr. Fletcher, the Dominion Entomologist, expresses the hope that in many cases the defoliated trees may not be destroyed, as the early disappearance of the larva gives time for the trees to put forth sufficient new leaves to maintain life; and in two or three years, probably from the increase of their parasites, the insects have been generally found to diminish. He says, "Swamps and groves in which every needle was taken off the Tamaracs are now green again in this district. I trust this is the case in other localities. Please let me know how it is in your district." Will not our many intelligent readers in the districts affected make the observation, with care to be accurate? The perfect insect is a four-winged fly, not very unlike the two-winged house-fly at a distance. The larva is a small naked caterpillar, looking much like its near relative—the larva of the currant saw-fly. An illustrated sketch of it again.

Slide up thy silver sands, O booming sea,
The pines that skirt thee catch thy minstrelsy,
And over all the forest swells a tone
That echoes but the music of thine own.

Helen L. Carey.

BOOK REVIEWS.

GRAY'S "HOW PLANTS GROW," with an appendix containing the SCHOOL FERN FLORA OF CANADA. (Descriptions of all the native ferns of the Dominion, with localities where they grow.) By George Lawson, Ph.D., LL.D., F.I.C., F.R.S.C., McLeod Professor of Chemistry, Dalhousie University, Halifax, N. S.: A. & W. Mackinlay, Publishers. Here we have the well-known text book of our schools, supplemented by over thirty pages on the Ferns of Canada, with a plate illustrating the fruit structure on which the classification of seventeen genera are based. No man could be more competent for such work than Professor Lawson. It is now exactly a quarter of a century since he published a synopsis of the "Ferns and Filicoid Plants of Canada" in the *Canadian Naturalist*. Then after deducting the number of species not certainly known to exist in Canada there were found to be *sixty-three* Canadian species. The careful surveys of Macoun, Burgess, and others since, which are all embodied in the present work, bring the list up to sixty five, with perhaps nine or ten varieties. They are grouped into twenty five (25) genera. The teachers of Canada should now be careful to see that they get "How Plants Grow" with the *Canadian Ferns*. No division of our flora is more interesting or more easily mastered.

A GUIDE TO THE STUDY OF NINETEENTH CENTURY AUTHORS, by Louisa Manning Hodgkins, Professor of English Literature in Wellesley College. D. C. Heath & Co., Boston, New York and Chicago. This is an outline for the use of students of nineteenth century literature, presenting a list of the principal authors, with leading biographical notes, contemporary writings, references to the principal works of each, and other information leading to a complete and exhaustive study of the subject.

TWO GREAT RETREATS. Published by Ginn & Co., Boston. This is another work in that excellent series—Classics for Children—which Ginn & Co. of Boston lately began so successfully in "Tom Brown's School Days." The two retreats are—that of the Ten Thousand, from Grote's account, and an abridgement of Count Segur's narrative of Napoleon's Retreat from Moscow. Both are of extraordinary interest, to old as well as young, and the excellent print of the volume before us, with explanatory foot-notes and maps, gives it a great additional value.

THE IRREGULAR VERBS OF ATTIC PROSE; their Forms, Prominent Meanings, and Important Compounds, etc. By Addison Hogue, Professor of Greek in the University of Mississippi. Ginn & Co., publishers, Boston. The material treated in this book is here much fuller than in the lists of irregular verbs in the grammars, and much more accessible than in the lexicons. It contains after the regular verbs,—pure, mute, and liquid,—the Irregular Verbs of Attic Prose in alphabetical order. Prominent meanings and special uses of frequent occurrence are given, often illustrated by translated examples. The most important compounds are added, and also many related words,—forming a very practical sort of introduction to word-formation.

RIDGWAY'S MANUAL OF NORTH AMERICAN BIRDS, illustrated by 464 outline drawings of the generic characters. Philadelphia: J. B. Lippincott Company, 1887. Cloth, gilt, \$7.50. This is a fine, large, royal octavo volume of some 650 pages and 124 full-page plates of drawings. The classification,

enumeration and nomenclature conform with the recommendations of the American Ornithologists' Union. The whole work is analytically arranged, so that the veriest beginner with a strange specimen in his hand and a knowledge of ornithological terms in his head would have no difficulty in determining the species nearly as fast as he could turn the few pages in which the *key points* of structure are so orderly and conspicuously to be found. It is the *leading* authority at the present day on our American birds, we would say. There is scarcely an unnecessary word or sentence in the whole volume—conciseness as well as order being its great characteristic. No one should be more competent to produce a standard work on the subject than Dr. Ridgway. For twenty years he devoted himself exclusively to ornithology, and is well posted in the birds of the old world as well as in those of the new. In the National Museum of the United States he had access to nearly 60,000 specimens which he thoroughly overhauled. There are 1,028 species described in this volume, so that the student may be quite sure that he will find no bird in his district not described in this volume. The form of the printed matter on the page made great demands upon the skill of the printer. The typography, therefore, reflects much credit on those having charge of that department.

EAR AND VOICE TRAINING, by means of Elementary Sounds of Language, by N. A. Calkins. New York and Chicago: E. L. Kellogg & Co., 1889. This small volume of 80 pages is No. 10 of "The Reading Circle Library," and is a valuable book for all who have to do with the training of children. It gives very explicit directions to the teacher, so that he who reads can drill.

ELEMENTARY CHEMICAL TECHNICS, a handbook of manipulation and experimentation for teachers of limited experience, and in schools where chemistry must be taught with limited appliances. By George N. Cross, principal of the Robinson Female Seminary. Boston: Silver, Rogers & Co., publishers, Eastern Educational Bureau, 1889. A neat volume of 117 pages, simple, concise, and just what it professes to be. Contents: Chapter 1, Construction and Equipment of Laboratories; 2, Glass Working; 3, Construction of Apparatus; 4, General Manipulation; 5, Experiments with HO, H₂O and Air; 6, Exp. with N. Compounds; 7, Fl, Cl, Br, I, and their compounds; 8, C and its compounds; 9, S, P, As, Sb, B, Si, and their compounds; 10, Experimentation with metals and their compounds; 11, Spectrum Analysis; 12, Electricity in Chemical Reactions.

A READER IN BOTANY. Part I. From Seed to Leaf. By Jane H. Newell. Ginn & Co., publishers, Boston. This book, which follows after the "Outlines of Lessons in Botany," by the same author, is well calculated to awaken the interest of students in the life and habits of plants. Among the subjects treated are, "Origin of Cultivated Plants," "The Cotton Plant," "Climbing Plants," "Uses of Forests," "Insectivorous Plants," and many others.

HENRY THE SEVENTH. By James Gairdner. London: MacMillan & Co., and New York. This is another volume in the Twelve English Statesmen Series, and it is not behind any of its predecessors in interest and the importance of the subject treated. The chapter on Ireland and Henry's policy regarding it is very instructive reading at the present time.

JOHNSON'S CANADIAN SCHOOL SHORTHAND, for self-instruction. Any one can learn it. A complete exposition of the art. No further assistance necessary. As plain as print to read. As rapid as speech to write. Can be learned in a few weeks. May be written heavy or light. So says the author, G. W. Johnson, Headmaster Central School, Hamilton, Ont. 1889. Price, 25 cents. 5½ inches square, 78 pages, in script, lithographed.

ENTOMOLOGY FOR BEGINNERS, for the use of Young Folks, Fruit Growers, Farmers and Gardeners, by A. S. Packard, M. D. New York: Henry Holt & Co., 8vo., pp. 367. The best book we have yet seen for the use of beginners who have not the taste or cannot afford to buy expensive volumes. It has been recommended, we understand, for junior work in entomology in the Nova Scotian Summer School of Science.

HOMER'S ILLIAD. The first three books of, with introduction, commentary, and vocabulary, for the use of schools, by Thomas D. Seymour, Hillhouse Professor of Greek in Yale College. Boston, U. S. A.: Ginn & Company, 1889. \$1.35. This is a well bound, beautifully printed and thoroughly complete classical text-book. The author's name is a sufficient guarantee of the scholarship. A student's glance through it will impress him with the valuable nature of the aids brought together within easy compass to enable him thoroughly to master his subject.

AN ELEMENTARY CLASS BOOK OF GENERAL GEOGRAPHY by Hugh Robert Mill, D.Sc., F.R.S.C., lecturer on Physiography and on Commercial Geography in the Heriot Watt College, Edinburgh. London: MacMillan & Co., and New York, 1889. A neat volume of nearly 400 pages. It is not an atlas, nor does it contain any maps. The maps should be on the school room walls, and the lessons explained on them before being assigned to the pupils. While the book is a valuable compendium of geographical knowledge, we do not think it can be favorably compared with our own for school purposes.

AUTOBIOGRAPHY OF FROEBEL, translated and annotated by Emilie Michaelis, Head Mistress of the Croydon Kindergarten and Preparatory School; and H. Keatley Moore, Mus. Bac., B. A., examiner in music to the Froebel Society, etc. 167 pages. Syracuse, N. Y., U. S. A.: C. W. Bardeen, publisher, 1889. \$1.50. Just the kind of book you would expect; interesting to all, but specially valuable to teachers. The little volume is a good specimen of typographical work.

THE BEGINNER'S BOOK IN GERMAN, with humorous illustrations by Sophie Doriot, author of "Beginner's Book in French." Boston, Mass., U. S. A.: Ginn & Company. \$0.90. 273 pages of exercises in beautiful, large, clear type, just the size to bring out the beauty of the German letter. The exercises are well graded; and we scarcely think German could be more pleasantly presented to the beginner.

ONE YEAR COURSE IN GERMAN. Adapted to the wants of students in preparatory and High Schools fitting for the leading Colleges. By Oscar Faulhaber, Ph. D., Professor of Modern Languages in Phillips Exeter Academy. Second edition. Boston, U. S. A.: D. C. Heath & Co., 1888. About 200 pages with vocabulary and of good size for our High Schools or Academies—that is, it has about the proper amount of German to be mastered in connection with our prescribed High School Course in one year. It certainly appears to be a good text-book.

PRACTICAL LATIN COMPOSITION. By William C. Collor, A. M., Headmaster Roxbury Latin School. Boston, U. S. A., and London: Ginn & Company, 1889. The motto of this book is "The true test of a practical mastery of Latin is the power to write Latin." Ascham's principles of Latin teaching are emphasized. The first and greater part of the book, 147 pages is taken up with exercises to be translated into Latin, the sentences being based on fifty pages of Latin near the end of the book. The first section is on the seven Kings of Rome, the second extracts from Nepos, the third from Caesar, and the fourth from Cicero. The Latin should be originally read and explained. The translation should then be attempted to be framed on the model of the Latin text. There is a vocabulary at the end. The plan, we think, is based on sound principles, and is one which would add much more interest to the exercise of Latin composition, while the aid given by the presence of the more complex original would be natural, healthy and inspiring—the scientific method.

DER VIOLETTE ERBE, *Novelle von Wilhelm Teufel*, with English notes by E. S. Joyner, Professor of Modern Languages in the University of South Carolina. Boston, U. S. A.: D. C. Heath & Co., 1889. The "Violet Heath" is a pretty and instructive story of sixty-eight pages, just what is wanted for the student who commences to read German.

LA BELLE NIVERNAISE, the story of a River Barge and its crew by Alphonse Daudet. Edited with introduction and notes by James Bobelle, B. A., Senior French master in Dulwich College, with six illustrations. Boston: D. C. Heath & Co.; 1889. A capital story for the tyro French reader, in less than 100 pages.

SCIENCE TEACHING IN THE SCHOOLS, an address before the American Society of Naturalists by William North Rice, Professor of Geology in Wesleyan University, with appendices. Boston: D. C. Heath & Co., 1889. One of the "monographs on education"—a good paper of some thirty odd pages.

A PRIMER. By Anna B. Badlam, Rice Training School, Boston, Mass. Boston: D. C. Heath & Co., 1889. 123 pages, large type, good paper, pictures, and hair lines and diacritical marks to mark the different powers of the letters. An approach to a phonetic alphabet while retaining the old forms.

ROUND THE WORLD WITH THE POETS. Selected and arranged by Mary Cate Smith, formerly assistant in the Plymouth, N. H., Normal School, and Principal of Training Department, Normal School, Milwaukee, Wis., and Sarah C. Winn, first assistant in the Gaston School, Boston, Mass. The selections comprised in this little book afford a pleasing, as well as practical, series of review exercises in the study of geography. The quotations are arranged in the natural order of the study—beginning with physical features, and followed by longer poems relating to particular countries, mountains, rivers, cities, etc. 100 pp., bound in cloth, 12mo. Price, Twenty five cents, postpaid. Charles H. Kilborn, publisher, 3 Tremont Place, Boston.

OUKEL UND NICHTIE, a German story for sight translation by Oscar Faulhaber, Ph. D., Teacher of Modern Languages in Phillips Exeter Academy. Boston: D. C. Heath & Co.; 1889. A 64 page simple German story suitable for schools. Pictures of various phases of German life.

ARITHMETICAL REVIEWS By J. L. Patterson, D. Sc., Mathematical Master in the Lawrenceville School. Boston, U. S. A., Ginn & Co.; 1889. Twenty four pages of arithmetical exercises suitable for reviews.

SIR THOMAS WYATT AND HIS POEMS By Wm. Edward Simonds. This beautiful volume, from the press of D. C. Heath & Co., Boston, comprises an introduction, a biography of Wyatt, and a close and comprehensive review of his poems.

RECEIVED.

ENDOWMENTS, an address before the College Association of Pennsylvania, J. G. Fitch, M. A., LL. D.

REPORT of the Ornithologist and Mamologist, U. S. A., (C. Hart Merriam, M. D.) for 1888.

A TABLE of the Cubical Expansion of Solids, by Prof. J. G. MacGregor, D. Sc., F. R. S. C. and E., of the University of Dalhousie, Halifax.

AIDS FOR TEACHING GENERAL HISTORY, including a list of books recommended for a working school library, by Mary D. Sheldon, formerly professor of history in Wellesley College, etc. Boston, New York and Chicago: D. C. Heath & Co., 1888.

ON CARNOT'S CYCLE IN THERMODYNAMICS, by Prof. J. G. MacGregor, University of Dalhousie.

THE ENGLISH SPARROW in North America, Bulletin 1. U. S. A. Department of Agriculture.

PUBLICATIONS RECEIVED.

The *American Geologist*, Minneapolis, U. S. A., for July, has the following on its list of able articles: "Studies in the Indiana Natural Gas Field," by Frank Leverett; "Meteorites and what they teach us," by H. Hensoldt; "The General Interior Condition of the Earth," Joseph Le Conte; "The late Session of the International Congress of Geologists at London," Persifer Fraser, Sr. . . . *Science*, New York, comes weekly each one as good as the preceding. . . . The *Microscope*, Detroit, U. S. A., sustains its usual interest. . . . The *Maritime Medical News* does credit to the medical profession of the Atlantic provinces. . . . The *Popular Science Monthly* is the most popular monthly we know of. Its science is never exhibited in the abstruse phase. . . . The *Halifax Carnival Mail* was a very creditable production from both the artistic and literary points of view. Our young artist, Mr. Harry Piers, was the author of the short article on Nova Scotian Birds which graced its pages. . . . The *St. John's (Nfld.) daily Mercury* deserves special credit among the leading American papers for the scientific as well as literary ability displayed in its editorial columns. A very large proportion of its leaders are of more than local or ephemeral interest. For instance its articles lately on the fisheries, fish-hatching the natural history of the island, etc. . . . The *Forum* for September enters its eighth volume and its publishers announce that its subscribers at the beginning of the eighth volume are fifty per cent more than they were at the beginning of the sixth volume, one year ago. This is proof that the kind of articles which the *Forum* presents—discussions of important present problems by the best writers that it can employ—finds an increasing number of readers. . . . The *Century* magazine for September contains several valuable unpublished letters by British officers of Napoleon in exile, and a finely illustrated article on "Winged Botanists." . . . *St. Nicholas* for September contains many interesting and instructive articles, among which are "Modern Harbor Defenses," "Among the Florida Keys," "Story of Turk" (a St. Bernard dog) and others. . . . *Wide Awake* for September is a beautifully illustrated and readable number. . . . *Garden and Forest*, New York, is publishing among other interesting matter, "Notes upon North American Trees." . . . Among other periodicals received and to which only a reference can be made in this number are the *Scientific American*, *Herald of Health*, *The Bookman*, *N. Y. School Journal*, *Toronto Educational Journal*, *Treasure Trove*.

Saint John County Teachers' Institute will be held at Saint Martins on the 19th and 20th inst.

PROGRAMME:

- (a) Thursday, 10 a. m.—Enrolment, etc.
 - (b) " " 2.30 p. m.—Specimen lesson in modelling, by Miss G. Orr
Cures for Tardiness by F. H. Hayes, Esq.
Thursday evening.—Public Educational Meeting.
 - (a) Friday, 9 a. m.—How to Influence the General Reading of Pupils—Edward Manning, Esq.
 - (b) Friday—"How to obtain Accuracy and Rapidity in Primary Arithmetic—By M. D. Brown, Esq.
Friday, 2.30 p. m.—Question Box and routine work.
- Teachers attending the Institute can secure an ordinary first-class ticket at St. John, Hampton, or intermediate points, entitling them to return free on presentation of certificate from Secretary of Institute.

WM. SIMPSON,
Secretary.

G. U. HAY,
President.

Programme of Charlotte County Teachers' Institute to be held in St. George, Sept. 26th and 27th, 1889.

FIRST SESSION, 10 A. M.—Routine. Enrolment of members. Election of officers, etc.

SECOND SESSION, 2 P. M.—Paper, Temperance teaching in our schools, Mr. J. Phillips Adams. Discussion opened by Mr. A. H. Sherwood. Paper, Geometry, Mr. J. Walker Moore. Discussion, Mr. Frederic O. Sullivan.

THIRD SESSION, 8 P. M.—Public meeting, Lynott's Hall. Addresses by the Chief Superintendent of Education, Inspector Carter and others.

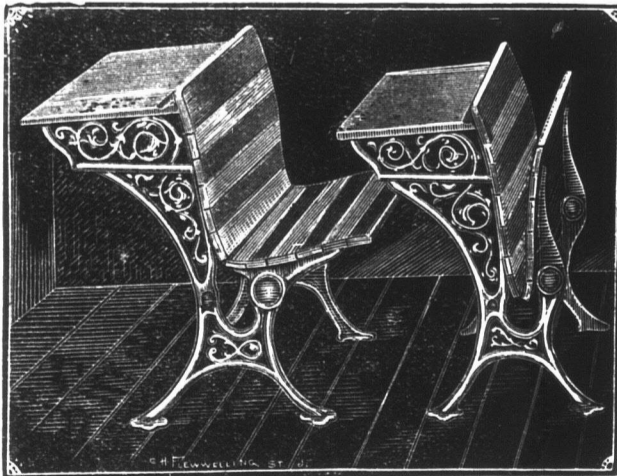
FOURTH SESSION, 9 A. M.—Paper, Reading in Primary Grades, Miss Lyle. Discussion, Miss Howard. Paper, Moral Teaching in the School, Miss Richardson. Discussion, Mr. P. G. McFarlane.

FIFTH SESSION, 2 P. M.—Paper, Plant Life, Mr. J. Vroom. Discussion, Miss Dibblee. This paper will be followed by an illustrative lesson. Determining time and place of next meeting.

Certificates of free return fares will be issued to those who enrol themselves members of the Institute.

Geo. M. Johnston,
Secretary-Treasurer.

Wm. Brodie,
President.



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The Calendar for the Session of 1889-90 contains information respecting conditions of Entrance, Course of Study, Degrees, etc., in the several Faculties and Departments of the University, as follows:—

FACULTY OF ARTS—(Opening Sept. 16th, 1889)
DONALDA SPECIAL COURSE FOR WOMEN—(Sept. 16th)
FACULTY OF APPLIED SCIENCE—Civil Engineering, Mechanical Engineering, Mining Engineering, and Practical Chemistry. (Sept. 16th).

Address McGill College.

FACULTY OF MEDICINE—(Oct. 1st).
FACULTY OF LAW—(Oct. 1st).
MCGILL NORMAL SCHOOL—(Sept. 2nd).

Copies of the Calendar may be obtained on application to the undersigned.

The complete Calendar, with University Lists, Examination Papers, &c., will shortly appear, and may also be had of the undersigned.

J. W. BRAKENRIDGE, B.C.L., Act'g Secretary.

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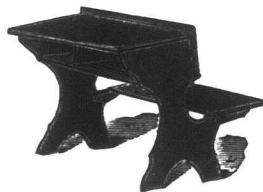
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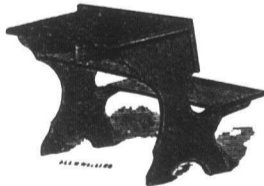
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1874	51,021 63	112,000 00	227,421 00	34,000 00
1875	82,326 75	227,421 00	477,420 00	74,000 00
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